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The Impact of Land Property Right on China's Rural-urban Migration

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Abstract. The land system in China, which features collective ownership by farmers and family contract farming and Household Responsibility System, has improved land utilization efficiency, but also brought about risks of land transfer and expropriation. Although the household production responsibility system has promoted agricultural development, land insecurity and expropriation issues still affect rural families' migration decisions. This paper studies the impact of market mechanisms (well-protected land property rights) and government mechanisms (poorly protected land property rights) on migration. I use Probit model to identify whether rent behavior and land appropriation have impacts on migration.

Keywords: China land system, land property right, market mechanism, government mechanism, migration.

1. Background and Literature Review

1.1 China's land system

Over the past few decades, China's land system has undergone significant changes, especially in the management of urban and rural land. Since the founding of the People's Republic, the agricultural land system has transitioned through stages of private ownership, collective ownership, and a three-tier ownership structure. After 1978, a land system based on collective ownership by farmers, with household contracting for agricultural operations, became established and gradually took shape. In the late 1970s, the introduction of the Household Responsibility System (HRS) laid the foundation for current rural land use practices. This system allocated land use rights to individual households. Under this arrangement, land rights were divided into ownership rights, contracting rights, and management rights (Mullan et al., 2011). While this shift improved land use efficiency and incentive agricultural production, it also introduced issues related to land transfer, land use rights, and risks of expropriation.

1.1.1 China land system: urban and rural

In urban areas, land is owned by the state and managed by the central government, designating all urban land for public or national use (Mullan et al., 2011). In contrast, rural land in China is collectively owned by farmer collectives. Individual households are granted usage rights but do not have full ownership (Rozelle & Li, 1998). After the founding of the People's Republic, China's agricultural land system underwent changes but kept collective ownership unchanged, continuously strengthening usage rights and constantly clarifying the legal concept of collective land ownership. Subsequent reforms including the Household Contract Responsibility System, land circulation, and the separation of three rights, have all emphasized the necessity of maintaining collective land ownership.

1.1.2 HRS (Household Responsibility System) land property right characteristic

The implementation of household contract management by rural collective economic organizations began in 1978. Ten years later, agricultural land in rural areas generally adopted household contracting. This basis of household contract management should be understood as a confirmation of the agricultural production and operation model. Modern agriculture favors large-scale operations. While households are allowed to contract land and are responsible for its productivity, they are granted only partial control over land use, with limitations on direct sale or

permanent transfer (Liu, 2001). Although laws have improved in protecting land use rights, rural households still face challenges of land insecurity and expropriation, especially in areas targeted for urban expansion and infrastructure projects. These insecurities often affect migration decisions, as households may be reluctant to leave land unattended due to fears of redistribution or loss.

1.2 Migration

Since the 1980s, the massive surplus labor migration from rural to urban areas has become the main force driving national urbanization. Entering the 21st century, China's floating population began to show explosive growth. In 2010, the number of people who had left their registered residence for more than half a year reached 261 million, with the floating population numbering 221 million—a 34-fold increase compared to the early days of reform and opening up. The choice of rural-to-urban migration in China is influenced by various socioeconomic factors, including land use rights security and the activity of the rental market. **Migration** provides substantial benefits at both individual and national levels. It has been shown to reduce poverty, increase rural household incomes, and lessen regional inequalities. Furthermore, migration can alleviate environmental pressures in rural areas by reducing land over exploitation, promoting urbanization, and assisting economic structural adjustment (Mullan et al., 2011).

1.2.1 Profits of migration

After nearly 30 years of lagging urbanization, China's urbanization process began to accelerate from the early 1980s, with large numbers of people moving from rural to urban areas. Urban-rural migration is the main driving force behind China's economic growth and urbanization. The rapid urbanization has been propelled by the growth of temporary residents during the process of informal urbanization. Migrants gain access to higher-income job opportunities in urban areas, which can significantly improve the living standards of their home villages through remittances (Mullan et al., 2011). Such migration helps narrow the urban-rural income gap and contributes to national income growth. At the same time, migrating to urban areas provides people with better job opportunities, better education and healthcare resources, and a better quality of life.

1.3 The mechanism of land property right impacting migration

Land tenure arrangements play a crucial role in shaping migration decisions in China. If a household migrates to the city without leaving anyone to farm the land, their land may be expropriated by the government, depriving them of the possibility of deriving income from it upon returning to the village. This legal framework acts as a deterrent to people moving to cities. However, if they choose to lease their land, it will not be taken away, which may further encourage them to migrate to urban areas.

1.3.1 When the land property is well protected (rent your land out) - market mechanism

Research indicates that the greater the proportion of land a person leases out, the more likely they are to migrate to the city. This is because leasing out cultivated land frees farmers from agricultural duties, allowing them to pursue other occupations in urban areas(Deininger & Jin, 2009). Consequently, they can earn income from both the leased land and urban employment. This phenomenon is closely related to China's rural land property rights laws. The ability to lease land reduces the opportunity cost of migration, as households can continue to earn income from their land even while engaged in non-agricultural employment (Mullan et al., 2011). This market mechanism enables rural households to promote labor mobility without relinquishing land rights.

1.3.2 When the land property is not well protected (appropriation)--government mechanism

Conversely, land insecurity may impede migration. Farmers whose land has been expropriated are less likely to migrate. Several reasons contribute to their decision to stay. One reason may be that to receive compensation for the land, they need to remain in the village, as compensation is distributed by community leaders. Other reasons include insufficient compensation that fails to cover the

opportunity cost of moving to the city, or compensation provided in the form of another piece of farmland. In any case, expropriation often leaves the affected individuals worse off than before, eliminating opportunities to migrate to cities for a new star t(Tao & Xu, 2007). This governmental mechanism increases the opportunity cost of migration, as households risk losing their primary assets. Therefore, in areas where land use rights protection is weak, migration rates may be lower, even if urban economic opportunities are attractive (Mullan et al., 2011).

2. Empirical Analysis

2.1 Data

The China Health and Retirement Longitudinal Study (CHARLS) collected a high-quality, nationally representative sample of Chinese residents aged 45 years and older to serve the needs of scientific research on the elderly. The National CHARLS study was carried out in 2013 and 2014 and questionnaires were issued to approximately 10,000 households and 17,500 individuals covering 150 districts/districts and 450 villages/resident committees. They will be followed up every two years. All data will be released one year after data collection ends.

2.2 Regression Model

$$Y(migration) = \beta_0 + \beta_1 * X_1(land\ property\ right) + \beta_2 * X_2(age) + \beta_3 * X_3\ (gender) + \beta_4 * X_4(education) + \beta_5 * X_5(income) + \cdots + \beta_n * X_n(health\ status)$$

Y represents the dependent variable, namely migration, specifically the rural-urban migration in China. This variable is the main result of the study's interpretation or prediction. x is the independent variable, which contains a series of factors that may affect the migration decision. Specifically, x1 stands for land property rights, which are the legal rights of individuals or families to rural land. Other variables include: age, gender, education, income, health status, marital status, and so on.

Choosing migration as the dependent variable y is the purpose of this study, to study the determinants of rural-urban migration in a more scientifically accurate way, which is an important socioeconomic phenomenon in China and has implications for urbanization, labor market and regional development.

The selection of these X variables is based on theoretical basis and previous research that they are related to migration behavior. Land title allows secure land ownership to influence an individual's attachment to rural areas and thus their decision to move. Age and sex are fundamental factors, and they also affect the choice of migration, and different life stages and sex affect the migration tendency. Social factors such as education and income level can affect a migrant's financial situation, job opportunities or resources, and therefore the decision to move. Health status affects the ability to migrate and the need to seek better living conditions. By integrating these factors that affect migration, this model can better explain the multiple dimensions that affect migration and make the study more accurate. In addition, some of these variables serve as control variables, allowing the study to isolate the specific effects of land property rights on migration while holding other influencing factors constant.

2.3 Market mechanism of land property right change on migration

2.3.1 Basic regression

	(1) m1	(2) m2	(3) m3	(4) m4	(5) m5
migration					
rent_per	0.376*	0.623**	0.637**	0.652**	0.634**
	(1.673)	(2.145)	(2.161)	(2.208)	(2.146)
logincome	0.088*	0.136**	0.140***	0.144***	0.139***
	(1.953)	(2.545)	(2.615)	(2.658)	(2.599)
prov	-0.004				
	(-0.485)				
age	-0.038***				
	(-4.794)				
edu	-0.173*				
	(-1.723)				
gender	1.124***	1.508***	1.498***	1.505***	1.498***
	(8.456)	(9.054)	(8.825)	(8.870)	(8.818)
health	0.027	0.030	0.015	0.021	0.014
	(0.401)	(0.366)	(0.183)	(0.247)	(0.172)
party		-0.981***	-0.999***	-1.006***	-1.002***
		(-3.825)	(-3.995)	(-4.000)	(-3.985)
han		-0.297	-0.254	-0.246	-0.256
		(-1.020)	(-0.868)	(-0.840)	(-0.877)
private_~i				0.191	
	-0.706				
parents					0.032
	-0.168				
_cons	1.241*	-1.115	-1.148	-1.588	-1.204
	(1.915)	(-1.223)	(-1.238)	(-1.408)	(-1.220)
N	489	478	474	474	474
r2					
r2_a					
F					
t statistics in parentheses					
* p<0.1, ** p<0.05, *** p<0.01					

Probit M1 selects rural accounts with age less than 80, analyze each value of rent_per, age, edu, gender, health with migration. Probit_M2 adds the party, han to each other based on the Probit M1. M3 adds marital to M2, and M4 adds private_busi to M3, M5 adds parents to M3.

The table shows that the coefficients of Rent Per Increase from 0.376 in m1 to 0.652 in m4, then slightly decrease to 0.634 in m5. The p-values indicating significance at the 10%, 5%, and 1% levels, all models are statistically significant. So, A higher rent per is positively associated with migration. As the rent of land increases, people are more willing to move to urban areas.

Coefficients of logincome increases, and the p value indicating significance at the 10%, 5%, and 1% levels. So Higher income levels are strongly positively associated with migration.

For prov, it presents small negative values for coefficient and p value, so it does not have a significant impact on the migration.

Age presents negative and highly significant, -0.038, in the models. Older individuals are less likely to migrate, and the younger more likely to seek opportunities in urban centers, the older may prefer the stability of their rural homes.

Coefficients of age is negative and significant (-0.173). So higher educational level is associated with a lower likelihood of migration.

In contrast, for the gender, it is strongly positive and highly significant across all models. It points that Gender plays a substantial role in migration decisions. Male are more likely to migrate compared to the female. This may related to some traditional views in rural areas that male should try to seek better job opportunities.

The coefficients of health is positive but too small, so it has no meaningful impact on migration decisions. The party membership presents strongly negative and highly significant. It is negatively related to migration. Han is negative but small, so it makes tiny influence in migration.

The private business and parents just present in one model, and they are positive and small, so both of them barely make impact on migration.

2.4 Government mechanisms of land property right change on migration

2.4.1 Basic regression

	(1)	(2)	(3)	(4)	(5)
	m1	m2	m3	m4	m5
migration					
appropri~n	-0.192	-0.301*	-0.314*	-0.522**	-0.473**
	(-1.151)	(-1.777)	(-1.773)	(-2.231)	(-2.149)
logincome	0.118**	0.146***	0.144***	0.203***	0.180***
	(2.561)	(3.056)	(3.013)	(3.289)	(3.013)
gender	1.292***	1.477***	1.529***	1.451***	1.341***
	(9.764)	(10.005)	(10.018)	(7.363)	(7.154)
health	0.104	0.069	0.060	0.137	0.117
	(1.612)	(1.038)	(0.893)	(1.493)	(1.330)
party		-1.091***	-1.127***	-1.211***	-1.119***
		(-4.718)	(-4.871)	(-4.324)	(-4.042)
han		0.133	0.181	0.261	0.139
		(0.527)	(0.749)	(0.831)	(0.455)
private_~i				0.354	
-1.225					
parents					0.220
-1.031					
_cons	-1.790***	-2.052**	-2.249***	-2.894**	-2.694***
	(-2.592)	(-2.574)	(-2.797)	(-2.353)	(-2.720)
N	618	616	614	417	427
r2					
r2_a					
F					

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

The coefficient for appropriation consistently shows a negative relationship with migration across all five models. This indicates that stronger land property rights are associated with a decreased likelihood of migration from rural to urban areas. Secure land tenure likely provides economic stability, reducing the necessity or desire to seek opportunities elsewhere.

The income exhibits a positive and statistically significant effect on migration across all models. It states that higher income levels increase the likelihood of migration.

Gender has a strong positive effect on migration, with coefficients consistently large and highly significant across all models. So much male and female will make different decisions on migration.

The health presents a positive coefficient in all models, suggesting that better health may facilitate migration. However, the coefficients are not statistically significant, so health still does not have a strong effect on migration.

Party membership shows a negative and highly significant coefficient, it means party members are less likely to migrate.

The Han ethnicity has a positive coefficient in all models, it make small impact on migration decisions. The data of private busi and parents still indicate that they have no significant effect on migrationt.

3. Analysis

3.1 Market Channel

Through the data, it can be found that the greater the amount of land that can be rented out, the more likely farmers are to migrate to the city. More rented-out land can bring in higher rental income,

which means that the non-farm income of farmers increases, enhancing their economic capacity and providing a financial basis for migration. This income can serve as capital for migration, making it easier for farmers to bear the related costs of migration and urban life. Moreover, when farmers rent out land, it means that they have less direct involvement in agricultural production, releasing labor. This may prompt farmers to seek other economic activities, especially job opportunities in the city. By renting out land, farmers can also diversify their sources of income and reduce their dependence on agriculture. This economic stability may give them greater confidence in migration. Higher rental income can promote capital accumulation, and farmers may use part of their income for education, entrepreneurship, or other investments, thereby enhancing their ability to migrate and adapt to urban life. At the same time, income level, age, education level, gender, and other factors will influence the decision to migrate (Zhao, 2005), but compared with the rental income from renting land, the latter has more influence on this decision.

3.2 Government Channel

The negative coefficient of the possibility of land expropriation indicates that when the government expropriates land, the likelihood of farmers migrating may actually decrease. Although the government expropriates the land of farmers, they may not necessarily tend to migrate to the city. Because of the collective ownership of land and the fact that farmers only have the right to use it, in order to ensure their land distribution after it is expropriated, they may not choose to migrate to the city. At the same time, if the compensation amount cannot guarantee the living standard of farmers in the city, they may choose to stay in the countryside and continue farming.

4. Conclusion

4.1 What we have done in this paper

I analyzed the land property rights in rural China and its relationship with migration based on literature review. Land ownership and expropriation can influence farmers' decision to move to cities.

4.2 What the conclusion is

When farmers can rent out their land and receive rent, they tend to choose to migrate to the city. However, when farmers' land is expropriated, their likelihood of migration decreases.

4.3 Policy implication

China's Household Responsibility System (HRS) will bring some unrest to farmers, and land expropriation will affect farmers' lives. One is to strengthen the protection of farmers' land property rights.

4.4 What could be done in the future

The government should introduce more policies to protect farmers' land property rights and strengthen farmers' rights to land. To reduce the cases of land expropriation, even when it occurs, appropriate subsidies are needed.

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