

# The Impact of Land Property on Rural-urban Migration

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**Abstract**—The paper focuses on how land property affects people's choices of migration from rural areas to urban areas. Based on the empirical analysis, the conclusion can be achieved that the migration is improved under market mechanism. Therefore, if the country wants to stimulate the human migration from rural areas to urban areas, the market mechanism should be built and people's land property should be protected.

**Index Terms**—China's land system, market mechanism, migration, property right.

## I. INTRODUCTION

### A. China's Land System China Land System: Urban and Rural

In China, the nature of all land follows the principles of socialist public ownership, meaning the ownership by the whole people and collective ownership by the working masses. But for Chinese land system, there is a huge difference between rural land and urban land. The land in rural areas is collectively owned and the land in urban areas is state owned [1]. Because of the difference, although both of owners in rural areas and urban areas have the right to use their land to meet most of their needs, rural land cannot be sold or mortgaged due to the difference.

#### *HRS land property right characteristics*

In the first three decades of the founding of the People's Republic of China, the people's living standards were not improved sufficiently and people suffered from the lack of food production. In this terrible situation, the Household Responsibility System (HRS) was proposed and spread. When the idea of HRS first appeared in a rural area in 1978, land here was separately contracted, and the villagers no longer reached out to the state for money and food. The specific content of HRS is a responsibility system based on family contract responsibility system and a two-tier management system that combines centralization and decentralization. The family contract responsibility system is based on the collective economic organization as the contracting party. The family is the contractor, and the contract is the link. Through the contract, the obligation of the contractor to pay the state and the duty grain reserved by the collective economic organization is linked with the right of family contract responsibility.

### B. Migration

There are many forms of migration. People can migrate from rural areas to rural areas or from rural areas to urban areas. Also, people can migrate from urban areas to rural

areas or from urban areas to urban areas. In China, the migration often happens to the people from rural areas to urban areas because of the profits. But there is an obstacle to the migration, hukou regulation. The authority investigates the people within its jurisdiction and classify them according to certain principles, which leads to the dual division of urban and rural areas.

### C. Property Right

Property right often refers to a series of rights: the right to use the good, the right to earn income from the good, the right to ownership cessation and the right to enforce property right. Property right makes the trade more efficiently and reduces the transaction costs. People in rural areas have the right to use their land since 1980s, however, this right is not complete property right [2]. With the time going, their land use right is protected with the help of Household Responsibility System (HRS).

### D. The Mechanism of Land Property Right Impacting Migration

The right to use land in Chinese rural areas is increasing, and land is gradually becoming similar to private property. Therefore, the use right of rural land in China can be regarded as property right [3]. Under the survey of the income in several countries, it is clear that non-agricultural income is much higher than agricultural income, especially in China [4]. According to Taylor, Rozelle, and de Brauw [5] and Du, Park, and Wang [6], migration is helpful to improve the situation of people's income and life in rural areas. Also, excessive population in rural land will cause damage to rural land [7]. So government wants to promote urbanization which makes people move from countryside to cities. Based on a theory put by Besley [8] that there is a positive connection between land right and investment decisions, property right of rural land influences people's decisions of migration. The mechanism of land property right can be divided into two parts: market mechanism and government mechanism. For the market mechanism, the renting right of land is beneficial to migration because rent can make up for the opportunity cost of moving. In contrast, there are some obstacles to the migration due to the occupational segregation [9] and hukou system, a kind of household registration [10]. People often worry that the migration cannot provide them with the same benefits as urban residents, so they are resistant to move to a new area [11]. For the government mechanism, increased land tenure security has a positive influence on migration because the risk of expropriation reduces the willingness of rural households to allocate labor to migrate.

The rest of the paper is organized as follows. We begin in Section II by showing the data and the identification strategy

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used in the paper. In Section III, we do the regression and some checks about market mechanism of land property right change on migration and shows the econometric results. Section IV analyzes the results of regression. Section V concludes.

## II. DATA

### A. Data Description

Since 2011, China Health and Retirement Longitudinal Study (CHARLS) has conducted questionnaire surveys for residents over 45 years old in China to provide data support for related scientific research on the elderly. The questionnaire survey involved approximately 10,000 households and 17,500 people in 150 counties/regions and 450 village/resident committees. These interviewees will be interviewed every two years. All collected data will be shown to the public in one year.

TABLE I: DATA DESCRIPTION. CHARACTERISTICS OF SAMPLED HOUSEHOLDS AND VILLAGES

Variable	Description	Mean	Std. Dev.
migratio n	Explained Variable. 1 migration, 0 otherwise.	0.58	0.49
rent_per	Key Variable. Ratio of land leased to land allocated.	0.10	0.27
appropri ation	Key Variable. 1 yes, 0 otherwise.	0.13	0.34
age	The age of respondents.	58.83	10.9 2
gender	The gender of respondents.	0.47	0.50
health	Self-assessed health status. From 1 to 5 means it goes from good to poor.	3.02	0.98
edu	Education levels. From 1 to 5 means it goes from poor to good.	1.58	0.84
party	Are your member of Chinese Communist Party. 1 yes, 0 otherwise.	0.11	0.31
han	Nationality. 1 Han nationality 0 otherwise.	0.92	0.27
hukou	Current Hukou status. 1 agricultural; 2 non- agricultural; 3 unified; 4 none.	1.25	0.46
prov	The province of respondents.	13.33	7.17
private_ busi	Whether you operate self- employed business. 1 yes, 0 otherwise.	1.91	0.29
marital	Marital Status.	1.58	1.35
parents	Is your father living? 1 yes, 2 otherwise.	1.86	0.35

### B. Identification Strategy

In the process of researching migration, it is obvious that

multiple factors have affected this. Therefore, for the regression analysis of migration, multiple regression should be used. This means that multiple independent variables should be used to estimate the dependent variable. The multiple linear regression equation is expressed as the formula:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n$$

In this formula, Y refers to the migration, which is the explained variable in the analysis. In the test, migration is defined that respondent lived outside his/her permanent country/city/district for more than 6 months.  $X_1$  refers to the property right, which is the key variable in the test. Both of the rent\_per and appropriation are used to represent property right. Besides them, some other factors are selected because they influence migration. People of different ages have different attitudes towards migration. Also, their genders, health situation and education levels demonstrate the barrier to living in a new country. What's more, whether they are the member of Chinese Communist Party makes them have different views of land policy, leading to their choice of migration. Besides, the people's nationality, hukou status, and province show their characteristics, which influence their migration. Whether the respondents operate private business shows whether they have the skillful capacity to live in other areas. The marital status and the situation of their parents decide the obstacles to migration.

All the data chosen show the barrier of people to their migration and their characteristics that affect their choice of migration as a whole.

## III. MARKET MECHANISM OF LAND PROPERTY RIGHT CHANGE ON MIGRATION

### A. Basic Regression

In the analysis of market mechanism of land property, the key variable  $X_1$  should be rent\_per because the renting out the land allocated to oneself is an act of market-oriented use of land property right. Clearly, the explained variable Y should be migration. Other factors that will be taken into account are logincome, prov, age, edu, gender and health. In order to make the research sample more in line with the research purpose, this analysis carried out conditional screening of the sample. Only respondents who are over 80 with agricultural hukou are included in the regression analysis. Because in China, only the people with agricultural hukou have land right. In addition, people over 80 cannot have a large enough influence on the migration of the family.

The (1) column of Table II is the basic regression.

The result shows that each increase in rent\_per means an increase in migration by 0.6306. And the p-value of it is 0.0170, showing its significance. For the logincome, its p-value is 0.0490, showing its significance. The p-value of gender is nearly 0, which is very significant.

### B. Robustness Checks

In the empirical analysis, it is needed to do robustness checks, testing the reliability of the basic regression. In this process, some variables will be added or removed to the

model to check the performance of regression coefficient estimates of key variables.

TABLE II: THE REGRESSION BASED ON MARKET MECHANISM

migrat ion	(1)	(2)	(3)	(4)	(5)
rent_per	0.63 1** (2.30)	0.623 ** (2.15)	0.870 *** (2.97)	0.890 *** (3.04)	0.865 *** (2.94)
logincome	0.11 1** (2.12)	0.136 ** (2.55)	0.139 ** (2.38)	0.143 ** (2.43)	0.135 ** (2.36)
gender	1.30 9*** (8.45)	1.508 *** (9.05)	1.372 *** (7.71)	1.378 *** (7.77)	1.370 *** (7.70)
health	0.07 (0.97)	0.03 (0.37)	0.01 (0.11)	0.017 (0.18)	0.006 (0.07)
party	-	0.981** * (-3.825)	0.841** * (-3.281)	0.847** * (-3.298)	0.848** * (-3.294)
han	-	0.297 (-1.020)	0.223 (-0.720)	0.213 (-0.689)	0.231 (-0.750)
private_bus	-	-	-	0.206 (0.78)	-
parents	-	-	-	-	0.095 (0.41)
prov	Yes	Yes	Yes	Yes	Yes
age	Yes	Yes	Yes	Yes	Yes
edu	Yes	Yes	Yes	Yes	Yes
marital	No	No	No	Yes	Yes
_cons	- 1.427* (-1.808)	- 1.115 (-1.223)	- 0.843 (-0.883)	- 1.324 (-1.152)	- 1.002 (-0.962)
N	480	478	468	468	468

t statistics in parentheses  
\* p<0.1, \*\* p<0.05, \*\*\* p<0.01

There are 4 another regression models besides the basic regression. M1 is the basic regression, whose variables are migration, rent\_per, logincome, prov, age, edu, gender and health. In m2 model, the variables of han and party are taken into account. Besides these two variables, m3 model considers marital. In m4 model, private\_busi as well as these three variables should be involved in the regression. In m5 model, all the variables are the same as the m4 model, except for the change that private\_busi is replaced by parents.

From the columns of (2) to (5) in Table II are the robustness checks.

Due to the robustness checks, it can be concluded that rent\_per, the key variable of the regression model, is still significant and have a positive coefficient.

### C. Endogenous Checks

In this part, there may be two endogenous problems: (a)

The willingness of migration may lead to the behavior of renting land; (b) Some variables may be omitted. To solve the endogenous problems, instrumental variables (IV) should be determined and two-stage least squares (2SLS) regression analysis should be applied.

The agricultural production asset is treated well as IV.

Table III and Table IV are the endogenous checks of market mechanism.

TABLE III: THE REGRESSION OF RENT\_PER AND IV

rent_per	(1)	(2)	(3)
prov	-0.003 (-1.031)	-0.003 (-1.032)	-0.003 (-1.060)
gender	0.087 (1.07)	0.088 (1.07)	0.084 (1.05)
logincome	0.023 (0.93)	0.023 (0.92)	0.02 (0.86)
age	0.003* (1.84)	0.003* (1.79)	0.003 (1.31)
edu	0.111** -1.984	0.113** -1.996	0.117** -2.05
han	0.054 -0.856	0.049 -0.758	0.046 -0.736
party	-0.088 (-0.811)	-0.09 (-0.817)	-0.095 (-0.860)
health	-0.001 (-0.057)	-0.001 (-0.073)	-0.004 (-0.208)
IV	-0.152** (-2.432)	-0.153** (-2.443)	-0.153** (-2.461)
private_~i	-	0.015 (0.16)	0.008 (0.09)
parents	-	-	0.089 (1.32)
_cons	-0.348 (-1.314)	-0.369 (-0.990)	-0.456 (-1.140)
athrho2_1	-	-	-
_cons	-0.774** (-2.122)	-0.774** (-2.135)	-0.772** (-2.124)
Insigma2	-	-	-
_cons	-1.112*** (-12.015)	-1.112*** (-12.114)	-1.116*** (-12.411)
N	498	497	497

From the Table IV, it can be seen that when rent\_per is replaced by IV, it is still significant and positive. So there are no endogenous problems in the regression.

## IV. MARKET CHANNEL ANALYSIS

In the field of market mechanism, the rent\_per is very significant and its coefficient is positive. It is because the behavior of renting gives people more money to make up for the costs of migration. And it also means that the property right is protected so that labor is allocated reasonably. Logincome is very significant with a positive coefficient because people need money to pay for their migration. Higher

income helps people save more money to pay for it, which is beneficial to migration. Gender has a positive coefficient and is also significant, meaning that men are more likely to migrate than women. The reason is the Chinese family culture and existing work opportunities. In China, there is a tradition idea that men go to work and women do housework at home, encouraging men to migrate and discouraging women from doing it. Also, people migrate from rural areas to urban areas always do manual labor as their work, which is more suitable to men. Party is very significant but with a negative coefficient showing that people who join in CCP are less likely to migrate. Party members in rural areas have high-status work and social resources. If they leave there and choose to migrate, they will give up the valuable things. So they are unlikely to migrate.

TABLE IV: THE REGRESSION THAT IV IS USED AS THE RENT\_PER

migration	(1)	(2)	(3)
rent_per	2.398*** (4.32)	2.405*** (4.34)	2.406*** (4.34)
prov	-0.001 (-0.098)	-0.001 (-0.119)	-0.001 (-0.098)
gender	0.731** (2.29)	0.739** (2.34)	0.745** (2.32)
logincome	0.066 (1.14)	0.066 (1.14)	0.07 (1.23)
age	-0.038*** (-4.819)	- (-4.901)	- (-4.574)
edu	-0.340** (-2.297)	-0.345** (-2.335)	-0.351** (-2.391)
han	-0.115 (-0.506)	-0.082 (-0.357)	-0.078 (-0.341)
party	-0.483* (-1.934)	-0.490** (-1.967)	-0.483* (-1.922)
health	-0.036 (-0.532)	-0.029 (-0.424)	-0.025 (-0.369)
private_-i		0.294 -1.227	0.304 -1.288
parents			-0.129 (-0.707)
_cons	1.954*** (2.72)	1 (1.56)	1.511* (1.67)

t statistics in parentheses

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## V. CONCLUSION

Today, China is constantly advancing the progress of urbanization, hoping to liberate the productivity in the countryside to the cities. Therefore, this paper is devoted to

studying the impact of land property right on migration. Land property right is highly related to the fields of market. Regression analysis is performed on the data in the questionnaire published by CHARLS to study the relationship between land property right and migration. Throughout the regression process, commercial lease of land has a positive influence on migration. In order to promote urbanization and migration, the government should apply market mechanisms to land property right. The protection of land property right should be improved to ensure that personal land will not be forcibly expropriated.

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