Land Property Right and Internal Migration in China

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Abstract. Promoting internal migration has been a vital objective for Chinese government. Rural-urban migration have numerous advantages that can help the individual, the urban areas, and the country as a whole. However, there are obstacles presenting in the process of migration. This paper is going to mainly focus on the impact of land property rights on migration. We will investigate the relationship through different aspects. Providing relevant data sets, we examine how migration decisions of rural households can be influenced by both tenure insecurity and market mechanism. The results indicate that incomplete rural property rights will reduce migration and improved rights of secure possession will increase migration.

Keywords: *China land property right, migration, Hukou*

1. Introduction

Throughout the history, Chinese land system changed over time, such as from private-owned land to state and collective-owned land. The Chinese government has tried different system in order to improve the agricultural efficiency and accelerate rural urbanization. Different laws and regulations have been made in order to achieve those goals. Recently, the current land system is different in urban and rural areas.

Beginning in 1980s, China land system starting to adopt several significant changes and introduce new regulations for land use in China (Ho & Lin, 2003). Changes made to China land system was mainly in order to increase land allocation efficiency and improve agricultural land protection. In 1956, the private ownership of land ended. After that, most of the land are owned by the states or collectives instead of individuals. How the land in China is regulated and used is based on its location. China land system are totally different in urban and rural. The urban land is owned by states and most of the rural land is owned by collectives. Rural households are allocated forest lands under contract and they have the rights to manage the land for timber. They can own the trees that they planted and the revenue from planting trees are shared between the households and the collectives. Situation for agricultural land is similar to the forest land. The land system in urban area is simpler and more beneficial to the household. When individuals buy the land in urban area, they will have the rights to rent or resell the land for 70 years.

The Three Rights Divisions is a new policy established in 2014. Before that, the property rights were divided into two parts as stated above: the collective own the land and the peasants have the right to manage and plant the land. Later on the rights are further divided in order to improve citizen's benefits. The property right in China was divided into three types: proprietary rights, land contract right, and management right. The new division specify the exact rights different shareholders have. Proprietary rights give the owner of the land, generally the collective, to own, utilize and obtain profits from the land. The owner of land contract rights also has the right to own, utilize and obtain profits from the land based on the contracts. And the owner of management rights has the rights to own, utilize and obtain part of the profits from the transferred land in a given period. The main difference is that the now person other than peasants can have the right to manage and earn profit from the land through management right. This optimization of the law clarifies the relationship among property rights, better protect the three types of shareholders' profit from three rights division. When the peasants transferred their land to other when they migrate, their rights will be better protected. This would accelerate urbanization since more farmers are able to migrate to urban areas with less concern with their land. On the other hand, the three tights division also boost the production efficiency, resource utilization and modern agricultural development.

Migration used to refer to the movement of people from one place to another with the intentions of settling, permanently or temporarily at a new location. Domestic migration refers to the same behavior but within the nation. Internal migration tends to be travel for education and for economic improvement or because of a natural disaster or civil disturbance. In this project, we include all the movings as migration as long as the individuals live in a place other than their hometown for more than six months.Usually the benefits that prompt the people to migrate are income inequality between urban and rural, better social welfare, better infrastructures and so on. In China, the problem of income inequality between urban and rural is quite severe. They earn distinct amount of salaries only caused by different locations. Therefore, many of the citizens tend to migrate for a better pay.

During recent decade, China has been making steady progress of optimizing its industry structure. The proportion of value added from the tertiary industry in GDP had exceed the proportion from secondary industry (Shi & Wang, 2014). Upgrading industry structure means that the production factors in the country has moved from low value-add and low efficiency production sectors to those with high value-added and high efficiency. These flows of production factors are usually caused by the market competition and price mechanism in a market economy. When those production factors are flowed to the higher efficiency production sectors, the economy becomes more sustainable and generate more revenues. Through migration, more peasants are moving from rural areas to urban areas and looking for jobs with higher income. Most of the occupations in urban areas are at higher levels of the industry structure including secondary and tertiary sectors. Those labor as part of the production factor flow from mostly primary sector (agriculture) to higher sectors in urban areas play an important role in industry structure upgrade.

2. Literature

Theoretically property right outlined how a resource is owned and used in Economics. The property right usually includes “bundle of rights”: the right to use the good, the right to earn income from the good, the right to transfer the good (ownership cessation), and the right to enforce property rights. It has been widely argued that property rights need to be fixed and need to portray the relationships among other parties in order to be more effective. Only when the government define and protect property right well, the property rights system would become efficient and promotes sustained and rapid economic growth.

How the property right is defined and protected have tremendous impact on migration in China. As stated above, if the land property right is not defined and protected well, then the economy would not run as its biggest capacity of efficiency and further would influence the migration trend in the nation. The impact can be divided into two aspects. The first aspect is the risk of land expropriation. Due to the scarcity of rural land and incomplete implementation of the RLCL, this may lead to redistribution of some of the land in order to maintain equal land held by households and in some context, for urban infrastructure development (Deininger et al., 2007). If the tenure security is reduced due to an insufficient protection from law and government, the likelihood of migration would reduce, because when a household consider whether to migrate to urban area would account for the increased risk of land expropriation in the future period due to the reduction household size. On the other hand, if the tenure security is high, the impact on migration would be ambiguous. A reduced probability of expropriation is akin to a reduced risk on migration, which would boost migration incentives. But conversely, the increased tenure security means the households are keeping more land, which requires more labour to farm the land and decrease migration incentives. Overall, the increased tenure security may result in a positive or negative effect on migration because a lower risk of expropriation in- creases migration incentives due to the reduction of an implicit tax on migrant labor, but reduces migration incentives because of the complementarity between land and labor. The second aspect of property right that may affect migration incentives is whether households have land transfer rights. If the households cannot rent the land, the farm labor would be lost through migration which would result in decreased

production of the land. However, if land can be rented out, the marginal productivity of land will always be equalized to the land rental rate, while the marginal productivity of labor will be equalized to the urban wage rate. As rights to rent land are increased, the opportunity cost of migration is reduced, resulting in increased migration incentives.

3. Empirical Analysis

3.1 Data

The data for the report is collected from the China Health and Retirement Longitudinal Study (CHARLS). CHARLS provides nationally representative sample of Chinese residents with ages of 45 and older. They aimed to serve the needs of scientific research on the elderly with high quality data. The data is being fielded in 2011 and includes approximately 10,000 households and 17,500 individuals in 150 counties/districts and 450 villages/resident committees. The individuals are followed up every two years. All data will be made public one year after the end of data collection. All the data collected will be used to investigate the relationship between land property right and migration.

3.2 Identification Strategy

Using the formula above, we are going to do an empirical analysis of the relationship between land property rights and migration in China. In this formula, Y denotes for migration decision which is a dependent variable. We choose ten independent variables as denoted by X1, X2, …, X13. Each of them are defined as age, gender, marriage status, education, income, health, Hukou, expropriation, nationality, province, parent, chuzubi, and party.

$$Y = \beta_0 + \beta_1 X_1 + \cdots + \beta_n X_n + \mu$$

The reason why to choose these independent variables is listed as below. According to Zhao (1999) young adults are more likely to migrate since they generally have no or less dependents than older ones and have more strength. In addition, men are more likely to migrate than women due to advantage in physical condition. So when they migrate to urban areas they can find job more easily. People with higher income in rural areas are less likely to migrate to urban area since what they have earned had already fulfilled their needs and desire. They are not necessarily migrating to the cities to restart their life when they are satisfied. A healthy man is more likely to migrate than a less healthy man since the migrant has good physical condition when completing the job and he/she does not need to worry too much about spending money on healthcare and hospitals. Hukou has been described as the major impediment to migration by preventing rural migrants from accessing all the benefits associated with legal residence in cities. Most of the people want to get a Hukou in urban areas so that they can access to the welfares. As stated above, the increased tenure security may result in a positive or negative effect on migration because a lower risk of expropriation increases migration incentives due to the reduction of an implicit tax on migrant labor, but reduces migration incentives because of the complementarity between land and labor. The majority of the population have Han nationality. But there are also other nationalities in China. They usually habitat in the area, which cause people with nationality other than Han would have less incentives of migrating since they prefer to stay with their neighborhoods with same nationality. While Han does not have this concern cause majority of the people are Han in broad areas. This does not affect their likelihood of migration. People in poor province are more likely to migrate to urban areas in order to improve their life quality and welfare. How many proportion of land people has rented out can also be an important factor determining whether to migrate since renting out lands can be an appropriate way to handle the rights of land.

3.3 Market Mechanism on Migration

Market mechanism on migration described the effects of land property rights on migration under market forces. In other words, when the peasant rent out their land under their personal will. To investigate this factor, we use the variable Chuzubi to represent it in the formula. Chuzubi means the proportion amount of land people rent out from all their lands. This is easier to compare than directly using the area of rented land since the difference will be large due to different areas. In general, as the Chuzubi increase, the likelihood of migration would increase since the people will not be trap by the obligation to farm their land and there will be no extra cost for them to migrate to urban areas. They can still get earning from renting the land, and at the same time they can earn higher pays from migrating to cities and doing jobs. Therefore, there will be a positive causal relationship between Chuzubi and migration rate in China.

3.3.1 Basic Regression

A basic regression model has been made in order to prove the logic above. The result is shown as table 1 below. For the basic regression, Chuzubi is chosen as Y, and income, province, age, education, gender, health, and nationality are chosen as x. According to the table of value of the regression below, the coefficient of Chuzubi is positive which is about 0.3923 and have a P value of 0.087. The control variables income also has a positive correlation coefficient with 0.086 and P value of 0.055. Province, age, and education have negative coefficient with -0.003, -0.037, and -0.175. Among them, age have a very small P value of 0. Gender and health have a positive coefficient of 1.115 and 0.026. Gender also have a very P value of 0. Nationality on the other side, have a very big P value of 0.376.

Table 1. Probit Estimates of Migration

Migratioin	(1)	(2)	(3)	(4)	(5)
chuzubi	0.392*	0.623**	0.881***	0.890***	0.884***
	(1.713)	(2.145)	(3.052)	(3.035)	(3.009)
logincom~1	0.086*	0.136**	0.142**	0.143**	0.139**
	(1.915)	(2.545)	(2.408)	(2.429)	(2.412)
rgender	1.115***	1.508***	1.419***	1.378***	1.375***
	(8.364)	(9.054)	(7.933)	(7.766)	(7.756)
prov	-0.003	-0.004	-0.008	-0.008	-0.008
	(-0.417)	(-0.527)	(-0.833)	(-0.866)	(-0.870)
age	-0.037***	-0.038***	-0.047***	-0.050***	-0.051***
	(-4.689)	(-4.601)	(-4.681)	(-5.187)	(-4.961)
edu	-0.175*	-0.150	-0.187	-0.184	-0.181
	(-1.749)	(-1.513)	(-1.367)	(-1.317)	(-1.330)
health2	0.026	0.030	0.031	0.017	0.013
	(0.392)	(0.366)	(0.342)	(0.183)	(0.149)
han	-0.186	-0.297	-0.233	-0.213	-0.221
	(-0.885)	(-1.020)	(-0.763)	(-0.689)	(-0.717)
party		-0.981***	-0.837***	-0.847***	-0.854***
		(-3.825)	(-3.131)	(-3.298)	(-3.311)
siying			0.228	0.206	0.204
			(0.862)	(0.776)	(0.766)
parents					0.092
					(0.399)
_cons	1.394**	-1.115	-1.552	-1.324	-1.471
	(2.085)	(-1.223)	(-1.388)	(-1.152)	(-1.211)
N	487	487	480	480	480

3.3.2 Robustness Checks

To check whether the basic regression is robust, we run several trials with adding more control variables. The first trial we add party, which illustrate whether the peasant is a member of the party. The coefficient of Chuzubi is still positive and the p value get smaller. The second trial we add Siying which refers to whether the peasant had operated businesses on their land. The coefficient of Chuzubi is still positive with the number of 0.881. The p value became really small which represents that the data is very significant. For the third trial, we add marriage status showing whether the citizen is married. The coefficient of Chuzubi became stable around 0.8 and 0.9 and the p value stayed very small. The last trial we add parents showing whether peasants' parents are still alive. There are no big changes to the coefficient and p value of Chuzubi.

3.3.3 Endogenous Checks

Since the important variable, Chuzubi not only would affect the migration, but also can be influenced by migration, there is endogeneity presented in the model which will cause the model biased. Therefore, we need to run an endogenous check. To substitute the original variable Chuzubi with a new one calculated by an instrumental variable. In this project, we use the agricultural tools as the instrumental variable of Chuzubi. They will have an opposite relationship between these two. If the agricultural in a household increase, which mean the Chuzubi of the household decreased since they need more tools to farm the lands themselves. The process and result of endogenous check are shown as table 2 below.

Table 2. Endogenous Check

Migration	(1)	(2)	(3)
chuzubi	2.835***	2.832***	2.831***
	(7.064)	(7.059)	(7.039)
prov	0.002	0.002	0.002
	(0.324)	(0.303)	(0.327)
rgender	0.430	0.443	0.458
	(1.533)	(1.580)	(1.585)
logincom~1	0.015	0.017	0.023
	(0.262)	(0.285)	(0.407)
age	-0.031***	-0.032***	-0.030***
	(-3.819)	(-3.934)	(-3.664)
edu	-0.361**	-0.366**	-0.375***
	(-2.529)	(-2.552)	(-2.634)
han	-0.144	-0.114	-0.108
	(-0.678)	(-0.529)	(-0.505)
party	-0.265	-0.275	-0.268
	(-1.117)	(-1.141)	(-1.103)
health2	-0.026	-0.021	-0.016
	(-0.405)	(-0.324)	(-0.244)
siying		0.200	0.217
		(0.813)	(0.900)
parents			-0.190
			(-1.069)
_cons	1.874**	1.484	1.671
	(2.389)	(1.498)	(1.640)

3.4 Government Mechanism on Migration

Except renting out the land under their will, citizen's land can also be expropriated by the government. This phenomenon has different effects than the market mechanism has on migration. As stated above, the exact influences of land expropriation cannot be determined since it has multiple effect in different ways. If the risk for land expropriation is high, it will decrease the likelihood of migration. However, if the risk of land expropriation is controlled to a low level and the land property right is protected well, it will have ambiguous effect since the land owner would have a greater probability to migrate but they need labor to farm the land which would cause the migration rate to decrease at the same time.

3.4.1 Basic Regression

A basic regression model has been made in order to prove the logic above. For the basic regression, Zhengdi is chosen as Y, and income, province, age, education, gender, health, and nationality are chosen as x. According to the table of value of the regression below, the coefficient of Zhengdi is negative which is about -0.187 and have a P value of 0.26. The control variables income also has a positive correlation coefficient with 0.118 and P value of 0.01. Province, age, and education have negative coefficient with -0.001, -0.037, and -0.186. Among them, age have a very small P value of 0. Gender and health have a positive coefficient of 1.289 and 0.107. Gender also have a very P value of 0. Nationality on the other side, have a very big P value of 0.376.

Table 3. Probit Estimates of Migration

Migratioin	(1)	(2)	(3)	(4)	(5)
Zhengdi_~m	-0.111	-0.171	0.018	-0.063	-0.060
	(-0.713)	(-1.098)	(0.066)	(-0.257)	(-0.254)
logincom~1	0.089**	0.103**	0.144**	0.127**	0.125**
	(2.149)	(2.418)	(2.507)	(2.327)	(2.311)
rgender	1.143***	1.282***	1.156***	1.254***	1.232***
	(9.614)	(9.964)	(6.348)	(6.616)	(6.599)
prov	-0.001	-0.001	-0.012	-0.012	-0.012
	(-0.128)	(-0.193)	(-1.204)	(-1.144)	(-1.163)
age	-0.037***	-0.036***	-0.036***	-0.042***	-0.045***
	(-5.414)	(-5.103)	(-3.712)	(-4.097)	(-4.262)
edu	-0.186**	-0.141	-0.060	-0.063	-0.084
	(-2.035)	(-1.516)	(-0.498)	(-0.521)	(-0.701)
health2	0.069	0.038	0.043	0.040	0.011
	(1.209)	(0.645)	(0.539)	(0.500)	(0.143)
han	0.169	0.196	0.145	0.123	0.013
	(0.946)	(1.102)	(0.619)	(0.527)	(0.056)
party		-0.907***	-0.895***	-0.868***	-0.883***
		(-4.501)	(-3.037)	(-3.045)	(-3.071)
siying			0.111	0.061	
			(0.346)	(0.192)	
parents					0.330
					(1.467)
_cons	0.983	0.882	0.522	0.853	0.770
	(1.626)	(1.418)	(0.492)	(0.819)	(0.933)
N	623	623	413	413	424

3.4.2 Robustness Checks

To check whether the basic regression is robust, we run several trials with adding more control variables. The first trial we add party, which illustrate whether the peasant is a member of the party. The coefficient of Zhengdi is still negative and the p value is still very big. The second trial we add siying which refers to whether the peasant had operated businesses on their land. The coefficient of Zhengdi becomes positive with the number of 0.018. The p value is big which represents that the data is not significant. For the third trial, we add marriage status showing whether the citizen is married. The coefficient of Zhengdi became negative again around -0.06 and the p value stayed big. The last trial we add parents showing whether peasants' parents are still alive. There is no big changes to the coefficient and p value of Zhengdi.

4. Analysis

4.1 Market Channel

From the table of data in 3.3.1 above, we can find that all the coefficient for Chuzubi is positive around 0.4-0.9. This means that Chuzubi has a positive effect on migration. As the Chuzubi increases, the likelihood of migration increases as well. It is reasonable since if the peasants rent out more of their land, there's no need for them to stay where they were in order to take care of the land. They got more chances to move to urban areas to find a better quality and better pay jobs. On the opposite, if they are not able to rent their lands, they are less willing to migrate since if they migrate that means their land will stay bare and lost opportunity cost. The p value is very small and become smaller as adding more control variables which means that the coefficient is very significant, in other words, very reasonable that there's a positive causal relationship between Chuzubi and migration. There are some control variables that are also very significant. For example, both gender and age have a p value of zero. The coefficient for gender is 1.115 which means that if the peasant is male, he is more likely to migrate. This is reasonable as stated above in 3.2: in most of traditional Chinese family, males will be responsible for finding jobs and earning incomes to support the family and females usually will stay at home and do housework. The coefficient for age is -0.037 which means that the younger the citizen is, the more likely the citizen is going to migrate. Individuals in youth always have more strength than they do in their middle age. Also young usually means less dependent, they do not have children or their parents are still strong and do not need to take care of. From another aspect, young adults enjoy taking adventure and accepting new things compared to middle-aged individual prefer stable and unchanged lives.

4.2 Expropriation (Government) Channel

From the table of data in 3.4.1 above, we can the coefficients of Zhengdi are less stable: one of them is positive, and none of them are significant. This means that there isn't a reasonable correlation between land expropriation and migration. Generally, the coefficient of Zhengdi is negative which means that when the number of land expropriation increases, the likelihood of migration would decrease. In the real world, this is quite reasonable if the risk of land expropriation increases, peasants will less likely to migrate to urban areas since they need to account for the increase risk of land expropriation due to the reduced household size. Therefore, if zhengdi increases, migration will decrease. In addition, not only the risk of land expropriation, but also when expropriation really happens, the migration rate would also decrease since the compensation given by the government to the peasants are often inadequate. Low value of compensation trap the peasants in rural areas since the money they got cannot afford them to live in the urban areas with high living expenses, and without their land where they used to get the income for, there's nearly no probability for them to migrate to the cities. There are also some control variables that are very significant, including income, gender and age. Income has a positive coefficient which means that as the income increases, there are more migrants. It is pretty self-explanatory: if the individual has high incomes and is able to afford the high living expense in urban areas, he/she would be very

willing to migrate to the cities since they can improve their life quality using the better infrastructure and health cares. For age and gender, same to explained above, the younger the individual is, the more likely they will migrate; and if the individual is a male, he is more likely to migrate.

5. Conclusion

First by introducing the land system background in China. We can see that China have a unique land system which causes it to have a quite important role in migration. The two distinct system in urban and rural present obstacle for people who live in rural areas to migrate. In this paper we then make an inference that the land property right in China have impacts on the migration behavior. The specific impact is different from aspect to aspect. Under market mechanism which the land owners can transfer their lands, the migration rate would grow undoubtedly. If the owners rent out their lands, there are no loss of migrating. They can earn revenues from both renting out the land and completing jobs in urban areas. Under government mechanism which households' land are expropriated by the government for building infrastructures for urbanization, the migration rate will have different responses. If the risk of land expropriation is high, the migration rate would be low since if peasants migrate to urban areas, the size of the household would decrease which very likely will cause them to lose the land when the collectives redistribute the land. But if the risk of land expropriation is controlled, the migration rate would not increase automatically, since although the owners can migrate without worries of losing the land, they need to hire more labor to take care of the land for them. This increase in labor consumption in rural area cause more people to stay in rural areas which cause the final response of migration rate to be uncertain.

In order to boost rural-urban migration in the future, changes have to be made. Currently there are still barriers between rural and urban. For example, the distinct system prevents households in rural areas to "own" the land like the households in urban areas do. In addition, many of the households even doesn't acknowledged that they have the rights to transfer lands due to inefficient promotion of RLCL which granted them the rights to transfer. Although land expropriation is unavoidable in order to build infrastructure for urbanization, the compensation for the original owners should be better. A large money compensation for every household whose lands are expropriated may be unrealistic, but the government can seek out alternate ways to guarantee their quality of lives afterwards, including better social welfare and infrastructures. There are many regulations and policies that need to be modified as well such as the Hukou system. There's still a long way for the Chinese government to do in order to promote rural-urban migration but it is apparently that they are doing better as the time goes on.

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