Institutional Sectors, Social Capital, and Income Attainment of *Hukou* Converters: A Comparison with Urbanites

Yinghui Li[*]

Xi'an Jiaotong University/University of Minnesota

Email address: lyh1989@sina.cn

Abstract: Using data of CGSS 2008, we examine income differentials between *hukou* converters and urbanites by looking at three mechanisms: reference group, institutional sectors, and social capital. The findings are as follows: (1) *Hukou* converters have higher income than urbanites in private sectors; (2) they earn less than urbanites when they work in party and government offices; (3) the two groups have roughly equal income when they work in state-owned enterprises; and (4) *hukou* converters' comparative disadvantages can be attributed to the lack of social capital in the cities.

Key words: *Hukou* Converters, Institution Sectors, Social Capital, Income

Introduction

China's urbanization is characterized by rural-to-urban migration. However, under the household registration system (*hukou*), the migrants are divided into two groups, namely, rural migrant workers without changing *hukou* status and *hukou* converters having acquired an urban *hukou*. Previous literatures on migrants in China paid relatively little attention to those *hukou* converters while a number of established theories and empirical

researches focused on rural migrant workers, clarifying their disadvantages in socioeconomic status attainment in urban labor market. However, *hukou* converters have also become an important part of urban residents since the reform of *hukou* system radically accelerated in the late 1990s. The Chinese General Social Survey 2008 (CGSS2008) has shown that 1/3 of the current urban residents are these *hukou* converters of rural origin. Does this growing population change their life chances after changing *hukou* status? Do they attain the equivalent income status as their urban counterparts? What's the impact of their rural origin on their income attainment after entering into urban labor market? And do their life chances vary when they work in different ownership sectors? This article focuses on those *hukou* converters who have changed *hukou* status because of their outstanding attributes in human capital or political capital. We aim to clarify their income attainment by comparing them with their urban counterparts and explore the income differences between these two groups, especially the variation across different ownership sectors. In theory, an open and fair labor market should provide its members with sufficient opportunities and channels for equal life chances. Therefore, status attainment of these *hukou* converters is a good measure of the openness of urban labor market, helping us to get a better understanding of the rural-to-urban social mobility and its stratification outcome.

The differential selectivity hypothesis

As has been well known, the Chinese household registration system is a strong determinant of individuals' rights and privileges in contemporary China, dividing the population into "agricultural" and "nonagricultural" statuses. In this rural-urban dualist

society, urbanites have much more privileges in access to education, jobs, housing, health care and other benefits than their rural counterparts (Cheng and Selden, 1994; Chan, 1996; Li, 2006; Lu, 2008; Treimen, 2012). To change their life chances, therefore, people of rural origin have to obtain a non-agricultural status. And in fact, the *hukou* system never completely blocked rural-to-urban mobility. Through various means, some rural *hukou* holders are able to acquire urban *hukou* through their own efforts. These channels mainly include obtaining higher education, joining the PLA or the CCP or urban labor recruitment. Although these means don't guarantee an access to non-agricultural *hukou*, they will greatly increase the opportunity to acquire an urban job directly, and thereby change *hukou* status (Chan, 1994; Chan and Zhang, 1999; Wu and Treimen, 2004). Some researchers have shown great interest in their social status attainment after *hukou* conversion and proposed the differential selectivity hypothesis to explain their findings.

The differential selectivity hypothesis claims that the process of *hukou* conversion is highly selective, and consequently only those outstanding ones of rural origin can successfully acquire an urban *hukou* and experience an upward mobility (Wu and Treimen, 2004; Sun and Fan, 2011; Zheng and Wu, 2013). This means that people with rural origin generally have disadvantages in access to higher education, urban jobs, or joining army/party when competing with their urban counterparts (Wang, 2011; Zhang and Treimen, 2013; Li, 2014; Wu and Zhang, 2014; Tam and Jiang, 2015). Thus, those who are able to change *hukou* status through these means are positively selected. Those *hukou* converters by achieving higher education are selected by human capital while the others through joining the party or the army are those with political loyalty or ability to achieve success within the state own sectors. At the same time, those recruited by urban labor

sectors, thereby acquiring urban *hukou*, are those excellent in labor skills. For such reasons, these people are treated as elites of rural origin who overcome both geographical and institutional barriers due to individual attributes and by their own efforts. Scholars call them individual *hukou* converters (Zheng and Wu, 2013; Zhang and Treimen, 2013). And as a consequence, it has been found that these rural-born people who change *hukou* status successfully attained much higher socioeconomic status than their rural migrant peers. They are more likely to find a better job in urban labor market, becoming administrators or skilled workers, and then getting higher income or better benefits. (Fan, 2001、2002; Wu, 2007; Lu, 2008; Logan, et al., 2009; Lin, 2010) This is also true even when they are compared with their urban-born counterparts. Scholars summarize this as *hukou* conversion advantage[①] (Zheng and Wu, 2013; Xie, 2014), and attribute their remarkable upward mobility to their superior endowments such as human capital and political capital.

In summary, the differential selectivity hypothesis is an explanation based on status attainment model and especially highlights these *hukou* converters' individual attributes like human capital or political capital. The basic explanation logic is that these individual *hukou* converters rely on their own abilities for retaining better socioeconomic status. Of course, with the large-scale urbanization starting in late 1990s, incorporation of villages into urban areas and other policy channels besides education, joining army or party and recruitment have also contributed to urban *hukou* obtainment (Sun and Fan, 2011; Zheng and Wu, 2013; Zhang and Treimen, 2013). These *hukou* converters change their *hukou* status because of China's urbanlization policy rather than their achieved competence, such as human capital or political capital. For simplicity, this article will not take these *hukou*

[①] In Xie's article, the expression is "migrants or *nonghzuanfei* advantage".

converters into analysis[①]. They are not good reflection of individuals' social mobility though their own efforts.

Issues to be studied

Differential selectivity hypothesis is a widely accepted explanation when it is used to account for *hukou* conversion advantage. To adequately test this hypothesis, this paper is developed to explore three mechanisms through which the analysis of *hukou* converters is well grounded: reference group, institutional sectors, and social capital.

Reference group. Most researchers focus on the income differences between *hukou* converters and rural migrant workers. However, the income gap between *hukou* converters and urbanites deserves our attention as well. The comparison between *hukou* converters and non-converters will throw light upon the stratification and inequality determined by household registration system, but the comparison between *hukou* converters and urbanites can help to better reveal the degree of openness and fairness of the urban society where all of migrants work and life. Although Fan (2002), Zheng and Wu (2013) and Xie's (2014) studies found that *hukou* converters with better human capital and political capital are more likely to get better life chances than urbanites, they paid relatively little attention to the comparison between *hukou* converters and those urbanites of the similar attributes. Consequently, the unanswered question is that to what extent the *hukou* converters can assimilate into urban socioeconomic life and been treated equally when they have attained similar level of personal attributes. In other words, can they move into the same position as their urban counterparts namely those who are born with urban *hukou* and as outstanding

---

[①] *Hukou* converters in our following analysis all refer to individual *hukou* converters.

as *hukou* converters? A better way to answer these questions is to compare *hukou* converters with urbanites who are of the same attributes.

Institutional sectors. Previous literatures reveal the *hukou* conversion advantage in urban labor market, but don't explore its variation across different economic sectors. In fact, China's urban labor market is characterized by high segmentation, which means the marketization and distribution mechanism are vary from different ownership sectors (Bian, 1994; Bian, et al., 2006; Wu, 2002; Wu, 2011; Li and Gu, 2011). State-owned sector and the non-state sector are the basic division and they can also be specifically divided into three parts, that is, the party and government organs, state-owned (collective) enterprises, and the private sectors. The party and government organs are with the lowest marketization, followed by state-owned enterprises, while the private sectors marketize most. Working in different sectors may bring in different income returns because of the different distribution mechanism. Then, our subsequent question is whether the *hukou* conversion advantage emphasized by differential selectivity hypothesis exists in every sector. Does *hukou* converters' advantage vary from one sector to another? Several studies have found that income disadvantage between migrant workers and urban residents only exist within the state sector (Li and Gu, 2011; Zheng and Wu, 2013; Zhang and Wu, 2014). Although this finding is not directly related to the *hukou* converters, it reminds us the necessity to concern about the different institutional space. Lin Yi's (2010) study provided evidence that phoenix men[1] are at an advantage in the promotion of professional titles, but it is difficult for them to get promoted administratively. It's evident that the return structure to

---

[1] Phoenix men refer to those males who are of rural origin but obtain urban *hukou* and settle down in the city.

hukou converters' outstanding endowments may differ in different industries or sectors, which is underscored in previous literatures.

Social capital. At the same time, social capital is absent in the explanation based on differential selectivity hypothesis, thus the role of other factors besides human capital and political capital in *hukou* converters' income attainment is unclear. In theory, focusing on human capital or political capital is still in the perspective of the structural status model while the perspective social capital is neglected. However, evidences have shown that people with rural origin or growing up in rural areas, especially those rural migrant workers, is at a disadvantage in term of social capital and consequently earn less in urban labor market when compared to urbanites (Cheng and Zhang, 2013; Li and Wang, 2014; Li, 2014; Cheng and Bian, 2015). *Hukou* converters are of rural origin and may have disadvantage of social capital. Lin Yi's (2010) study showed that "Phoenix men" are of rural origin and their social contacts in cities are yet to be established. So, social capital of "phoenix men" is inferior to that of the urban-born ones, and thereby had a disadvantage in promotion, particularly in administrative promotion. This reminds us to concern about the *hukou* converters' social capital accumulation and its impact on their income attainment after *hukou* conversion. Is there any difference in social capital accumulation between *hukou* converters and their counterparts of urban origin? If so, what's the influence of difference in social capital on their status attainment? Previous studies did not give answers to these questions.

In this article, we aim to answer the following questions: First, does the *hukou* conversion generate higher income for people of rural origin than for people of urban origin who have the same demographic characteristics, especially the similar human capital,

political capital and occupational status? Second, does the *hukou* converters' status attainment differs across different ownership sectors? And third, does social capital play an important role in their status attainment difference?

Data, variables, and analysis strategy

Data. The data used in this analysis were from the 2008 Chinese General Social Survey (CGSS2008), a multistage stratified national probability sample of 6,000 adults from all regions of China (except Hainan, Tibet and Qinghai). Samples from rural and urban areas were drawn separately, yielding 2018 rural cases and 3982 urban cases. The survey questionnaire contains extensive information about respondents' characteristics, work history and socioeconomic outcomes. We select from the urban cases aged from 18 to 65 with urban *hukou* and exclude those who never engaged in Non-farm work, ultimately keeping 1848 effective cases. Our study focused on income gap in different institutional sectors, so ownership is included. It is coded into three categories: government organs, state-owned enterprises, private sector.

Independent variables. Our research focuses on income gap between *hukou* converters and urbanites. The key independent variable is original *hukou* status, that is, *huko*u converters or urbanites. In the questionnaire, *hukou* type was recoded and the reason for *hukou* conversion as well. Those who has changed *hukou* status though education, army, recruitment and with urban *hukou* currently are defined as selected *hukou* converters while those who own urban *hukou* at birth are regarded as urbanites. These manipulations permitted us to construct the binary variable identity type (*hukou* converters =1, urbanites=0). Education, party membership and Spring Festival Network are measurement

of human capital, political capital and social capital, respectively. We classify education into four levels: primary school or below, junior high school, senior high school and college or higher. Party membership is a binary variable (yes=1, no=0). In the perspective of social network, social capital reflects the potential social resource owned by a social actor. It is measured by Spring Festival Network in this study. We extract a factor from series of indicators, that is, net size, net density, net diversity, network top and connections with the elites, generating the variable social capital score. Occupation is the structural factor which affects income differences besides the micro-level factors above. When the individual characteristics are the same, we should ensure occupation status to be similar and then we can explore whether the two groups are equally treated in labor market. Occupation status is measured by international socio-economic index (ISEI).

Control variables. Other demographic characteristics and family background variables which may have effect on individuals' income are also included in this analysis, including age, gender (male=1, female=0), marital status (married=1, unmarried=0) and father's occupation. Father's occupation is classified into four categories: management elites, professional and technical elites, ordinary non-agricultural workers and farmers and others. Meanwhile, regional disparity is also taken into account to exclude the influence come from different development degree. We recode first-tier cities into developed cities, second-tier cities into moderate developed cities and third-tier cities into less developed ones, thus creating a new variable of city type.

Dependent variable. Respondents' yearly income, namely, the sum of the annual occupational wages and other earnings are recoded into natural logarithm income as dependent variable. More details of all variables are shown in Table 1.

Table 1 Discerption of the sample

variables	The total samples （N=1848）	Urbanites （N=1499）	*Hukou* converters （N=349）
Age	41.90	41.92	41.80
Gender (male, %)	53.11	51.41	60.84
Marital Status (married, %)	86.79	86.27	89.16
Education			
Primary school and below	7.67	7.93	6.48
Junior High School	27.32	28.72	20.95
senior high school	37.37	38.79	30.92
college or higher	27.64	24.56	41.65
Party membership (yes, %)	16.93	14.10	29.80
ISEI (0-100)	45.41	44.23	50.83
Social Capital Score	30.94	30.19	34.32
Father's occupation			
Famers and others	28.18	20.12	64.78
Ordinary labors	44.36	50.22	17.73
Professional elites	16.36	17.84	9.61
Administrative elites	11.11	11.82	7.88
City type			
Less developed cities	54.98	52.70	64.76
Moderate developed cities	24.03	24.75	20.92
Developed cities	21.00	22.55	14.33
Income (Natural logarithm in model)	21342.22	20782.33	23751.08

Analytic strategy. We first use traditional multiple linear regression to present the *hukou* converters' income status when compared to their urban counterparts, re-examine the influence of self-induced efforts and explore the variation in different ownership sectors. This helps to understand the necessity to ensure the two groups comparable in individual characteristics use with more advanced statistic method. And then, we will use propensity matching method to eliminating the high heterogeneity in individual characteristics of these two groups, especially in human capital, political capital and occupation status, thus obtaining a comparable new sample. Next, using the new comparable samples, we compared the two groups' income and explore its distribution in different sectors. Finally, regression analysis will be used to show the impact of social

capital on income disparity between the two.

Results and interpretations

Descriptive analysis on income of the two groups

As T-test in Table 2 shows, when it comes to the whole, *hukou* converters earn nearly 3000 yuan (2968.75) more than urbanites without taking any factors into account and it's statistically significant. We can also find that this advantage only comes from the *hukou* converters who employed in private sectors rather than being widespread in every sectors as previous literatures deduced (there is no difference in the other two sectors). Thus, it's necessary to discuss the income gap across institutional sectors. Ignoring the variation across different institutional sectors may take the risk of exaggerating *hukou* conversion advantage.

Table 2 Average income difference between *hukou* converters and urbanites by ownership sectors

samples		Urbanites	*Hukou* converters	Difference(T-test)
Total sample	(N=1848)	20782.33	23751.08	-2968.75**
Party and government organs	(N=425)	22070.38	23051.25	-980.87
state-owned enterprises	(N=776)	18069.78	19310.30	-1240.52
private sectors	(N=647)	23372.2	31144.49	-7772.29**

* p < 0.05, ** p < 0.01, *** p < 0.001

Is the observed advantage for *hukou* converters a result of human capita, political capital or higher occupation position as claimed by differential selectivity hypothesis? We then compare the human capital, political capital, and occupation status between the two groups. As shown in Table 3, generally speaking, the *hukou* converters did even better in contrast with urbanites. They are more outstanding in human capital, political capital and also achieve higher occupation status. On one hand, this finding confirms what differential

selectivity hypothesis said, and on the other hand, it also shows the necessity to ensure the two groups to be homogeneous and comparable when discuss their income difference.

Table 3 Comparison of individual characteristics between *hukou* converters and urbanites by ownership sectors

	Party and government organs		
	Urbanites	*Hukou* converters	Difference
Education	13.11	13.88	-0.77**
Party membership	0.320	0.469	-0.149**
ISEI	53.5	60.9	-7.40***
	State-owned enterprises		
	Urbanites	*Hukou* converters	Difference
Education	11.16	11.37	-0.21
Party membership	0.142	0.279	-0.137***
ISEI	42.8	2 46.2	-3.39*
	Private sectors		
	Urbanites	*Hukou* converters	Difference
Education	11.66	13.17	-1.51***
Party membership	0.057	0.130	-0.074**
ISEI	43.3	48.1	-4.82**

* p < 0.05, ** p < 0.01, *** p < 0.001

Multiple linear regression analysis based on the differential selectivity hypothesis

Table 4 presents a traditional multiple linear regression analysis in which to compare income differences between the two groups. In the total sample, without taking any explanatory factors into account (model 1), a significant *hukou* conversion advantage can be found. Income of *hukou* converters are 10.2% (exp(0.097)-1) higher than that of their urban counterparts. When age, sex, marital status, father's occupation type and city types were controlled in model 2, *hukou* converters still earn 15.7% more than their urban counterparts. In Model 3, we control the level of education and party membership further. It can be found *hukou* conversion advantage disappeared. And the higher education level one is, the higher income one earns. Party membership also has a positive effect on incomes. Thus, as differential selectivity hypothesis claims, *hukou* converters do gain an

advantage in incomes even compared to urban originals rather than rural migrant workers on condition that they have higher human capital and political capital. In model 4, we also control the positive influence of occupational status. Effects of human capital, political capital on income reduces, indicating that human capital and political capital influent income by enhancing one's occupational status. This result is also in consistent with the explanation of differential selectivity hypothesis.

Table 4 OLS regression of human capital, political capital and *hukou* converters' income attainment

Independent variables	Model 1 Basic Model	Model 2 + Control variables	Model 3 + Competence	Model 4 + ISEI
Original *hukou* status (urbanites as reference)				
Hukou Converters	0.097*	0.146**	0.009	-0.017
	(0.047)	(0.047)	(0.045)	(0.045)
Education (primary school or below as reference)				
Junior High School			0.146*	0.118!
			(0.070)	(0.068)
senior high school			0.324***	0.234***
			(0.070)	(0.069)
college or higher			0.772***	0.562***
			(0.076)	(0.079)
Party membership (no as reference)				
Yes			0.169***	0.111*
			(0.045)	(0.045)
ISEI				0.009***
				(0.001)
constant	9.660***	9.401***	8.877***	8.580***
	(0.020)	(0.229)	(0.223)	(0.222)
N	1848	1848	1848	1848
R²	0.002	0.147	0.252	0.278
BIC	4616.353	4383.358	4170.026	4109.260

*Standard errors in parentheses (! $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)*

Control variables in model 2-4 are omitted in the models. They are age, age^2, gender, marital status, father's occupation and city types.

However, the above findings and interpretation logic show something different in

various ownership sectors. Table 5a-5c presents the results of comparison of income between the two groups in party or government organs, state-owned enterprises and private sector respectively.

Table 5a OLS regression of *hukou* converters' income attainment in party or government organs

Independent variables	Party or government organs			
	Model 1	Model 2	Model 3	Model 4
	Basic Model	+ Control variables	+ Competence	+ ISEI
Original *hukou* status (urbanites as reference)				
Hukou Converters	0.066	0.102	-0.017	-0.042
	(0.069)	(0.078)	(0.073)	(0.071)
Education (primary school or below as reference)				
Junior High School			0.150	0.109
			(0.172)	(0.168)
senior high school			0.319!	0.221
			(0.165)	(0.161)
college or higher			0.704***	0.503**
			(0.168)	(0.168)
Party membership (no as reference)				
Yes			0.166**	0.125*
			(0.061)	(0.060)
ISEI				0.008***
				(0.002)
constant	9.822***	9.341***	8.688***	8.255***
	(0.037)	(0.421)	(0.424)	(0.422)
N	425	425	425	425
***R*^{2}**	0.002	0.116	0.263	0.303
BIC	840.34	843.13	796.12	778.14

*Standard errors in parentheses (! p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001)*

Control variables in model 2-4 are omitted in the models. They are age, age^2, gender, marital status, father's occupation and city types.

As can be seen clearly (Table 5a and 5b, in model 2), in party or government organs and state-owned enterprises, *hukou* converters fail to get a higher income than their urban counterparts even no control on the human capital, political capital and occupation status in the model.

Table 5b OLS regression of *hukou* converters' income attainment in state-owned enterprises

Independent	State-owned enterprises			
variables	Model 1	Model 2	Model 3	Model 4
	Basic Model	+Control variables	+Competence	+ ISEI
Original *hukou* status (urbanites as reference)				
Hukou Converters	-0.017	0.020	-0.034	-0.049
	(0.073)	(0.073)	(0.070)	(0.070)
Education (primary school or below as reference)				
Junior High School			0.079	0.059
			(0.096)	(0.096)
senior high school			0.127	0.074
			(0.101)	(0.102)
college or higher			0.610***	0.499***
			(0.116)	(0.121)
Party membership (no as reference)				
Yes			0.205**	0.171*
			(0.069)	(0.070)
ISEI				0.005**
				(0.002)
constant	9.551***	10.662***	9.851***	9.636***
	(0.030)	(0.413)	(0.416)	(0.420)
N	776	776	776	776
R²	0.000	0.169	0.251	0.259
BIC	1839.073	1753.331	1705.272	1703.270

*Standard errors in parentheses (! p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001)*

Control variables in model 2-4 are omitted in the models. They are age, age², gender, marital status, father's occupation and city types.

Only in the private sectors (Table 5c, in model 2), *hukou* conversion advantage exists. *Hukou* converters in private sector earn 20.6% more than urbanites when they are at an advantage of individual competence. This shows evidence that *hukou* conversion advantage observed in the total sample does stem from the private sector, where *hukou* converters' outstanding individual ability especially human capital, is highly rewarded.

Table 5c OLS regression of *hukou* converters' income attainment in private sectors

Independent variables	Private sectors			
	Model 1	Model 2	Model 3	Model 4
	Basic Model	+Control variables	+Competence	+ ISEI
Original *hukou* status (urbanites as reference)				
Hukou Converters	0.214*	0.187!	0.027	0.016
	(0.099)	(0.096)	(0.093)	(0.090)
Education (primary school or below as reference)				
Junior High School			0.114	0.104
			(0.133)	(0.129)
senior high school			0.392**	0.313*
			(0.131)	(0.128)
college or higher			0.844***	0.589***
			(0.145)	(0.146)
Party membership (no as reference)				
Yes			0.217!	0.145
			(0.120)	(0.118)
ISEI				0.013***
				(0.002)
constant	9.719***	8.009***	7.609***	7.391***
	(0.038)	(0.444)	(0.429)	(0.419)
N	647	647	647	647
R²	0.007	0.182	0.276	0.319
BIC	1712.360	1643.617	1596.124	1563.368

*Standard errors in parentheses (! p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001)*

Control variables in model 2-4 are omitted in the models. They are age, age², gender, marital status, father's occupation and city types.

Finally, when we consider the factors such as human capital, political capital and occupation status, coefficients of original *hukou* status turn negative with an exception in private sectors (Table 5a-5c, in model 3). Although the coefficients are not significant, it has shown something different from the differential selectivity hypothesis which highly emphasizes the *hukou* conversion advantage in general. Therefore, we can conclude that income status of *hukou* conversion does vary in different ownership sectors, which indicates the fact that individual's endowments, such as human capital, political capital stressed in differential selectivity hypothesis, are not the guarantee of income advantage in

different institutional spaces.

Comparative analysis based on propensity matching values

To answer our core question of whether *hukou* converters can achieve equal treatment like their urban counterparts with similar endowments and occupation status in urban labor market, the best way is to find a sample in which *hukou* converters and urbanites are as similar with each other in all possible attributes. Traditional multiple linear regression can't achieve this because selective sample may lead to estimated bias even if human capital, political capital, occupational status and other features are controlled in regression. The *hukou* converters are those who experience extremely positive selection of household registration and they are not randomly distributed in the sample since they are of high heterogeneity with urbanites, which can be clearly seen in table 3. So, in this paper, we will use propensity score matching when comparing the income difference between the two groups. This method matches the two groups with each other. Therefore it can guarantee the two groups are comparable in background and individual characteristics, especially in human capital, political capital and occupation status. With this method, we are able to modify the potential estimation bias in traditional multiple linear regression.

The basic idea of propensity score matching is that, the researchers can use a single dimension, namely propensity score to summed up the multi-dimensional observable differences in two different groups (such as *hukou* converters and urbanites), and then match the two different groups with similar propensity score into pairs, thus eliminating the observable heterogeneity and generating two comparable groups (experimental group and control group). The so-called propensity score refers to the conditional probability of being classified into the experimental group (*hukou* converters) rather than the control

group (urbanites) in a given condition. Propensity score matching allows individuals in two different groups as similar with each other as possible in some important features, thereby the selectivity bias caused by the observed heterogeneity can be reduced. In our study, observable individual characteristics are used to estimate the propensity score, including education, party membership, occupation status, age, gender, marital status and father's occupation. Age, gender, marital status and father's occupation are basic demographic characteristics while education, party membership and occupation status are highly heterogeneous. And all of these characteristics are also closely related to income. With matching these characteristics, we are able to conduct a much more accurate comparison of income between the two groups.

After matching, observable heterogeneity between the two groups on education, political affiliation and occupational status can be effectively eliminated and basic demographic characteristics as well[①]. Therefore, it is possible to compare the income between *hukou* converters and urbanites in a much more accurate way because the two groups are equivalent in the key characteristics which are of high heterogeneity and emphasized by differential selectivity hypothesis. Then we are able to answer our question that is there any income difference between the two when *hukou* convers are compared to those urban origin ones with similar competence and occupation status.

As table 6 shows, in the total sample, the income difference between *hukou* convers and urbanites is statistically significant and negative (-0.134). It indicates that *hukou* converters earn 12.5% (1-exp(-0.134)) less than urban originals in annual incomes, namely

---

[①] For simplicity, the result of balance test after matching is omitted in our article. The result suggests our match strategy is effective.

the urbanites own an advantage of 12.5 yuan in every 100 yuan over *hukou* converters. Give the average income in the total sample is 21342, we can calculate that the income gap between *hukou* converters and urbanites is up to 2667.75 yuan. No *hukou* conversion advantage but disadvantage is found suggesting that the estimation of traditional multiple linear regression model is indeed affected by the imbalanced sample distribution. In OLS regression, there is no significant income difference between the two groups.

It also can be seen that income gap between *hukou* convers and urbanites varies across different institutional sectors. In party and government organs, the income of *hukou* convers is lower by about 21.3% than that of urbanites even if they are of the similar characteristics. Therefore, when the average income is 22,347 in party and government organs, the annual income of *hukou* converters is about 4759 yuan lower than their urban counterparts. Similarly, in the state-own enterprises, income of *hukou* converters is also 14.9% lower than that of urbanites, but it's not statistically significant. In private sectors, no income disadvantage can be found. They enjoy the same life chances, at least income treatment.

Table 6 Comparison of the mean of natural logarithm income between *hukou* converters and urbanites by ownership sectors after matching

Samples		Urbanites	*Hukou* converters	Difference(T-test)
Total samples	(N=606)	9.679	9.813	-0.134[*]
Party and government organs	(N=146)	9.820	10.058	-0.239[**]
State-owned enterprises	(N=234)	9.486	9.647	-0.161
Private sectors	(N=166)	9.872	9.798	0.073

[*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

In summary, we use propensity score matching to modify the estimation of traditional multiple linear regression analysis, finding something different from the established differential selectivity hypothesis. When excluding the observable heterogeneity of the two

groups in human capital, political capital and occupational status, no *hukou* conversion advantage exist. On the contrary, the *hukou* converters are in a comparative inferior situation, that is, they earn less than urban origin counterparts, especially in party and government organs even if they achieved similar human or political capital and found a fairly good job.

A social capital hypothesis and initial evidence

Propensity score matching analysis provides evidence that *hukou* converters earn less than otherwise equal-status urbanites in party and government organs. This means that differential selectivity hypothesis can't give us an adequate answer based on the OLS regression model. Then, the subsequent question is how to explain *hukou* converters' comparative disadvantage in income when compared to their urban counterparts in party and government organs. In the following analysis, we will introduce social capital perspective, paying attention to the influence of other factors on *hukou* converters' income attainment besides the achieved ability such as human capital, political capital.

In previous literature review, we have assumed that *hukou* converters may be at a disadvantage of social capital when they are compared to their urban counterparts, those who are of similar individual ability and occupation status. This disadvantage highly related to their rural origin (Lin, 2011; Wei, 2012; Li, 2014). On the one hand, these *hukou* converters with rural origin probably get less resource from their social networks because they may contact more with people in rural areas who are in comparatively lower socio-economic status; on the other hand, the social support *hukou* converters can obtain in city is less because their family numbers, relatives and the like are more likely living in

rural areas rather than living around.

Then, given the positive effect of social capital on individuals' income attainment, we wonder if *hukou* converters are indeed at a disadvantage of social capital, and the lack of social capital becomes an important factor in their income disadvantage in party and government organs? To answer this question, we first examine the difference in social capital between *hukou* converters and urban residents using the matched samples. Questions about Spring Festival network provide us the information of respondents' net size, net density, net diversity, net top and connections with the elites (class of leaders, intellectuals or managers) by recoding the number, occupation and work unit of people who came to visit our respondents during Spring Festival. We extract a factor from these indicators, generating a new variable called social capital score. Comparative analysis results can be seen in table 7 below.

Table 7 Comparison of social capital scores between *hukou* converters and urbanites by ownership sectors after matching

Samples	Urbanites	*Hukou* converters	Difference(T-test)
Total samples	36.89	35.50	1.39
Party and government organs	46.23	38.26	7.93*
State-owned enterprises	36.99	34.68	2.31
Private sector	36.64	36.81	-0.16

*!p<0.1, * p < 0.05, ** p < 0.01, *** p < 0.001*

The total sample shows no significant difference in social capital between *hukou* converters and urbanites, and the same applies to comparisons within each of the state enterprises and private sectors. In party and government organs, however, a significant difference in social capital is found, with *hukou* converters being lower in social capital. Table 8 presents more details of comparison between the two groups in each social capital index. As can be seen below, net diversity and connections with the elite class (especially

in the connection with leaders) of *hukou* converters are significantly lower than their urban

counterparts in party and government organs.

Table 8 **Comparison of social capital between *hukou* converters and urbanites in party and government organs**
after matching

social capital indicators	Urbanites	*Hukou* converters	Difference(T-test)
Net size	33.09	32.94	0.15
Net density	0.52	0.54	-0.03
Net diversity	6.52	5.25	1.27**
Net top	56.13	57.14	-1.01
Contacts with leaders	0.53	0.38	0.15**
Contacts with managers	0.39	0.32	0.08!
Contacts with intellectuals	0.75	0.68	0.08!

*!p<0.1, * p < 0.05, ** p < 0.01, *** p < 0.001*

Then, does this lack of social capital can account for the income disadvantage in party

and government organs as we have assumed? In the following analysis, we will use

matched cases in party and government organs to explore the impact of social capital on

the income difference found between *hukou* converters and urbanites of similar individual

characteristics.

After matching, we got a new sample of 146 cases in party and government organs (73

hukou converters and 73 urbanites). Dropping the pairs with missing values in social

capital, the cases we finally use in the following multiple liner regression are 134. As can

be seen in table 9, *hukou* converters earn 21.5% less than urban originals when observable

characters we concern are similar (model 1). In model 2, the urban disparity is controlled

and the coefficient reduces to -0.196 but still significant. Then, we take social capital score

into account in model 3 and find the difference between *hukou* converters and urban

originals disappeared. We can see that the social capital has a positive effect on income

earning and the coefficient of original *hukou* status becomes insignificant. Thus, model 3

provides evidence that *hukou* converters' income disadvantage in party and government organs stems from the lack of social capital. Models 4 and 5 show the further details when different measures of social capital are used as predictors. Basically these models show that the coefficient of status is insignificant when measures of social capital are controlled.

In sum, in perspective of social capital theory, we can draw a conclusion that comparative lack of social capital, especially of net diversity and connections with leaders, contributes to *hukou* converters' disadvantage of income attainment in party and government organs.

Table 9 OLS analysis of social capital and disadvantage in income with matched sample

Independent variables	Model 1 Basic model	Model 2 + city types	Model 3 + Social capital score	Model 4 + net diversity	Model 5 +connections with leaders
Original *hukou* status (urbanites as reference)					
Hukou converters	-0.242*	-0.196*	-0.155	-0.153	-0.157
	(0.097)	(0.094)	(0.094)	(0.095)	(0.095)
City type (undeveloped cities as reference)					
Moderate developed cities		0.193	0.200!	0.199!	0.203!
		(0.118)	(0.115)	(0.116)	(0.117)
Developed cities		0.510***	0.481***	0.482***	0.508***
		(0.140)	(0.138)	(0.139)	(0.139)
Social capital indicators			0.005*	0.025*	0.192*
			(0.002)	(0.012)	(0.094)
Constant	10.062***	9.932***	9.700***	9.765***	9.827***
	(0.068)	(0.075)	(0.117)	(0.106)	(0.090)
N	134	134	134	134	134
R^2	0.045	0.139	0.181	0.170	0.166

!p<0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Conclusion and Discussion

To clarify *hukou* converters' socioeconomic status attainment and upward mobility after *hukou* conversion, this study compared the income between *hukou* converters and

urbanites, with a focus on their income gap and its variation across different institutional sectors. Based on sub-samples of different ownership sectors, traditional multiple linear regression analysis and propensity score matching have found something different from the established theory of differential selectivity hypothesis. We summarize these findings as "limited advantage" and "comparative disadvantage". (1) *Hukou* converters only have higher income than urbanites in private sectors with the condition that these rural original elites are more excellent in human capital, political capital than their urban counterparts; (2) they earn less than urbanites when they work in party and government offices; (3) the two groups have roughly equal income when they work in state-owned enterprises; and (4) *hukou* converters' comparative disadvantages in party and government organs can be attributed to the lack of social capital in the cities.

All these results indicate that the previous estimation of *hukou* converters' socioeconomic status attainment guided by the perspective of differential selectivity hypothesis was overly optimistic. At the same time, the *hukou* converters' income disadvantage in party and government organs can be explained by their lack of social capital. This indicates that even for the outstanding *hukou* converters, socially integrating into the urban society is a long process. Changing *hukou* status doesn't mean acquiring equal life chances at once. Comparative disadvantage due to the lack of social capital can't be quickly changing after achieving *hukou* conversion, and this is so even if they have retained high levels of human capital. Inequality in social capital between rural and urban origins is enduring and has a long lasting impact on labor market outcomes.

References

Bian, Y., Li, L., Li, Y., Hao, D., 2006. Structural barriers, institutional transformation and resource differentials: the Chinese General Social Survey report. *Social Science in China*, 5, 100-109.

Bian, Y., Logan, J. R., 1996. Market transition and the persistence of power: the changing stratification system in urban China. *American Sociological Review*, 61(5), 739-758.

Bian, Y. J., 1994. Work and inequality in urban China. SUNY Press.

Chan, K. W., 1996. Post-Mao China: A Two-Class Urban Society in the Making. *International Journal of Urban and Regional Research*, 20(1), 134-150.

Chan, K. W., Zhang, L., 1999. The *hukou* system and rural-urban migration in China: Processes and changes. *The China Quarterly*, 160, 818-855.

Cheng, C., Bian, Y., 2014. Social capital and the reproduction of inequality: the case of income differential between rural migrants and urban workers. *Society: Chinese Journal of Sociology*, 34 (4), 67-90.

Cheng, T., Selden, M., 1994. The origins and social consequences of China's *hukou* system. *The China Quarterly*, 139, 644-668.

Cheng, C., Zhang, S., 2013. Social capital and wage income differentials between urban workers and rural migrants. *Population and Economics*, 6, 79-85.

Fan, C. C., 2001. Migration and labor-market returns in urban China: results from a recent survey in Guangzhou. *Environment and Planning A*, 33(3), 479-508.

Fan, C. C., 2002. The elite, the natives, and the outsiders: Migration and labor market segmentation in urban China. *Annals of the Association of American Geographers*, 92(1), 103-124.

Li, C., 2006. Non-institutional Paths of Migrants' Status Attainment: Migrant labors and non-migrant labors in comparison. *Sociological Studies*, 5, 85-105.

Li, C., 2015. Trends in Educational Inequality in Different Eras (1940–2010)——A Re-Examination of Opportunity Inequalities in Urban-Rural Education. *Chinese Education & Society*, 48(3), 163-182.

Li, J., G, Y., 2011. *Hukou*-based Stratification in China's Urban Labor Market. *Sociological Studies*, 2, 48-77.

Li, Z., Wang, M., 2014. Inequality of occupational attainment: "Double Threshold" of social network and household registration system. *Journal of Sun Yat-Sen University*, 54(4), 189-198.

Li, Y., 2014. Past rural Background and Income Differences: Empirical Study based on CGSS2008, *Shanghai Journal of Economics*, 9, 48-56.

Lin, Y. 2010. How high can "Male Phoenix" Fly: Men's upward Mobility from the Rural to Non-Rural Status in China. *Society: Chinese Journal of Sociology*, 30(1), 88-108.

Logan, J. R., Fang, Y., Zhang, Z. 2009. Access to housing in urban China. *International Journal of Urban and Regional Research*, 33(4), 914-935.

Lu, Y., 2008. Does *Hukou* still matter? The household registration system and its impact on social stratification and mobility in China. *Social Science in China*, 29(2), 56.

Sun, M., Fan, C. C., 2011. China's permanent and temporary migrants: differentials and changes, 1990–2000. *The Professional Geographer*, 63(1), 92-112.

Tam, T., Jiang, J., 2015. Divergent Urban-rural Trends in College Attendance State Policy Bias and Structural Exclusion in China. *Sociology of Education*, 88(2), 160-180.

Treiman, D. J., 2012. The "difference between heaven and earth": Urban–rural disparities in well-being in China. *Research in Social Stratification and Mobility*, 30(1), 33-47.

Wang, J., 2011. Enlistment: social stratification and individual mobility of choice in the institutional transition. *Society: Chinese Journal of Sociology*, 31(3), 138-154.

Wei, W., 2012. A Study on the Income Effects of *Hukou* Reform on the Floating Population. *Sociological Studies*, 1, 152-173.

Wu, X., 2002. Work units and income inequality: the effect of market transition in urban China. *Social Forces*, 80(3), 1069-1099.

Wu, X., 2007. The Chinese Household Registration and Intergenerational Social Mobility. *Sociological Studies*, 6, 38-65.

Wu, X., Treiman, D. J., 2004. The household registration system and social stratification in China: 1955–1996. *Demography*, 41(2), 363-384.

Wu, X., Zhang, Z., 2014. Household Registration, Occupational Segregation and Income Inequality in Urban China. *Social Science in China*, 222(6), 118-140.

Wu, Y., 2011. Labor Market Segmentation, Job Mobility and the Two-track Model of Chinese Urban Workers' Acquisition of Economic Status. *Social Sciences in China*, 32(3), 74-86.

Xie, G., 2014. Socio-economic Attainment after Obtaining Urban *Hukou*. *Sociological Studies*, 1, 40-56.

Zhang, Z., Treiman, D. J., 2013. Social origins, *hukou* conversion, and the wellbeing of urban residents in contemporary China. *Social science research*, 42(1), 71-89.