The impact of land tenure arrangement on China's urban-rural migration

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ABSTRACT
In the background of the urban-rural dual system, there are many constraints on the mobility of the rural population in China, resulting in the inefficiency of labour resource allocation. The Chinese government has taken action to reform the institutional barriers, such as reforms on the Hukou system and Three Rights Division. However, the de facto land tenure arrangement is still far from marketization. This paper focuses on examining the impact of land tenure arrangement on China's urban-rural migration from two perspectives, that is, the market channel and the government channel with the help of CHARLS database in 2013 and 2014. The paper finds that the right to renting lands promotes the urban-rural migration while the possibility of the government's land expropriation has a negative effect on urban-rural migration. The paper also provides suggestions on further reforms on land rental and security rights.

Keywords: land tenure security, land rental right, rural-urban migration, land reform, china.

1 BACKGROUND

China's economic and social development is an unbalanced process, in which rural areas lag far behind urban areas. According to Yang and Cai (2003)' study from a sample of 36 other countries, the ratio of non-agricultural to agricultural income is usually around 1.5.[19] As a comparison, data since the early period of Reform and Opening-up has shown that the same proportion in China ranges between 2 and 3 (Mullan et al., 2011).[13] Such rural-urban disparity has a "push" and "pull" impact on rural-urban migration, causing millions of rural migrant workers to flood into cities to pursue a better life (Mullan et al., 2011).[13] However, there are still many barriers to rural-urban migration embedded in China's land system. This section displays the features of China's land system as well as the profits of migration.

1.1 THE FEATURES OF CHINA'S LAND SYSTEM

China has a dual system of urban and rural land, which has historical reasons for prioritizing developing cities at the expense of rural development. In order to stimulate the enthusiasm of production, China has implemented Household Responsibility System (HRS) since 1978.

1.1.1 Urban-rural dual system

Through the policy of the "price scissors" between industrial products and agricultural products, the industry has drawn the agriculture surplus too much to accelerate industrialization during a specific period (Lin, 2012).[12] Moreover, around the "state monopoly for purchase and marketing", a set of corresponding systems differentiating urban and rural residents in household registration (Hukou), housing, food distribution, education, medical care, pension, labour protection, etc., has formed. Under such a system, the disparities between urban and rural regions are increasingly evident, and the flow of people across areas is strictly controlled, causing the dual urban-rural separation (Lin, 2012).[12]

Since 1954, China has established the public ownership of land, where all the urban land is state-owned and agricultural land are collective-owned. However, due to the unequal status of the state ownership of urban land and the collective ownership of rural land, there are significant differences in the ownership, requisition and right to use and transfer of urban and rural land, strengthening the distinct pattern of dual separation (Luo & Ma, 2020).[10] Peasants' land ownership is strictly limited. For example, peasants are restricted to put farming land into other uses. Even if urbanization is extended to peasants' homes, peasants cannot use homesteads to build commercial houses. Agricultural land can be turned into urban construction land only after it is requisitioned by the government, which causes the irrationality of profit distribution (Xu, 2008).[18] Generally, urban land enjoys greater rights to gain economic benefits than rural land (Luo & Ma, 2020).[10]

Due to institutional barriers, the rural land transfer cannot entirely in accordance with the market principle, which restricts the agricultural income growth and is unfavourable to narrow the differences between rural and urban areas (Xu, 2008).[18]

1.1.2 HRS land property right characteristics

Established in the early 1980s, the household responsibility system (HRS) allowed households to have fixed-term contracts with collective organizations to use land, machinery and other collective-owned facilities for their production activities. HRS not only preserves the unified management of the collective economy but also motivates individual' productivity by contracting out land and other resources to households (China.org.cn, 2009).[3] Households have the right to make operating decisions and freely dispose of surplus production above the national and collective quotas according to the contracts (China.org.cn, 2009).[3]

The household contract responsibility system did release policy dividends in the early stage of reform and opening up, but its impact on agricultural output has a marginal decline (Li, 2021).[11] In the late 1990s, the drawbacks of HRS appear. Although the HRS has provided economic incentives to individual households by clarifying property rights, it failed to take scale operation into account. Because
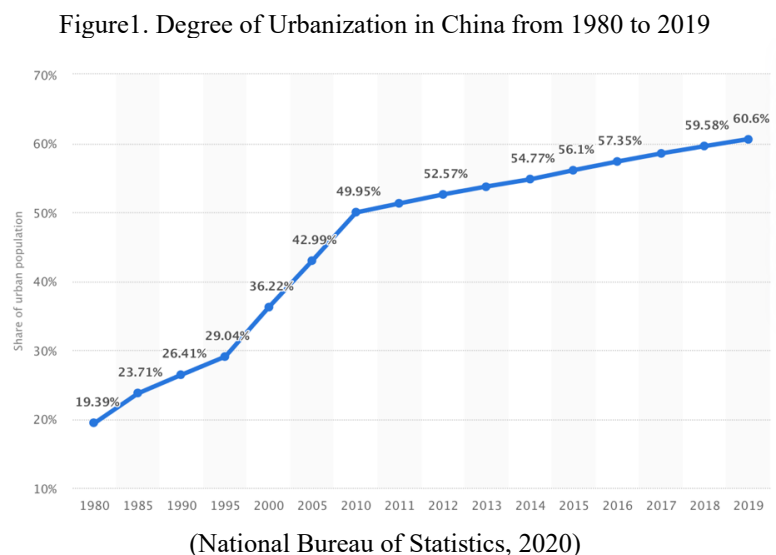
of the imperfection of the market mechanism to transfer land, it is hard to achieve an optimal planting scale through land annexation. As a result, fragmentation, lumpiness and miniaturization of arable land have become the bottleneck restricting agricultural production in China (Li, 2021).[11]

1.2 THE IMPACT OF MIGRATION

Rural-urban migration unleashes labour force in rural areas, which contributes to urbanization and the upgrading of industrial structure.

1.2.1 Urbanization

The direct effect of rural-urban migration is urbanization. Urbanization is generally defined as "a process of people migrating from rural to urban areas, during which towns and cities are formed and increase in size (Statista, 2020)."[17] The statistic shows that the urbanization rate in China rose from 36% in 2000 to around 60% in 2019 (National Bureau of Statistics, 2020).[14] It is no doubt that China's urbanization is progressing rapidly. However, for urbanization in international comparison, the USA displays an around 20% higher urbanization degree than China; Brazil and Russia, which are two other BRIC members, also has a much higher urbanization rate than China (Statista, 2020).[17] In addition, the regional development of urbanization in China is uneven. While in most eastern coastal areas, more than two-thirds of the population lives already in cities, the urbanization rate is relatively quite low in western or central China (National Bureau of Statistics, 2020).[14] In conclusion, China is still under-urbanized and has substantial unexploited economic potential. According to Au and Henderson (2006),[1] the potential economic gains from urbanization for the majority of prefectural cities are more than 35%. Urbanization provides more people with better, modernized lives, and a higher urbanization rate calls for fewer constraints on rural-urban migration

Figure1. Degree of Urbanization in China from 1980 to 2019

(National Bureau of Statistics, 2020)

1.2.2 Industrial structure upgrade

Rural-urban migration makes for the development of both rural and urban industries, which releases the population pressure on land and increases the personal income of both migrant workers and remaining peasants. The reallocation of population upgrades the overall industrial structure in China.

Migration largely reduces the surplus population in rural areas, which accelerates the transformation from a "small-scale peasant economy" to large-scale and mechanized agricultural production. According to Elvin (1973),[6] China's agricultural development has been in a high-level equilibrium trap, which means that as household labour inputs becoming more intensive, yields per acre of land is increasing and reaching saturation point. Still, the marginal productivity of labour is declining, which seriously hinders the improvement of people's living standards. Migration makes it possible for more efficient utilization of agrarian land with mass machine production, improving productivity per capita.

The production-intensive industries in cities have the capacity of absorbing a large number of workers. As a result of the industrial cluster effect, the intensive population in cities contributes to the development of different industries. In recent years, with the service industry accounting for a larger share of GDP, more and more rural migrant workers are committed to the service industry. Zhong et al.'s study in 2020 reveals that population density significantly promotes the development of the service industry and especially affects residents' consumption of the service industry. Zhong et al. (2020) also found that the obstacle of population mobility restrains the promoting effect of population density on the development of the service industry.[22] For the purpose of upgrading and prospering industry, the freedom of migration must be guaranteed.

2 LITERATURE

By reviewing the past literature, this section firstly studies the land tenure arrangement, which is about the land property rights and land transfer. Then, theoretical hypotheses about the mechanism of land tenure arrangement impacting migration its impact is made. as well as other determinants of migration in China.

2.1 LAND TENURE ARRANGEMENTS

The division and definition of land rights are the foundation of land market construction, as transactions in the land market are in the form of the exchange of rights (Xu, 2008).[18] The HRS separates land ownership and the contracted rural land-management rights, which entitles agricultural and forest land with virtually "quasi-private" property rights (Kung, 2002).[9] The 'Three Rights Division'

reform since 2008 tried to explicit the ownership, contract rights and use rights, but there are still problems in the process of land transfer because of the incomplete land property right.

The ownership is owned by the collective in law, but in practice, there are neither institution nor procedure for peasants to exercise their land ownership. It is often the rural cadres who actually exercise the collective ownership and the right to transfer land (Xu, 2008).[18] The Rural Land Contracting Law (RLCL), carried out in 2002, is designed to secure the households' rights of land possession by enforcing land-use contracts for 30 years; disallow reallocations of land at rural cadres' discretion; and permit land transfer between households (Ping Li, 2003).[15] However, it has been proven that despite the introduction of the RLCL, households are still at continued risk of land reallocation. According to Deininger and Jin (2009), there exists an incidence of land reallocations that are not allowed under the RLCL.[5] In their survey conducted in 800 villages across China, about 1/3 of the 8000 households have experiences of land reallocation during 2002–2004 (Deininger and Jin, 2009).[5]

The land transfer between households without infringing on the underlying contract with the collective is legal. However, the market of land renting remains on a small scale (Mullan et al., 2011).[13] Although there is an increase in land rentals after the tenure reforms in 2002, according to Deininger and Jin (2007), the written and formal rental contracts haven't prevailed, and renting is usually between relatives. In conclusion, despite the issuance of RLCL, as both local governments and village cadres overlooked the dissemination and implementation of RLCL (Deininger et al., 2007), there remains a lot of barriers in the legal and smooth transfer of land.[5]

Another way of land transfer is the government's land expropriation. After the land being expropriated, the land is no longer collective-owned but state-owned, and the use of the land can be changed. In recent years, with the rapid economic development, the increasing population density and the urban expansion, there is high demand for the multiple exploitations of rural land (Mullan et al., 2011).[13] As a result, compulsory land acquisition becomes widespread (Chan, 2003).[2] However, there are complaints that the compensation for acquisition is insufficient (Guo, 2001).[8] Local governments expropriate farmers' land at the price of tens of thousands of yuan per mu of land and then transfer the land use right to private developers at tens or even hundreds of times of the expropriation price, which encroaches on farmers' interests (Xu, 2008).[18] Land sales have become an important source of local government's financial income, and it even accounts for half of the local governments' revenue in some cities (Xu, 2008).[18] In most mature market economies, the just compensation for land expropriation should match the market value of the land (Ding, 2007).[4] However, in rural China, as the land property rights for individuals are ambiguous, the land market cannot function properly and effectively (Ding, 2007).[4]

2.2 THEORETICAL HYPOTHESES ABOUT THE MECHANISM OF LAND TENURE ARRANGEMENT IMPACTING MIGRATION

It can be concluded from the previous section that land transfers in China mainly happen through the government channel of land expropriation and the market channel of land rent. Then, we will study the mechanism of these two channels impacting the rural households' decision in migration separately.

Firstly, from the market aspect, let us consider the link between land renting and migration. If households do not have the right to rent out their lands, the lands will be left idle or at least have a declining return rate because of the loss of labour, which becomes the opportunity cost of migration households must consider (Mullan et al., 2011).[13] However, if the land can be rented out, the family can get land rental and off-farm wage at the same time. The marginal productivity of the land will be equivalent to the land rental rate, and the marginal productivity of the labour will be equivalent to the off-farm wage rate (Mullan et al., 2011).[13] As households have the right to rent out more lands, they will have a lower opportunity cost of migration, so the migration incentives are increased (Mullan et al., 2011).[13]

Secondly, from the government aspect, we want to find out the relationship between land expropriation and migration; in other words, if the security of land property cannot be guaranteed, whether households will make migration decisions. Migration decreases the number of family members living in the contracted rural homesteads. Considering the incomplete land property right, this may lead to a higher risk of land being expropriated. In such circumstances, households may allocate less labour to migrate in case of the increased risk of future land expropriation, Land is still the basic means of production and the major source of livelihood for farmers in most parts of China, and they will not give up their land tenure right easily (Xu, 2008).[18] For those migrant workers, considering the risks and pressure of living in cities, the contracted land is the leeway and last safeguard of their livelihood (Xu, 2008).[18] Once the land is at the risk of expropriation with slim compensation, they may return to rural areas to guard their lands. On the other hand, if the land is safe from expropriation, rural households will feel more assured to make migrate decisions.

2.3 OTHER MAJOR INFLUENCING FACTORS OF RURAL-URBAN MIGRATION DECISIONS

Past empirical studies on the influencing factors of migration have found that young, single, male adults with less agricultural land have a larger possibility to migrate (Rozelle et al., 1999; Zhao, 1999; Zhao, 2005).[16][20][21] Wealth seems to have a negative effect on migration, for Rozelle et al. (1999) find that peasants from rich villages are less likely to migrate, and Zhao (1999) finds that peasants holding larger initial cash have less likelihood of migration.[16][20] In addition, as the social security system in rural areas is incomplete, the health condition of elderly parents is to consider when making the decision of migration (Giles & Mu, 2007).[7] If parents are in ill health, the adult children are more likely to stay

in their rural house with their parents (Giles & Mu, 2007).[7] This paper will update the empirical analysis in the current context that China has a higher level of urbanization and is conducting further reforms on promoting the mobility between rural and urban areas.

3 EMPIRICAL ANALYSIS

3.1 DATA

This paper conducts the study using databases of The China Health and Retirement Longitudinal Study (CHARLS) in 2013 and 2014. CHARLS covers about 150 county-level units, 450 village-level units and 17,000 people in about 10,000 households. The sample is Chinese residents age 45 and older. There are 17587 valid samples in the final survey, and the specific distribution is shown in Table 1 (%). This paper uses the data of those whose age is equal to or below 75 and Hukou is in rural areas.

Table1. CHARLS sample distribution

Age	Total	Gender		Hukou		Area	
		Male	Female	Urban	Rural	Urban	Rural
50-	25.77	23.42	27.91	23.79	26.56	27.35	24.18
51-55	15.49	16	15.02	14.06	16.07	15.11	15.87
56-60	19	19.32	18.69	18.68	19.12	18.65	19.34
61-65	13.88	14.78	13.07	14.13	13.78	13.19	14.58
66-70	9.62	10.2	9.08	9.82	9.53	9.02	10.21
71-75	7.17	7.84	6.56	9.51	6.23	7.64	6.7
76-80	4.67	4.73	4.61	5.32	4.4	4.6	4.73
80+	4.41	3.71	5.05	4.69	4.3	4.44	4.38
Total number	17,587	8,436	9,151	3,872	13,715	7,106	10,481

3.2 IDENTIFICATION STRATEGY

This paper mainly uses probit model for regression analysis with logit model as a supplementary. In probit regression, the dependent variable is a dummy variable that can take only binary values, such as the answer to a yes and no question, and there may be multiple independent variables. The probit model aims at estimating the probability that an observation (Y) will fall into a specific one of the two categories with the influence of multiple factors (Xn). The outcome of probit regression follows a standard normal distribution. The logit model uses similar techniques to solve the same set of problems. Generally, there is not much difference in probit and logit regression.

The probit model employs a link function as follows:

$$Y = \beta 0 + \beta 1 X 1 + \beta 2 X 2 + \beta 3 X 3 + \beta 4 X 4 + \beta 5 X 5 + \cdots + \beta n X n + \mu$$

In this paper, Y denotes the migration decision: Y=1 means migration occurs, and Y=0 means migration does not occur. This paper uses the answer of "Have you ever lived outside your permanent county/city/district for more than six months?" to represent migration decision. X1 is the most crucial factor in determining Y. In the study of the market (renting) channel, X1 is the renting rate, which is defined as the land area that households rent out the past year divided by the land area allocated to the household by the collective.

In examining the government (expropriation) channel, X1 is defined as land expropriation. Answers of "Have your land ever been expropriated since 1978?" are used to represent land expropriation. Other factors influencing migration are gender, age, marital status, income, education, health, etc. are also included as other variables in the regression analysis. The descriptions of the variables are shown in Table 2.

Table 2. Variables descriptions.

Variable	Description	Mean	S.D.
migration	Have you ever lived outside your permanent county/city/district for more than six months? 1=Yes, 0=No	.577	.494
rent_rate	the land area that households rent out the past year divided by the land area allocated to the household by the collective	.097	.275
land_expropriation	Has your land ever been expropriated since 1978? 1=Yes, 0=No	.135	.341
gender	1=Male, 0=Female	.475	.499
age	Age	58.834	10.919
single	Still living with spouse? 1=Yes, 0=No	.849	.358
logincome	The logarithmic calculation of income	6.169	1.302
children	Number of alive children	3.135	1.835
parents	Is your father living? 1=Yes, 2=No	1.861	.345
prov	Province. Different provinces have different numbers.	13.329	7.171
health	Self-assessed health status.1=very good, 2=good, 3=fair, 4=poor, 5=very poor,	3.024	.978
party	Are you communist? 1=Yes, 2=No	1.892	.31
self_business	Household members engage in self-employed businesse? 1=Yes, 2=No	1.908	.29
han	Is nationality han or not. 1=Yes, 0=No.	.923	.266

3.3 THE INFLUENCE OF MARKET MECHANISM OF LAND PROPERTY RIGHT ON MIGRATION

3.3.1 Basic regression

In the basic regression, we use probit regression to find the influence of the market mechanism of land property right on migration. Rent rate, which is defined as land rented/the total land allocated, can represent the market mechanism. To make the result more comprehensive and convincing, we also selected gender, the logarithmic calculation of income, age, whether single or not, education level, health condition, nationality and whether a party member or not as other variables.

As can be seen from Table 3, in each Probit model based on the market mechanism, rent rate and migration show a significant positive correlation, which is no different from most previous studies, that is, the probability that the rental right will increase the migration is quite high. Meanwhile, it can be found that gender, income, age and party membership have a significant impact on migration.

Table 3. Probit estimates of migration decision (Market Mechanism)

VARIABLES	Migration
rent_rate	0.758***
	(2.79)
gender	1.160***
	(5.86)
logincome	0.191**
	(2.42)
age	NA
	0.062***
	(-5.57)
single	-0.104
	(-0.48)
education	-0.196
	(-1.36)
health	-0.024
	(-0.29)
han	-0.187
	(-0.68)
party	0.732**
	(2.48)

Robust z-statistics in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

3.3.2 Robustness checks

To avoid contingency, robustness checking is commonly applied in empirical research, in which researchers change variables or alter other regression models to see whether the results are different. In this research, we use probit model in M1-M5 and logit model in M6 while adding or deleting variables from the original regression. Results are shown in Table 4, which are roughly the same as a result in Table 3.

Based on the regression results in Tables 3 and 4, we can conclude that in the market mechanism system, the rental right has a positive impact on migration. Besides, income has a positive relation to migration, and men are more likely to migrate. These findings are no different from Mullan et al. (2011).[13] We also find that being a Communist party member is less likely to migrate.

Table 4. Probit (M1-M5) and logit (M6) estimates of migration decision (Market Mechanism)

VARIABLES	M1	M2	M3	M4	M5	M6
rent_rate	0.431*	0.436*	1.613**	1.622***	1.616***	0.686
	(1.71)	(1.74)	(2.39)	(2.69)	(2.69)	(1.54)
gender	1.277***	1.274***	1.419***	1.420***	1.409***	2.123***
	(8.24)	(8.20)	(3.12)	(3.11)	(3.01)	(7.83)
logincome	0.117**	0.121**	0.168	0.166	0.167	0.191**
	(2.46)	(2.54)	(1.00)	(0.98)	(0.98)	(2.37)
age	-0.052***	-0.050***	-0.058	-0.058	-0.057	-0.087***
	(-5.28)	(-5.10)	(-1.54)	(-1.54)	(-1.46)	(-5.15)
single	-0.166	-0.180	NA	NA	NA	-0.281
	(-0.93)	(-1.01)				(-0.93)
2.edu	NA	-0.038	NA	NA	NA	NA
		(-0.25)				
3.edu	NA	-0.451*	NA	NA	NA	NA
		(-1.86)				
health	0.018	0.017	-0.116	-0.114	-0.117	0.010
	(0.24)	(0.23)	(-0.49)	(-0.46)	(-0.46)	(0.08)
han	-0.322	-0.321	NA	NA	NA	-0.517
	(-1.42)	(-1.41)				(-1.40)
party	0.780***	0.773***	-0.605	-0.597	-0.607	1.352***
	(3.04)	(3.03)	(-0.76)	(-0.77)	(-0.79)	(3.04)
edu	-0.147	NA	0.235	0.232	0.241	-0.251
	(-1.40)		(0.56)	(0.57)	(0.58)	(-1.44)
children	NA	NA	0.005	0.007	0.000	NA
			(0.03)	(0.04)	(0.00)	
parents	NA	NA	0.137	0.134	0.152	NA
			(0.15)	(0.15)	(0.16)	
prov	NA	NA	NA	-0.001	-0.001	NA
				(-0.04)	(-0.02)	
self_business	NA	NA	NA	NA	-0.106	NA
					(-0.13)	

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

3.3.3 Endogenous checks

Endogenous means one or more explanatory variables in the model have an internal cause that leads to circular reasoning and causes perturbation to the regression result. The main reason for endogenous problems is the reciprocal causation between explanatory variables and explained variable. In our research, we find that rent rate may have a two-way impact on migration, that is, renting out land may boost the migration tendency, or rural family may rent out more land because of a lack of labour force devoted to farming after migration to cities. Therefore, it is a necessity to conduct endogenous checks. In an endogenous check, the strategy of using instrumental variables IV and Two-Stage least squares (2SLS) regression analysis to estimate the effects of endogeneity is powerful and flexible.

Instrumental variables (IV) are replacements for variables that may have endogeneity. In choosing an IV, there are roughly two requirements: firstly, the IV is closely related to the variable that may have endogeneity, in this paper, the rent rate; secondly, the IV doesn't have a causal relationship to the dependent variable, in this paper, the migration decision. When substituting IV for rent rate, if we can still have similar significant positive regression results, then the risk of endogeneity can be ruled out. In this

research, we set whether having farm tool(s) as an IV (tractor, thresher, tools, pump, processing). If there is a farm tool, the IV is marked as 1; if not, it is marked 0. There are mainly two reasons for choosing whether to have farm tool(s) as IV. Firstly, having farm tools and renting land has a negative relation, as the more farm tools a family owns, the less land a family is willing to rent to others; otherwise, it will cause waste to their farm tools. Secondly, having farm tools do not have a direct causal relation to migration. In the following regression, a 2SLS is conducted, and the results are shown in Table 5 and Table 6.

In table 5, we test the relationship between rent rate and IV. The results show that the relation between rent rate and IV is negative, which is no different from our previous deduction. Then, we substitute IV for rent rate, and the endogenous tests are performed on M1, M2 and M3. The results show that the rent rate and migration decision are still significantly positively correlated, proving that the results obtained in Table 3 are not endogenous and are reliable.

Table 5. Endogenous check: Relationship between rent rate and IV

VARIABLES	R1	R2	R3
IV	-0.113**	-0.188	-0.182
	(-2.51)	(-1.47)	(-1.36)
gender	0.097	0.036	0.029
	(1.34)	(0.30)	(0.24)
logincome	0.016	0.084*	0.085*
	(0.88)	(1.86)	(1.87)
age	0.000	0.014	0.014
	(-0.10)	(1.47)	(1.49)
edu	0.088**	0.177	0.183
	(2.07)	(1.64)	(1.60)
health	0.024	0.025	0.022
	(1.23)	(0.46)	(0.40)
party	0.067	-0.108	-0.112
	(0.73)	(-0.42)	(-0.43)
children	NA	-0.171***	-0.174***
		(-3.92)	(-3.83)
parents	NA	0.240**	0.249**
		(2.10)	(2.18)
prov	NA	0.016	0.016
		(1.54)	(1.53)
single	-0.260**	NA	
	(-2.01)		
han	-0.004	NA	NA
	(-0.06)		
self_business	NA	NA	-0.053
			(-0.38)

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6. Endogenous check: Relationship between migration and the replaced rent rate (IV).

VARIABLES	M1	M2	M3
rent_rate	2.885***	3.981***	3.980***
	(6.26)	(4.89)	(4.80)
gender	0.538	0.601	0.604
	(1.49)	(1.06)	(1.05)
logincome	0.074	-0.242	-0.254
	(1.24)	(-1.35)	(-1.40)
age	-0.040***	-0.065*	-0.067*
	(-2.87)	(-1.65)	(-1.67)
edu	-0.322**	-0.588	-0.635
	(-2.46)	(-1.55)	(-1.55)
health	-0.072	-0.055	-0.041
	(-0.95)	(-0.25)	(-0.19)
party	0.341	0.154	0.203
	(1.28)	(0.17)	(0.22)
children	NA	0.566**	0.588**
		(2.24)	(2.24)
parents	NA	-0.666	-0.745
		(-1.33)	(-1.51)
prov	NA	-0.057	-0.060
		(-1.42)	(-1.46)
single	0.592*	NA	NA
	(-1.73)		
han	-0.116	NA	NA
	(-0.42)		
self_business	NA	NA	0.434
			(-1.04)

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

3.4 GOVERNMENT MECHANISM OF LAND PROPERTY RIGHT CHANGE ON MIGRATION

3.4.1 Basic regression

In this part, we examine the influence of government mechanisms on migration using land_expropriation as the key variable. Other control variables are gender, logincome, age, single, edu, han and party. The regression results are significant, and the specific parameters are shown in Table 5.

As is shown in Table 7, land expropriation has a negative impact on migration, which means that the more land is expropriated, the less possibility that a family will make migration decision.

Table 7. Probit estimates of migration decision (Government Mechanism)

VARIABLES	Migration
land_expropriation	-0.266**
	(-2.41)
gender	1.108***
	(12.00)
logincome	0.056*
	(1.82)
age	-0.041***
	(-7.12)
single	0.020
	(0.19)
edu	-0.031
	(-0.49)
han	0.264**
	(2.02)
party	0.795***
	(5.52)

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

3.4.2 Robustness checks

Similar to 3.3.2, to further rule out the contingency of the results, the data has to undergo robustness checks. The regression results are shown in Table 8 that land expropriation has a significant negative impact on migration. The regression results also show that high income, being young and being male, has a positive impact on migration, while being a party member decreases the likelihood of migration.

Table 8. Probit (M1-M5) and logit (M6) estimates of migration decision (Government Mechanism)

VARIABLES	M1	M2	M3	M4	M5	M6
land_expr	-0.289***	-0.261**	-0.281**	-0.327**	-0.480***	-0.438**
	(-2.61)	(-2.37)	(-2.56)	(-2.40)	(-2.68)	(-2.46)
gender	1.136***	1.108***	1.139***	0.981***	1.894***	1.844***
	(12.65)	(12.01)	(12.58)	(8.99)	(12.19)	(11.60)
logincome	0.052*	0.055*	0.052*	0.068*	0.081	0.088*
	(1.72)	(1.81)	(1.73)	(1.85)	(1.62)	(1.71)
age	-0.041***	-0.041***	-0.041***	-0.039***	-0.070***	-0.069***
	(-7.47)	(-7.14)	(-7.34)	(-5.67)	(-7.44)	(-7.11)
2.edu	NA	NA	-0.002	0.001	NA	NA
			(-0.02)	(0.01)		
3.edu	NA	NA	-0.173	-0.126	NA	NA
			(-1.17)	(-0.73)		
4.edu	NA	NA	0.833	0.575	NA	NA
			(1.30)	(0.70)		
han	0.294**	0.274**	0.305**	0.111	0.471**	0.440**
	(2.36)	(2.09)	(2.44)	(0.75)	(2.33)	(2.06)
party	0.840***	0.800***	0.854***	0.928***	1.428***	1.359***
	(5.99)	(5.55)	(6.06)	(5.60)	(6.12)	(5.66)
prov	NA	-0.005	-0.006	-0.008	NA	-0.008
		(-0.90)	(-1.05)	(-1.21)		(-0.86)
single	NA	0.022	NA	NA	NA	0.034
		(0.20)				(0.19)
edu	-0.044	-0.028	NA	NA	-0.070	-0.043
	(-0.69)	(-0.43)			(-0.66)	(-0.40)
parents	NA	NA	NA	-0.057	NA	NA
				(-0.42)		

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4 ANALYSIS AND POLICY SUGGESTIONS

In this research, we conduct an empirical analysis based on market and government mechanism using CHARLS data set of 2013 and 2014. According to the regression results, land renting significantly improves the probability to migrate, while the possibility of land being expropriated largely decreases the migration decision. Other factors that have a significant influence on migration are income, age, gender and party membership. In this part, we will make deeper analysis onofhe influencing factors of migration in the channel of market and government, respectively, as well as policy suggestions.

4.1 MARKET CHANNEL

From our regression result, we can find that land transfer in the market channel has a positive impact on migration. The theoretical reason for that has been mentioned in part 2.2. Briefly, if households have the right to rent out more land, they will have lower opportunity cost of migration so that they have stronger incentives of migration. The market channel of land transfer's impact on migration has profound meaning, as urban-rural migration pushes for China's urbanization and helps to upgrade the industrial structure in China, which strongly promotes the development of the economy.

4.2 GOVERNMENT CHANNEL

From regression result in the government aspect, we find that the relationship between land expropriation and migration is negative. The theoretical deduction has been discussed in part 2.2. Roughly, under the system of incomplete land property right, migration leads to a higher risk of land expropriation, so households may allocate less labour to migrate to safeguard their land. In the HRS land system, although the land is allocated to households, the ownership is not complete, so the land security is not guaranteed as to farmers, which has become a barrier to the inflow of rural population to cities, impeding China's urbanization and economic development.

4.3 POLICY SUGGESTIONS

To make the best of the situation, the Chinese government is suggested perfecting the rural land property rights system. Land, as a factor of production, should be allocated by the market and land prices should be formed in market competition (Xu, 2008).[18] First and foremost, the land property right must be clear. To admit the commercial property of land, we must protect the integrity of land property rights. The unclear definition of property right is the main source of "externality" and "free ride"(Xu, 2008).[18] In December 2014, the revision of the Rural Land Contracting Law (RLCL) legalized the system of the Three Rights Division (TRD) in the rural area, which protects the rights and interests of both rural collectives and contracted farmers. TRD means the separation of ownership, management rights, and

contract rights. Under this system, the contract operating right to homestead will be confirmed, which entitled the rural households with not only the right to cultivate on the land but also the right to transfer the land in the market channel, so the security of land property right is largely improved. However, from the proposal to the actual implementation of the policy, the Chinese government still have a long way to go.

Secondly, the Chinese government should gradually eliminate the policy and institutional obstacles hindering the market-oriented circulation of land. The Chinese government should control the scale of land expropriation, strictly distinguishing between land used for public welfare and land used for business purposes and clearly defining the government's right to expropriate land and the scope of expropriation (Xu, 2008).[18] The system of hearing and testifying the price of land requisitioned for public welfare should be implemented, and the measures for requisition, compensation standards and compensation mechanisms should be improved (Xu, 2008).[18]

Thirdly, profit-making land should be operated in accordance with market principles, and the land-use right tendering, auction and listing system should be fully implemented. For the long-term trend, when all aspects of the future conditions gradually mature, we can consider exploring more ways and methods of marketizing agricultural land so that farmers can share the increase in value brought by the change of land use.

5 CONCLUSION

In this paper, we mainly study the impacts of land tenure arrangements on migration, which is of profound meaning in China's economic development. We first look through the background of China's land system, which is an urban-rural dual system, and China's rural area is under the system of the household responsibility system (HRS). The dual system widens the gap between urban and rural areas and causes barriers to land transfer and migration. HRS, although entitled to rural families with contracted rights, the land property rights are still unclear, leaving obstacles to the market-oriented land transfer. As rural-urban migration plays a significant role in China's urbanization and industrial structure upgrade, which has profound meaning for the long-term development of China's economy, we must push for the liquidity of the population. In the second part, by literature review, the paper made hypotheses about the mechanism of land tenure arrangement impacting migration land. In the third part, empirical analysis in the market and government channel conducted based on CHARLS data. The probit and logit model are used to get the regression result. To ensure the significance and robustness of the results, robustness checks and endogenous checks are also applied. This paper found that the right to renting lands promotes urban-rural migration while the possibility of the government's land expropriation has a negative effect on urban-rural migration. In the fourth part, after analyzing the regression results, further policy suggestions are put

forward. The government should perfect the land property rights system, implement the system of the Three Rights Division (TRD), strictly control land expropriation and push for the marketization of land to benefit the rural families. In the future, further research could be conducted to study the migration condition after the well-implement of TRD.

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