

Gender and Job Location Choices: Evidence from Rural Migrants in China

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ABSTRACT

Labor mobility is a strategy that used by workers to seek for higher rent for their human capital. In rural China, with economic growth in large urban areas and coastal regions, many rural workers choose to migrate to urban areas for wage employment in order to supplement their local income. While factors such as disparity of income between home village and destination, educational attainment, reduction of risk at home have been suggested to determine where to migrate, men and women tend to respond differently in the decision of job location. Plus, shortage of farmer workers in coastal areas of China in recent years demonstrates “reverse-flow” of rural migrants, which challenges the hypothesis that income is the driving force behind migration from rural to urban areas. This paper contributes to the existing literature by investigating the gender differences in job location choices in rural China. A generalized ordered logit model is employed to investigate data Rural-Urban Migration in China and find migrants with higher educational level tend to stay within the home province, while more educated male migrants tend to seek employment out of home province.

1. INTRODUCTION

Along with its tremendous economic growth and social transitions since the reforms and opening up policies were implemented, China has experienced significant increase in the number of rural-urban migrants, who left their home villages and stayed in a different destination for a minimum of 6 months. According to sample census from National Bureau of Statistics of China, the total number of rural-urban migrants has reached 158 million in 2011, a 3.4% increase from that in 2010, more than five times as in 1989 (30 million).

There has been many studies on rural migration issues in China in the last two decades. The well-accepted understanding of China’s rural-urban migration is based upon developmentalist theory in which individual migration decision is made as a part of family strategies aiming to increase total household income and insure against risk (Cai, 2000). For years, rural-urban migrants flushed into capital cities of other provinces, especially more industrialized coastal areas in East China. Yet, in light of migration distance, the pattern seems to be changing in recent years. The number of interprovincial rural-urban migrants has been outweighed that of intraprovincial migrants before 2011. In 2011, 52.9% of rural-urban migrants chose to work in a destination within home province while 47.1% rural-urban migrants worked out of their home provinces, which tips the phenomenon that interprovincial migrants dominate for years.

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While factors such as disparity of income between home village and destination, educational attainment, reduction of risk at home have been suggested to determine whether to migrate, little has been done to explain migrants whether to migrate in or out of home provinces. In addition, female rural-urban who account for at least one third of the total migrants in recent years, may behave differently in the decision of job location.

This paper contributes to the line of research on rural-urban migration in China by investigating the characteristics which increase the likelihood of interprovincial migration. Moreover, gender differences on the distance of migration are also examined. The rest of the paper is organized as follows. Section two introduces the data and empirical methods and results are presented in section three; the last section draws the conclusions and discusses the future work.

2. DATA AND EMPIRICAL METHODS

The data set used in this paper is Rural Urban Migration in China (RUMiC). The Longitudinal Survey on Rural Urban Migration in China consists of three parts: the Urban Household Survey, the Rural Household Survey and the Migrant Household Survey. It was initiated by a group of researchers at the Australian National University, the University of Queensland and the Beijing Normal University and was supported by the Institute for the Study of Labor (IZA), which provides the Scientific Use Files. The financial support for RUMiC was obtained from the Australian Research Council, the Australian Agency for International Development (AusAID), the Ford Foundation, IZA and the Chinese Foundation of Social Sciences.

One advantage of using this micro data set on migration research is it is the most recent data on migration which collects not only individual migrant's demographic information but also the socioeconomic statistics. Moreover, the data also provide the background profiles of the migrant households in rural hometown which helps to investigate the decision of migration from household perspective. In the migrant household survey, migrant workers were surveyed on questions such as "how many months did you live away from local township in the last 12 months". The survey also collected information on respondents' current work status and *hukou* (the Chinese household registration system) status. Through the information of *hukou*, we are able to track approximately the distance a migrant worker travels.

Similar to China census data, there are some limitations of using RUMiC data. It does not include information on wage rate, although migrants' self-report monthly income was recorded. With little information on hours of work during migration, researchers will not be able to compute the wage rate for each respondent in the survey. Plus, when it comes to information related with income, assets, the data also suffers from missing information.

In this study, all the observations are extracted from rural-urban migrant survey data. The sample includes rural-urban migrants who left local hometown for more than 6 months, aged between 16 and 45, holding non-local rural *hukou* and currently working for wage and extracted them from rural-urban migrant data. The reasons for focusing on age group 16 - 45 are two folds: 16 years old is the minimum age to

work legally in China and 45 years old is the upper bound for primary working age for laborers by convention. In order to match individual migrant data with household information, household profile was merged with individual migrant data by unique household ID. To measure migration distance on map, ideally, information on individual migrants' *hukou* where it was registered and current destination city and province are needed. Unfortunately, in order not to identify respondents through *hukou* information, only original provinces of *hukou* registered are released on request, which makes it difficult to measure the migration distance between hometown and destination city. Therefore, migrants in this study, who travel from rural home villages to urban cities, are classified as three groups: migrants who migrate from rural areas to urban areas within the boundary of local city where the registered *hukou* belongs, migrants who migrate to other cities within the same province of *hukou*, migrants who migrate out of original province of *hukou*. A dummy variable is created to gauge different migration choice (0 = a migrant works in a local city where his/her *hukou* belongs; 1 = a migrant who migrates to other cities within the same province; 2 = a migrant who migrates out of the original province). Nine destination provinces in the sample are Henan, Jiangsu, Sichuan, Hubei, Anhui, Shanghai, Zhejiang, Guangdong and Chongqing, each of which account for 8% - 13% of the sample. Since the dependent variable is a dummy variable on migration distance, a standard logistic regression technique is employed.

In line with standard literature, where migration is a strategy to supplement family income, information on educational attainment, working experience, purchasing power of hometown property are included as explanatory variables. My study also include other independent variables on demographic background such as marriage status, per capita farmland owned in the family, number of family members living together in destination cities. To account for gender difference on migration distance, a dummy variable on gender is also included. Table 1 provides the definition and summary statistics of each variables in this analysis.

Table 1. Summary statistics of variables.

Variable	Description	No. of Obs.	Mean	S.D
Dummy_migration	=0, to local city; =1, to other city within province; =2, out of province	6513	1.254	0.749
Age	in years	6513	31.279	9.962
Edu	Educational level in years	6400	9.074	2.388
EXP	Potential experience in years	6393	14.895	10.608
Male	=1, male; =0, female	6513	0.608	0.488
Married	=1, currently married;	6390	0.633	0.482

	=0, otherwise			
Hometown Property	Value of hometown property / daily rate of part-time worker in hometown	5294	1412.601	2217.726
No_members	Number of household members who was living with migrant workers at survey	6513	1.977	1.104
Farmland	=1, if has farmland at hometown =0, otherwise	6513	0.885	0.032
Per capita Farmland	In your family, how much land does each person own on average? (1 Mu=666.6m ²)	6381	1.87	2.25

In standard migration theory, migration is costly. The opportunity costs of migration vary for individuals with various educational attainments, working experience, financial assets. Therefore, for individuals from different demographic groups, the decision on the distance of migration depends not only on individual endowment factors such as educational level, but also on financial endowments/constraints such as physical capital in hometown. In addition, the factors which impact the migrants to migrate within short distance (rural area to local urban city) may be fall in line with the forces which stimulate migrants to leave original provinces for urban cities in other provinces.

Two sets of statistical models are examined in this article. In the first logistic regression, all the observations are blended assuming explanatory variables will affect the decision on migration distance equally across the three categories, that is, migration within local city, migration within home province but different cities, migration out of home province. A generalized ordered logit regression is implemented in the second model to account for the uneven impacts of independent variables on each category of dependent variable. The results from the latter regression model will give valuable insights on why there is a pattern of “reverse-flow” of migrants, i.e., interprovincial migration may not be preferred as much as before; some migrants may choose to stay within home province despite the fact that the economy in provinces along east coast are far more advanced than home province.

3. EMPIRICAL RESULTS

The empirical study on factors which affect the migration decisions consist of two steps. Firstly, to examine who migrate with a greater distance, an ordered logistic regression model was estimated to predict the propensity of migration further away from original hometown. To capture human capital endowment effect on the decision of migration, educational attainment, years of experience and nonlinear term of years of experience are included in the regression. In addition, how much a migrant is tied to the hometown will affect the migration decision as well. If there is a greater size of per capita farmland at

home, sending out migrants will cause farm labor constraint at home, which decreases the incentive to migrate out of home province. Therefore, some other “home tie” factors are also included in the regression, such as marriage status, number of family members living in the urban city. Besides, migrants travel with greater distance to seek for higher return to migration, which may result in more remittance to build up home assets in hometown. Thus, hometown property is also included in the estimation. The result of simple ordered logistic regression is shown at the second and third columns in Table 2. It shows migrants with more years of education tend to migrate with shorter distance, while migrants with more experience tend to travel further away from home. The result also indicates migrants with more hometown property and per capita farmland are more likely to migrate further away. In order to examine the gender effect on migration distance, a dummy variable of male migrant is added, which demonstrates male migrants are more likely to migrate further away from hometown. What also interest me are if the impact of educational attainment vary by gender or if the contribution of marriage status on the propensity of migration away from home differ by gender. To study how self-employed migrants react to migration distance, a dummy variable for self-employment is included. Therefore, I run a separate ordered logistic regression (the second model) with a few interaction terms including educational level and gender, marriage status and gender. The estimation results of the second model, shown on the fourth and the fifth columns in Table 2, indicate migrants with more years of education tend to migrate with shorter distance; migrants with more years of experience tend to travel further away from home; migrants with more hometown property and per capita farmland are more likely to travel with greater distance; After controlling for marriage status, males with more years of education tend to migrate with further distance while married males tend to stay closer to hometown; self-employed migrants tend to stay within the home province which may be due to the availability of social network and resource closer to hometown

In order to check if each explanatory variables impact the three categories of dependent variable proportionally, I did a LR test for both of ordered logistic regression models, which reject the hypothesis of proportionality of odds across response categories. Therefore, a more appropriate model is generalized logistic regression model.

The second step of this empirical study is to estimate a generalized ordered logit model to capture the uneven contribution to the three response categories from each explanatory variable. As the results shown in Table 3 indicate, when considering whether to migrate to the local city or other cities within home province, the human capital endowment effect becomes insignificant; migrants with more hometown property or per capita farmland are more likely to travel to other cities within home province; while married migrants in general tend to stay closer to hometown, married male migrants and male migrants with more educational attainment are more likely to travel to other cities within home province; it also indicates self-employed migrants do not behave differently from other migrants in term of whether to migrate out of the local city. When it comes to whether to migrate out of home province, human capital endowment effect are significant and both educational attainment and working experience tend to negatively impact the odds of migration out of home province, which means migrants with more years of

education or working experience tend to stay within home province. Similarly, migrants with more hometown property or per capita farmland, who are currently married, tend to migrate out of home province.

Table 2. Ordered Logistic Regression Estimation results (dependent variable: dummy_migration).

	Coefficient	S.E.	Coefficient	S.E.
Educational	-0.032**	0.013	-0.056***	0.014
EXP	0.008	0.011	0.007	0.011
EXP squared	-0.0005**	0.0002	-0.0005**	0.0002
Hometown property	0.00005***	0.00001	0.00005***	0.00001
Number of living members	-0.038	0.027	-0.004	0.029
Currently Married	0.146	0.09	0.365***	0.111
Per capita Farmland	0.08***	0.013	0.08***	0.013
Male	0.158***	0.055	0.234	0.258
Edu X Male			0.039***	0.009
Married X Male			-0.315***	0.101
D_self employment			-0.248***	0.069
Log likelihood	-5209.7896		-5185.2731	
Obs.	5014		5001	
LR test of Proportionality of Odds across response categories	Chi2(7)=26.52 Prob>Chi2(7)=0.0004		Chi2(11)=76.38 Prob>Chi2(11)=0.0000	

*, **, *** represent significance level at 10%, 5% and 1%, respectively.

Male migrants with more years of education are more likely to travel outside of home province while male married migrants tend to stay within home province. Somewhat interesting finding is about the self-employed migrants. As the result indicates, self-employed migrants are more likely to stay within home province for business than the rest of the migrants. To summarize, factors about assets at home, such as hometown property, per capita farmland tend to increase the odds to migrate far away from home for all three response categories, while the size of impact may not be the same. Married migrants in general tend to move away from home town, especially males with more educational attainment. Married males are more likely to stay closer to home. A surprising finding is human capital endowment effects only significantly impact the decision whether to migrate out of province, which may be because migrants with

more years of schooling or working experience are more able to obtain information and opportunity in local area, which help them to seek higher return to human capital locally. By the same token, while self-employed migrants do not behave differently from the rest of the migrants when considering whether to travel to other cities within home province, self-employed migrants are more likely to stay within home province, as the available local resources and social network are the musts to start one's own business.

Table 3. Generalized Ordered Logit Estimation Results.

Dummy_migration	0		1	
	Coefficient	S.E.	Coefficient	S.E.
Educational level	-0.015	0.020	-0.074***	0.016
EXP	-0.003	0.015	0.015	0.012
EXP squared	-0.00008	0.0003	-0.0008***	0.0003
Hometown property	0.00009***	0.00002	0.00004***	0.00001
Number of living members	-0.005	0.04	-0.003	0.03
Currently Married	0.297**	0.15	0.4***	0.12
Per capita Farmland	0.0059***	0.019	0.085***	0.014
Male	0.285	0.352	0.207	0.282
Edu_X Male	0.037***	0.012	0.042***	0.010
Married X Male	-0.33**	0.136	-0.313***	0.111
D_self employment	0.081	0.096	-0.412***	0.078
constant	1.2***	0.23	-0.126	0.185
Log likelihood	-5146.8915			
LR chi2(14)	190.08			
	Prob>Chi2(7)=0.0000			

*, **, *** represent significance level at 10%, 5% and 1%, respectively.

4. CONCLUSION AND DISCUSSIONS

The rapid economic development in China, since the “open-up” state policy began to implement in 1978, has accompanied with a rarely-seen migration process from rural areas to urban cities, either within or out of home province. Labor mobility is a strategy that used by workers to seek for higher rent for their human capital. In rural China, with economic growth in large urban areas and coastal regions, many rural workers choose to migrate to urban areas for wage employment in order to supplement their local income. While factors such as disparity of income between home village and destination, educational attainment, reduction of risk at home have been suggested to determine where to migrate, men and women tend to respond differently in the decision of job location. Plus, shortage of farmer workers in coastal areas of China in recent years demonstrates “reverse-flow” of rural migrants, which challenges the hypothesis that income is the driving force behind migration from rural to urban areas. This paper contributes to the existing literature by investigating the gender differences in job location choices in rural China. A generalized ordered logit model is estimated to investigate data Rural-Urban Migration in China and find migrants with higher educational level and working experience tend to stay within the home province, while male migrants with more educational attainment are more likely to seek employment out of home province. My study also indicates that self-employed migrants tend to migrate within home province in order to take advantage of existing social network and local resources

Some limitations exist for future study. First, originally I intend to collect the geographical distance between hometown and destination city for the migrants as the dependent variable. Due to the concern of confidentiality, the information on destination city is not released. Instead, I take the household registration information to predict whether a migrant travel within/out of local city or within/out of home province and use that as a proxy for the migration distance. However, the shortcoming of this practice is for neighboring provinces, migration distance between two provinces might be smaller than that between two cities within the same province. Second, the cost of living has not been fully taken into consideration although some variables such as hometown property value have been deflated in term of local part-time worker’s wage rate. Third, there is more room to study migrants and gender effect across different occupational choices.

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