

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

Yiyang Zhao

New York University, New York 10003, United State

Yz9711@nyu.edu

Abstract. The essay discusses China's transition to state ownership in urban areas and the Household Responsibility System (HRS) in rural regions. It explores how land property rights impact migration, with market mechanisms encouraging migration through land rental opportunities, while government mechanisms hinder it due to land appropriation and insecurity. Utilizing the CHARLS dataset, the study finds that income and gender consistently drive migration, with higher rent per person boosting migration in market systems and appropriation dampening it in government systems. The essay highlights the importance of delineated property rights for urbanization and economic development in China.

Keywords: Land Property Right; Market Mechanism; Government Mechanism; HRS; Migration; Appropriation.

1. Background

1.1. China's Land System

1.1.1. China Land System: Urban and Rural

Urban land ownership transitioned to a single state land ownership form, culminating in the nationalization of urban land by the "82 Constitution". In contrast, the rural land system experienced transformations, which means that HRS converts large-scale collective ownership into socialist public ownership, increasing farmers' productivity. The distinction is that rural land is in a collective relationship, while the whole people own non-collective entities such as urban land.

1.1.2. HRS (Household Responsibility System) Land Property Right Characteristic

The HRS allows farmers to contract land and other production materials with a family as the unit. Farmers can transfer land contractual management rights during the contract period, controlling the scale of land acquisition and protecting farmers' rights.

1.2. Migration

Migration can increase potential productivity in cities, reduce rural poverty, supervise land use, protect the environment, and other positive effects. Since China is now processing in urbanization, government accommodates villagers to migrate to cities so that it is more convenient to urbanize.

2. Literature

2.1. Property Rights

China's land, including agricultural and forest land, is considered "quasi-private" property. (Kung, 2022) The Rural Land Contracting Law (RLCL) secures land use rights, shifting from collective to family-based ownership. In 2014, Three Rights Divisions separated ownership, contract rights, and management rights. Achieving this goal is challenging, if not impossible, in rural China due to the absence of clearly defined property rights and functional land markets.



2.2. The Mechanism of Land Property Right Impacting Migration

2.2.1. When the Land Property is Well Protected (Rent Your Land Out) - Market Mechanism

The ability to rent land emerges as a balancing act. It influences the mobility of families, akin to characters, forcing residents to make decisions based on opportunity costs. Lower OC, caused by the increase in the right to rent land, will lead to better liquidity. (Mullan et al., 2011) However, increasing the right to rent land will cause the number of migration days to decrease.

2.2.2. When the Land Property is Not Well Protected (Appropriation)--Government Mechanism

The incomplete implementation of the Rural Land Contracting Law (RLCL) becomes an obstacle course for migration. Specifically, when considering whether to allocate labor to migrant workers, households will take into account the increased risk of land expropriation in the coming period due to the reduction of family size. The effect of this increased risk may be seen as similar to the effect of an immigration tax and reduces the likelihood of migration. (Mullan et al., 2011)

3. Data

The China Health and Retirement Longitudinal Study (CHARLS) aims to collect a high-quality nationally representative sample of Chinese residents ages 45 and older to serve the needs of scientific research on the elderly. The baseline national wave of CHARLS is being fielded in 2011 and includes about 10,000 households and 17,500 individuals in 150 counties/districts and 450 villages/resident committees. The individuals will be followed up every two years. All data will be made public one year after the end of data collection.

3.1. Identification Strategy

In regression analysis, if there are two or more independent variables, it is called multiple regression. Since a phenomenon is often associated with multiple factors, the optimal combination of multiple independent variables to predict or estimate the dependent variable is, in most cases, more effective than predicting or estimating with only one independent variable. A simple multiple linear regression equation can be expressed as the formula below.

$$Y(\text{migration}) = \beta_0 + \beta_1 X_1 (\text{rent}_{per} \text{ or appropriation}) + \beta_2 X_2 (\text{age}) + \beta_3 X_3 (\text{education}) + \beta_4 X_4 (\text{gender}) + \beta_5 X_5 (\text{income}) + \beta_6 X_6 (\text{health}) + \beta_7 X_7 (\text{party}) + \beta_8 X_8 (\text{han}) + \beta_9 X_9 (\text{province}) + \beta_{10} X_{10} (\text{siying}) + \beta_{11} X_{11} (\text{parents})$$

Migration is the explained variable. It can only be 1 (migration) and 0 (not migration). The reason why rent per and appropriation cannot be shown in the same formula is that I make a difference between government regulation and market mechanism through this. In the market, the formula contains rent per. On the contrary, the government one will use appropriation. Age means the age of respondents. The education means the education level of respondents, with an ascending five-level classification adopted from 1 to 5. The gender means 1 male, 0 female. Income is revised through a logarithm since it can get more stable values. For health, it is the health level of respondents, with a descending five-level classification adopted from 1 to 5. Party means whether respondents are Chinese Communist Party (CCP). 1 Yes, otherwise 0. Han means nationality. 1 Yes, otherwise, 0. Province is the province of respondents.

However, since the independent variable Y(migration) will only have two values: migration or not migration, we should not use the normal multiple regression model. Instead, the Probit Model is much

more effective. In this paper, I use the Probit Model with a robustness check. Siying is the members engage in self-employed businesses. The last one, parents, is whether the father lives. 1 yes, 0 no.

3.2. Market Mechanism of Land Property Right Change on Migration

3.2.1. Basic Regression

As mentioned before, in the market, land property is well-protected. As a result, the ability to rent is determined by the opportunity cost. To make my results more convincing, which means that I need to allow results suitable for all situations, in this paper, I use Robustness Check. In other words, I tend to use different combinations of variables to make the Probit Model.

Table 1. The Results of use different combinations of variables to make the Probit Model

	(1)	(2)	(3)	(4)	(5)
migration					
rent_per	0.376*	0.623**	0.637**	0.652**	0.634**
	(1.67)	(2.15)	(2.16)	(2.21)	(2.15)
log income	0.088*	0.136**	0.140***	0.144***	0.139***
	(1.95)	(2.55)	(2.62)	(2.66)	(2.60)
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***
	(8.46)	(9.05)	(8.83)	(8.87)	(8.82)
health	0.03	0.03	0.02	0.02	0.01
	(0.40)	(0.37)	(0.18)	(0.25)	(0.17)
party		-0.981***	-0.999***	-1.006***	-1.002***
		(-3.825)	(-3.995)	(-4.000)	(-3.985)
han		(0.30)	(0.25)	(0.25)	(0.26)
		(-1.020)	(-0.868)	(-0.840)	(-0.877)
siying				0.19	
				(0.71)	
parents					0.03
					(0.17)
_cons	1.241*	(1.12)	(1.15)	(1.59)	(1.20)
	(1.92)	(-1.223)	(-1.238)	(-1.408)	(-1.220)
N	489.00	478.00	474.00	474.00	474.00

t statistics in parentheses

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

Results are shown in Table 1. The first combination contains migration, rent per person, income, province, age, education, gender, and health. The second one contains migration, rent per, income, province, age, education, gender, party, han, and health. The third one contains migration, rent per, income, province, age, education, gender, party, han, and health. The fourth one contains migration, rent per, income, province, age, education, gender, party, han, health, and siying. The fifth one contains migration, rent per, income, province, age, education, gender, party, han, health, and parents. I also add some constraints: hukou =1 and age are between 18 and 80.

According to Table 1, rent per person, income, and gender are significant. This means those variables have a positive impact on migration. On combination 1, we can conclude that the province has little impact on migration since it is not significant. By contrast, age has a negative impact on migration but education has a negative impact. By using combinations 4 and 5, we conclude that party has a negative impact on migration since it is heavily significant. However, the table tells us that han, siying, parents and health are not significant. This means those variables have little effect on migration.

3.3. Government Mechanism of Land Property Right Change on Migration

3.3.1. Basic Regression

Table 2. The Results of use Robustness Check again with the same reason to fit the Probit Model

	(1)	(2)	(3)	(4)	(5)
migration					
appropriation	(0.19)	-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***
	(2.56)	(3.06)	(3.01)	(3.29)	(3.01)
2.edu	-0.248*	-0.270*	(0.23)	(0.12)	(0.16)
	(-1.683)	(-1.806)	(-1.527)	(-0.619)	(-0.811)
3.edu	-0.527**	-0.423*	(0.37)	(0.44)	(0.45)
	(-2.238)	(-1.796)	(-1.516)	(-1.395)	(-1.482)
gender	1.292***	1.477***	1.529***	1.451***	1.341***
	(9.76)	(10.01)	(10.02)	(7.36)	(7.15)
health	0.10	0.07	0.06	0.14	0.12
	(1.61)	(1.04)	(0.89)	(1.49)	(1.33)
party		-1.091***	-1.127***	-1.211***	-1.119***
		(-4.718)	(-4.871)	(-4.324)	(-4.042)
han		0.13	0.18	0.26	0.14
		(0.53)	(0.75)	(0.83)	(0.46)
private_~i				0.35	
				(1.23)	
parents					0.22
					(1.03)
N	618.00	616.00	614.00	417.00	427.00

t statistics in parentheses

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

Compared with the market mechanism, in the government mechanism, households will take into account the increased risk of land expropriation in the coming period due to the reduction of family size. Appropriation substitutes the rent since government rents the land. In this paper, I use Robustness Check again with the same reason to fit the Probit Model. Results are shown in Table 2.

The first combination contains migration, r appropriation, income, province, age, education, gender, and health. The second one contains migration, appropriation, income, province, age, education, gender, party, han, and health. The third one contains migration, appropriation, province, age, education, gender, party, han, and health. The fourth one contains migration, appropriation, income, province, age, education, gender, party, han, health, and siying. The fifth one contains migration, appropriation, income, province, age, education, gender, party, han, health, and parents. I also add some constraints: hukou =1 and the age are between 18 and 80.

According to Table 2, we can see that only group one's appropriation is not significant. This means that appropriation has a negative effect if we consider income, province, age, education, gender, party, han, health, and parents. Incomes and genders always have a positive effect on migration. The interesting part is that education is significant. This means that the education level has negative effect on migration. Other variables have similar effect with the market group.

4. Analysis

4.1. Discussion

Following Mullan et al.'s (2011) research, we conduct an empirical analysis based on market and government mechanisms using CHARLS data set including about 10,000 households and 17,500 individuals in 150 counties/districts and 450 villages/resident committees. Similar to Mullan et al.'s (2011) findings, we find that the ability to rent 14 pieces of land significantly improves the probability of migrating. While the negative impact of land insecurity on migration may not be stable. We also find that CCP members are less likely to migrate under market mechanism.

4.2. Market Channel

As we discussed before, opportunity cost is the determinant of the decision to migrate. Higher rent per person means that if landowners are willing to rent out their land, they can earn more. Moreover, they can get profit from migration, including work outside of the village. The reason why gender has a positive impact on migration is that landowners will have more spare welfare to support their lives even they fail to live in cities they migrate. Males mean migrators are more likely to adapt to the new environment after they migrate.

4.3. Government Channel

Through empirical analysis, we find that the possibility of migration is reduced when the land is insecure. Since the land is owned or collectively owned by the whole people and the users may face land reallocation after they migrate, they may not migrate in protect of the land. Higher education level allows people to gain knowledge of their property rights and the ability to predict what will happen after they migrate. Thus, education level actually harms migration. Through the results, we can find that the government channel, where land properties are not well-protected becomes an obstacle to urbanization.

5. Conclusion

Concurrently, China is undergoing urbanization, upgrading its industry structure, and facing potential challenges related to the absence of clearly defined property rights and functional land markets. This study investigates the impacts of the rural land system on migration, a crucial factor in China's current economic development.

We conduct an empirical analysis of market and government mechanisms based on CHARLS data, which includes constructing the identification model, and conducting robustness checks. The findings, consistent and significant in experimental results, suggest that income and gender have a significantly positive effect on migration in both systems. However, in a market system, a higher rent per person means people are more likely to rent out their lands and migrate, compared with the government system where a higher appropriation results in a lower rate of migration. As a result, the lack of protection of properties prevents the development of urbanization.

Efforts should be made to find to which extent the impacts of rural land system on migration. Besides, we also need to explore the relationship between the rural land system reform and China's economic development.

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