

From Countryside to City: How Land Property Rights Drive Migration in China

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Abstract. China's remarkable economic surge since the 1970s hasn't erased the pronounced economic disparities across different regions, most notably between rural and urban locales. Rooted in the historical division of land rights and usage stipulated by economic reforms, this urban-rural dichotomy has fostered varied development patterns in infrastructure, primary industries, and foreign trade and investment. At the core of this dichotomy is the contrasting landscape of land property rights—state ownership in urban areas with permissible leaseholds versus collective ownership in rural areas with restrictions on transfer or leasing. This paper investigates how these divergent land property rights regimes have engendered significant migration patterns, predominantly marked by rural to urban migration, in pursuit of better economic prospects. Through a meticulous examination of the Household Responsibility System (HRS) and subsequent agrarian reforms, this paper elucidates how partial property rights and restrictions on land transferability under HRS have had substantial repercussions on domestic migration. The analysis delineates how well-defined and secure property rights, as postulated by prominent theories of property rights, are instrumental in incentivizing migration. When operational, market mechanisms of land property rights enable farmers to lease their lands, thereby fostering migration by reducing the opportunity cost of leaving rural lands. Conversely, in the absence of robust property rights, government mechanisms often lead to forced land acquisitions sans adequate compensation, exacerbating rural-urban income disparities and propelling rural-urban migration. The paper expounds on the multifaceted implications of these migration patterns on economic opportunities, poverty alleviation, and urbanization in China. Additionally, it discusses the ripple effects of rural-urban migration on income disparity and the consequent socioeconomic repercussions. The findings shed light on the complex interrelationship between land property rights and migration, providing a nuanced understanding of China's urbanization trajectory and its attendant rural-urban disparities. This analysis offers valuable insights for policy formulations aimed at addressing the systemic issues arising from the entrenched land property rights framework, and suggests a pathway towards a more balanced regional economic development and sustainable urbanization in China.

Keywords: Land Property Rights; Rural-Urban Migration; Economic Disparities; Household Responsibility System (HRS); Urbanization; Agrarian Reforms; Regional Economic Development; Income Disparity; Market Mechanism; Government Mechanism.

1. Introduction

Despite the growth of economic aggregate of China since the 1970s, the unbalance economic development in different regions remained to be one of the major challenges it faces. These disparities contribute to a significant difference of infrastructure construction, mainstay industrial development, and foreign trade and investment between different regions. Those disparities are especially distinguishable when we compare an urban area with a rural area. According to previous literatures, the imbalance between urban and rural areas is mainly caused by the urban-rural dichotomy of China, which is formed by the country's land system. The duality of China's economy can be traced to its historical economic reforms that delineated distinct land rights and usage between urban and rural areas. Evidence shows that even though this system has underpinned China's rapid urbanization, it also makes huge impacts on migration patterns and socioeconomic disparities.

In urban areas, land is owned by the state and may be transferred or leased to individuals or businesses for a specified period. In other words, individuals or business have the rights to take lands for their own use in a regulated period, but the property rights of lands belong to the state. In contrast, rural land is collectively owned by rural collectives, typically agricultural communities. Although farmers can use the land, they lack full property rights and cannot legally transfer or lease it. These restrictions have impeded economic opportunities for rural residents, contributing to the significant rural-urban income gap in China.

The Household Responsibility Contract system was introduced in the late 1970s as a landmark agrarian reform to improve agricultural productivity. Under the HRS, each family was allocated a portion of collective land for farming. The family was responsible for any profits or losses resulting from farming. Which is to say, household or individuals independently carry out production and operation in accordance with the contract; meanwhile, except for a small proportion of income should be paid as taxes to collective and state, the operating incomes are all belongs to the farmers. On the other hand, as the client, the collective mainly provides production services for farmers in addition to carrying out necessary coordinated management and operating some sideline industries. Although the HRS led to an increase in agricultural production and rural income, it did not fully grant farmers property rights to their land. In addition, the limitations on land transferability under HRS also have significant implications for domestic migration.

Migration is one of the most significant social phenomena that are intimately tied to China's land property rights and socioeconomic problems. Predominantly, it takes the form of rural-urban migration, where people from rural areas move to urban areas in pursuit of better economic opportunities and high quality of life. This rural-urban migration is a reflection of the large-scale economic transformation happening in China and is driven by factors such as economic disparity between rural and urban areas, changing agricultural policies, the Household Responsibility System (HRS), and land property rights.

Despite the possible impact one relatively poorer urban areas, Migration, particularly from rural to urban areas, has long been viewed as a pathway to improved livelihoods for many people. By moving to relatively wealthier urban areas, migrants gain more working opportunities, higher wages, and improved living standards comparing to their previous life. Consequently, this income disparity between urban and rural areas has been a significant push factor for rural dwellers to migrate. Particularly, in cities, migrants can find employment in various industries such as finance and internet industries, access to better healthcare, education, and social services. In addition, these opportunities effectively cause to an increase in their income and a promotion of the quality of life, leading to a decrease in poverty levels. Furthermore, remittances sent back by these migrants to their rural hometowns also have a positive impact on the rural economy and help to alleviate rural poverty to a certain degree.

2. Literature

Property rights can be generally defined as a system for determining how resources are owned and how they are used and traded. This system provides individuals with the ability to control their resources, be it physical assets or intellectual properties. The theory of property rights suggests that clearly defined, well-enforced, and tradeable property rights lead to economic efficiency and growth.

The literature on property rights provides a substantial conceptual framework to understand the relationships between land ownership, migration, and economic development. North (1990) and De Soto (2000) notably argued that well-defined and secure property rights are essential for economic growth. They provide incentives for individuals to invest and participate in economic activities, thereby stimulating economic development. In China's context, land property rights significantly affect rural-urban migration patterns due to their impact on farmers' decision-making processes regarding whether to stay in rural areas or move to urban areas (Li, 2003; Zhao, 2005).

The market mechanism of land property rights operates when such rights are well-defined and protected, allowing for the renting out of land. If farmers can legally lease their land, they can secure a steady stream of income without physically being present to farm. This could lead to a significant increase in migration from rural to urban areas, as farmers could sustain their livelihoods while seeking additional income and opportunities in urban areas (Tan et al., 2006).

In addition, the possibility of land renting encourages rural-urban migration by reducing the opportunity cost of leaving the land. As suggested by Zhang et al. (2004), if farmers can lease their land, they can maintain their incomes from farming while also earning higher wages in cities. This double income effect could significantly boost rural dwellers' incentives to migrate to urban areas.

The government mechanism of land property rights comes into play when these rights are not well protected. In these circumstances, land appropriation or forced land acquisition by local governments is a common occurrence in China, often without adequate compensation for farmers (Kung and Zhang, 2008). These practices exacerbate income disparities between urban and rural areas and stimulate rural-urban migration.

The fear of losing land without proper compensation also drives farmers to migrate to cities. Uncertainty surrounding the security of land rights and concerns about losing land induce rural residents to abandon farming and move to urban areas in search of more stable income sources (Zhou, 2010).

In conclusion, the land property rights system in China significantly impacts rural-urban migration patterns. The interaction between these property rights, whether well protected or not, and the market and government mechanisms create push and pull factors that influence rural dwellers' decisions to stay or migrate. Understanding these dynamics can provide insights into China's urbanization process and rural-urban disparities, and also inform policies aimed at addressing these issues.

3. Empirical Analysis

3.1. 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.

3.2. Identification Strategy (Variable; Coefficient)

$$Y (\text{migration}) = \beta_0 + \beta_1 X_1 (\text{land property right}) + \beta_2 X_2 (\text{appropriation}) + \beta_3 X_3 (\text{age}) + \beta_4 X_4 (\text{education}) + \beta_5 X_5 (\text{hukou}) + \beta_6 X_6 (\text{income}) + \beta_7 X_7 (\text{health}) + \beta_8 X_8 (\text{gender}) + \beta_9 X_9 (\text{party}) + \beta_{10} X_{10} (\text{nationality}) + \beta_{11} X_{11} (\text{region}) + \beta_{12} X_{12} (\text{private business}) + \beta_{13} X_{13} (\text{marital status}) + \beta_{14} X_{14} (\text{parents})$$

In the context of this regression model, In this formula, Y represents the dependent variable, which in this case is migration. Specifically, it signifies the decision or action to migrate from rural to urban areas in China. The "X" variables are independent variables that are believed to have an influence on the dependent variable. These variables were chosen based on the theoretical and empirical understanding of the factors affecting rural-urban migration in China.

X_1 refers to the land property rights, the central focus of this study. Changes in land property rights can have significant impacts on the decision to migrate, as it directly influences the opportunity cost of migration. X_2 , appropriation, denotes the process of land acquisition by the government or other entities, which may force or incentivize individuals to migrate. X_3 and X_4 represent age and education, respectively. These demographic factors often impact one's ability and inclination to

migrate. X5, hukou, refers to China's household registration system, which has historically limited internal migration and access to urban services for rural residents. X6 represents income, as economic considerations often play a significant role in migration decisions. X7 denotes health, as it can determine the capacity of an individual to migrate and adapt to urban living conditions. X8 represents gender, acknowledging that migration decisions can be gender-specific due to different roles, opportunities, or restrictions placed on men and women. X9, party, signifies political affiliations which can affect one's perceptions and decisions to migrate. X10 signifies nationality, acknowledging ethnic and cultural diversity within China, which might influence migration patterns. X11 denotes the region of origin, considering that migration trends can differ greatly between provinces due to varying local economic conditions and policies. X12, private business, could represent whether the individual owns a business, which can impact their mobility. X13 and X14 signify marital status and whether their parents are still alive or not, as family ties can either inhibit or encourage migration.

Each of these variables above, from X1 to X14, has been chosen because they represent different aspects that may influence an individual's decision to migrate in China, from legal and institutional factors to personal and economic circumstances. To further determine the relationship between these variables and rural-to-urban migration rate in China, more analysis on data and the regression model are needed.

3.3. Market Mechanism of Land Property Right Change on Migration

As shown in regression table 1, land property rights (X1) are paramount in comprehending the dynamics of rural-urban migration in China. A well-defined and enforceable system of land property rights can act as an anchor, grounding rural populations in their ancestral lands. When individuals possess secure and transferable land rights, they can leverage them as collateral for loans, making investments in agriculture or small businesses feasible. This economic security potentially reduces the incentive for rural inhabitants to migrate to urban centers. Conversely, when these rights are vague, insecure, or non-existent, rural inhabitants might find urban migration a more attractive option, considering the diminished opportunity costs of leaving behind unprofitable or insecure lands. In essence, the stronger the land property rights, the higher the opportunity cost of migration, and vice-versa.

Moreover, the market value of land is closely tied to these rights. When rural residents perceive that their lands have significant market value and that they have the freedom and security to exploit, sell, or lease these lands, they might opt for rural entrepreneurial activities over urban migration. However, when land rights are compromised or when rural residents cannot capitalize on the market value of their lands due to legal or institutional constraints, migration becomes a more compelling option. Therefore, the market mechanism, underpinned by the clarity and security of land property rights, plays a decisive role in the migration decisions of China's rural populace. The strength and clarity of land property rights, consequently, can either serve as a deterrent or a catalyst for rural-urban migration, contingent on the associated economic opportunities and securities they offer to the landholders.

3.3.1. Basic Regression

See Table 1.

3.3.2. Robustness Checks

To ensure the validity of our findings and the reliability of our model, we performed several robustness checks.

Specification Checks: Multiple specifications were tested by incrementally adding variables to the model, as seen in the regression table columns. The consistent significance of variables such as `rent_per` and `logincome` across different specifications, indicated by the asterisks, suggests that these variables play a stable role in predicting migration, irrespective of the inclusion of other controls.

Stability of Coefficients: As more control variables were added from column 1 to 5, coefficients for certain key variables (like rent_per and gender) remained relatively stable in magnitude and direction. This stability enhances our confidence in the model's robustness.

Table 1. Regression table 1

	1	2	3	4	5
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)
gender	1.124***	1.508***	1.498***	1.505***	1.498***
	(8.456)	(9.054)	(8.825)	(8.870)	(8.818)
health	0.027	0.03	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)
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

t statistics in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Omitted Variable Bias: By introducing variables sequentially, we can gauge if the significance and magnitude of our primary variable of interest, rent_per, was drastically altered by the inclusion of any specific control. The consistency in its significance suggests that omitted variable bias, while always a concern, might be less pronounced in this model.

Significance Levels: We observed that certain variables such as age, gender, and party showed significance at varying levels across different specifications. The consistent significance of gender across all models is particularly noteworthy and suggests a strong and robust relationship between gender and migration.

Non-significant Variables: Variables like prov, health, private, and parents had t-values which did not surpass the common significance thresholds. This might suggest that while these factors could play a role in migration decisions, their impact may not be as influential or consistent as other variables in the model.

Sample Size Consistency: The number of observations (N) dropped slightly as more variables were added, from 489 in the first model to 474 in the subsequent ones. However, this drop is minimal, and the sample size remains large enough to infer statistical significance.

The robustness checks performed above confirmed the reliability of key findings while offering insights into the potential limitations of the model. The consistent significance and stability of certain variables across various model specifications solidify our confidence in the results.

3.4. Government Mechanism of Land Property Right Change on Migration

As depicted in the regression table, the variable "appropriation" (representing the impact of government appropriation of land) suggests a negative relationship with rural-urban migration. As the level of government appropriation increases, the likelihood of migration seems to decrease, particularly as evidenced in columns 2 through 5, with statistical significance increasing as more variables are controlled for.

This finding suggests that government intervention in terms of land appropriation might be functioning as a mechanism that keeps rural inhabitants anchored to their native lands, even when these interventions may not necessarily be to the immediate benefit of the residents. It is conceivable that such interventions may create conditions where the rural inhabitants perceive a decrease in opportunity cost for staying put, perhaps due to compensations or alternative opportunities provided by the government.

Variables such as logincome, gender, and party membership show consistent statistical significance across different specifications, just as in the earlier model, strengthening the overall model robustness.

3.4.1. Basic Regression

See Table 2.

3.4.2. Robustness Checks

Specification Checks:

Just as in the previous section, various model specifications were tested. The variable "appropriation" showed increasing significance with more control variables, suggesting that government appropriation is a robust determinant in explaining migration behavior.

Stability of Coefficients:

Coefficients of variables like logincome and gender remained consistent even when new controls were added, enhancing confidence in the model.

Omitted Variable Bias:

The significance of "appropriation" remained relatively stable even as other variables were introduced, indicating less concern for omitted variable bias.

Significance Levels:

Variables like logincome, gender, and party showed consistently significant levels across models. However, variables like health and parents had t-values below common significance thresholds, suggesting their impact on migration decisions may not be as influential.

Sample Size Consistency:

There is a more noticeable drop in sample size from 618 in the first model to 427 in the last model. While this could be a potential limitation, the sample sizes are still sufficiently large to make robust inferences.

3.4.3. Endogeneity Checks

Potential endogeneity could exist if unobserved factors that influence government appropriation decisions also affect individual migration choices, inducing bias in the estimation of the effect of "appropriation."

Two common strategies to deal with endogeneity are Instrumental Variable (IV) methods and panel data models, depending on data availability and the nature of the endogeneity. While this paper doesn't implement these techniques due to scope limitations, future research could consider using them to provide a more definitive interpretation of the effect of government land appropriation mechanisms on rural-urban migration.

The government mechanism of land property right changes appears to play a critical role in influencing migration patterns in China. Secure and well-defined property rights, influenced both by market forces and government mechanisms, have varying impacts on the migration behaviors of rural populations. Our future research could aim to dissect the complex interaction between these two forms of land property right changes for a more nuanced understanding of their effects on migration.

Table 2. Regression table 2

migration	1	2	3	4	5
appropriation	-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)
1.edu	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)
2.edu	-0.248*	-0.270*	-0.232	-0.121	-0.155
	(-1.683)	(-1.806)	(-1.527)	(-0.619)	(-0.811)
3.edu	-0.527**	-0.423*	-0.365	-0.443	-0.45
	(-2.238)	(-1.796)	(-1.516)	(-1.395)	(-1.482)
4.edu	0	0	0		
	(.)	(.)	(.)		
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	0.06	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)
1.marital			0	0	0
			(.)	(.)	(.)
2.marital			0.261	0.27	0.15
			(1.207)	(1.033)	(0.596)
3.marital			0	0	0
			(.)	(.)	(.)
4.marital			1.694**	1.711**	1.649**
			(2.149)	(2.260)	(2.249)
5.marital			0.248	0.185	0.104
			(1.332)	(0.873)	(0.510)
6.marital			0.918	1.08	1.052
			(1.417)	(1.561)	(1.505)
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

* p<0.1, ** p<0.05, *** p<0.01

4. Analysis

4.1. Market Channel

4.1.1. Rent Percent and Land Property Rights

Rent percentage is used in this model as an indicator to reflect the land property rights. A higher rent percentage implies that landholders can retain a larger portion of the land's value, which is indicative of stronger and clearer land property rights. Conversely, a lower rent percentage suggests weaker or less clear property rights. This metric serves as a market-based proxy for understanding the landholder's perceived value and the economic implications of their property rights. In analyzing Regression Table 1, it is evident that the rent percentage has a positive correlation with migration across all model specifications. Starting from column 1, the coefficient for rent percentage is 0.376 and significant at the 10% level. As we control for more variables (moving from columns 1 to 5), the significance level of rent percentage increases, with p-values less than 0.05 in columns 2 through 5. The coefficients for rent percentage also exhibit an increasing trend initially but stabilize around the range of 0.634 to 0.652 in the last four specifications. This positive correlation suggests that as landholders retain a larger share of the land's value (i.e., higher rent percentages), the likelihood of rural-urban migration increases. A potential interpretation is that when individuals perceive their land property rights as strong (as evidenced by a higher rent percentage), they might also view urban opportunities more favorably, considering they can leverage their robust land rights for better urban livelihoods. This is counterintuitive to the general assumption that stronger land rights would anchor individuals to rural areas. However, this relationship highlights the complex interplay between land rights, perceived land value, and migration incentives in China.

4.1.2. Log Income

The natural logarithm of income (*logincome*) serves as an insightful metric in our analysis, capturing the economic well-being of individuals or households. An advantage of using the logarithm transformation is that it helps in understanding proportional changes and mitigates the influence of extreme values. From Regression Table 1, we observe a consistent positive correlation between *logincome* and migration across all specifications. Starting with column 1, the coefficient for *logincome* is 0.088 and is significant at the 10% level. This relationship strengthens as we move from columns 2 to 5, with the coefficients ranging between 0.136 and 0.144 and p-values reflecting significance levels of 5% or better. This positive relationship suggests that as the income of rural individuals or households increases (in logarithmic terms), their propensity to migrate to urban areas also rises. One possible interpretation is that higher incomes in rural areas might provide individuals with the necessary resources and confidence to make the transition to urban areas, where they anticipate further economic growth or improved quality of life. This trend emphasizes the vital role of economic well-being as a driver in rural-urban migration decisions. It underscores the narrative that while income growth can enhance the quality of life in rural areas, it might paradoxically also fuel aspirations and capabilities for urban migration.

4.1.3. Gender

The gender variable provides a compelling narrative on the influence of gender dynamics on rural-urban migration patterns in China. As coded in our model, a value of 1 represents males and 0 signifies females. Regression Table 1 consistently shows a strong positive relationship between being male and the propensity for migration. Across all five specifications, the coefficients for gender range from 1.124 to 1.508 and are statistically significant at the 1% level. Specifically, the positive coefficient indicates that males, when compared to females, exhibit a higher likelihood of migrating from rural to urban areas. This pattern underscores a variety of socio-economic phenomena. Historically and culturally, males might be more predisposed to migrating in search of economic opportunities, given the societal pressures of being primary breadwinners. Additionally, the challenges faced by women, such as family responsibilities or potential security concerns, might deter them from migrating as readily as their male counterparts. The data suggests that gender roles and expectations continue to

shape migration decisions, with males seemingly more inclined towards urban migration in pursuit of better opportunities or under societal expectations. The consistency and significance of the gender variable across the models reinforce the deep-rooted gender dynamics that play a pivotal role in influencing migration behaviors.

4.1.4. Party and Rent Seeking

In analyzing the influence of party affiliation on migration patterns, Regression Table 1 unveils a consistent, negative association between party membership and rural-urban migration. The party variable registers coefficients ranging from -0.981 to -1.006 across various model specifications, and these coefficients are statistically significant at the 1% level. Interpreting this data, it's evident that individuals affiliated with the party are less likely to migrate from rural to urban regions. This trend might be attributed to the benefits and privileges often afforded to party members in rural areas, including access to resources, job opportunities, or preferential treatment in local administrative matters. These advantages reduce the need for party members to seek better prospects in urban centers. Furthermore, the concept of rent-seeking behavior provides an insightful lens to understand this pattern. Rent-seeking refers to attempts by individuals or entities to gain undue profits without a corresponding contribution to productivity, often through leveraging political connections or manipulating the socio-economic environment. Party members, with their established networks and influence, might engage in rent-seeking activities in rural regions, extracting economic benefits without necessarily adding real economic value. Such behaviors provide them with a steady source of income or advantages that might deter them from considering migration as a viable option. In essence, the privileges associated with party membership and potential rent-seeking opportunities in rural areas seem to anchor party members, making the allure of urban migration less compelling.

4.2. Expropriation (Government) Channel

4.2.1. Appropriation

Regression Table 2 delves into the impact of government appropriation on migration patterns. The variable "appropriation" manifests a negative correlation with rural-urban migration across all model specifications, with coefficients ranging from -0.192 to -0.522. Specifically, the association becomes statistically significant from the second model onward, suggesting at least a 10% confidence level in models 2 and 3, and 5% confidence in models 4 and 5. The negative correlation suggests that as the degree of government appropriation intensifies, the likelihood of individuals migrating from rural to urban areas decreases. One potential interpretation is that individuals facing the threat or act of appropriation may be hindered in their ability to relocate, possibly due to financial constraints, loss of assets, or administrative barriers. Alternatively, individuals may choose to remain in rural areas to defend their rights or contest the appropriation process, viewing migration as a potential relinquishment of their claims. It is worth noting that as the model specifications evolve (from 1 to 5), the strength and significance of this negative relationship grows. This might hint that when accounting for more variables or refining the model, appropriation becomes a more salient predictor of migration decisions. Overall, the results indicate that government appropriation plays a potentially substantial role in influencing rural residents' choices about relocating to urban centers.

4.2.2. Education

The relationship between varying levels of education and rural-urban migration is quite complex, as indicated by Regression Table 2. The variable "1.edu" consistently shows a coefficient of zero across all models, suggesting no effect of this level of education on migration patterns. On the other hand, both "2.edu" and "3.edu" indicate a negative correlation with migration in the initial model specifications, albeit the correlation diminishes as more variables are included in models 3 to 5. Specifically, having a "2.edu" level of education is statistically significant at the 10% level in models 1 and 2, with coefficients of -0.248 and -0.270, respectively. The negative sign implies that individuals with this level of education are less likely to migrate compared to those with "1.edu" level education. Similarly, the "3.edu" level also shows a statistically significant negative correlation with

migration at the 10% level in model 2 and at the 5% level in model 1. The results suggest that as one attains a higher level of education (up to "3.edu"), the propensity to migrate decreases, possibly due to better employment opportunities in rural areas or other factors that need further exploration. However, the statistical significance tends to fade in subsequent models, indicating that the role of education may be less clear-cut when other variables are considered. Remarkably, the "4.edu" level shows no effect, akin to "1.edu," across the models where it is included, suggesting that this level of education neither encourages nor discourages migration. This lack of effect is puzzling and may require further research to understand the nuances better. Overall, education seems to exert a varying influence on migration, contingent upon the level of educational attainment and the other factors accounted for in the model, but generally speaking, individuals with higher level of education tend to stay in the rural area instead of migrating to urbans.

4.2.3. Marital Status

The role of marital status in influencing rural-urban migration patterns emerges as a nuanced issue according to Regression Table 2. Intriguingly, the "1. marital" and "3. marital" categories demonstrate no effect on migration, as indicated by a coefficient of zero across models 3 to 5. Conversely, individuals in the "4. marital" category exhibit a statistically significant positive correlation with migration at the 5% level, with coefficients ranging from 1.694 to 1.711 across the models. This suggests that individuals in this marital status group are considerably more likely to migrate, potentially reflecting the economic or social incentives that this particular marital arrangement may confer. In addition, the "2. marital" and "5. marital" categories show positive but statistically insignificant correlations with migration, implying a degree of uncertainty surrounding these groups' migration behaviors. The coefficients for "6. marital" also show a positive correlation, but the lack of statistical significance implies that this is not a reliable predictor for migration within the scope of this study. In sum, it appears that marital status does indeed interact with migration patterns, although the relationship is not uniformly straightforward. Notably, being in the "4. marital" category significantly increases the likelihood of migration, a finding that warrants further study to untangle the socio-economic drivers behind this trend.

4.2.4. Health

In assessing the potential correlation between health and migration patterns from the data presented in Regression Table 2, we observe a consistent, albeit modest, positive relationship across all models. The coefficient for 'health' fluctuates between 0.060 and 0.137, indicating a possible inclination for individuals with better health to migrate. However, the statistical significance of this relationship is somewhat uncertain. The t-values, represented in parentheses, range between 0.893 and 1.612, which falls short of the conventional thresholds for statistical significance at the 10% level, except for model 1 where it is marginally significant at roughly 10%. While the results suggest that individuals in better health might be more predisposed to migrate than their less healthy counterparts, the lack of consistent statistical significance implies that one should be cautious in asserting health as a predominant driver for migration decisions in this context. Nonetheless, the positive trend is worth noting, possibly indicating that those in better health have the capacity or motivation to seek opportunities in new regions, or perhaps they are attracted to urban areas with potentially better healthcare facilities. Further research is warranted to delve deeper into the underlying dynamics at play.

5. Summary

5.1. What We Have Done in This Paper

In this comprehensive study, we set out to investigate the intricate dynamics between various independent variables and their potential impact on migration, particularly within the context of China's urbanization efforts. We centered our research on two primary channels: the market channel and the expropriation (government) channel. For the market channel, we examined factors such as rent percentages as a reflection of land property rights, log income, gender, and party affiliation. Each

of these variables offered unique insights into how different segments of the population or socio-economic dynamics could influence migration decisions.

Switching our focus to the expropriation channel, we delved into government appropriation, education, marital status, and health. These elements were studied to understand the governmental or systemic pressures on individuals, prompting them to relocate or resist migration. Through regression analysis, we meticulously analyzed each of these factors, revealing intriguing patterns, correlations, and implications, with special emphasis on the roles of land property rights and government appropriation, recognizing their critical importance in the broader narrative of urbanization and migration.

5.2. What the Conclusion Is

Our analysis elucidated several compelling findings. Primarily, land property rights, as measured through rent percentages, displayed a consistently positive correlation with migration, underscoring the hypothesis that secure land property rights can act as an incentive for migration in the context of urbanization. This relationship underscores the significance of ensuring land security and property rights as a strategy to promote urban migration. In contrast, government appropriation showed a negative association with migration, suggesting that aggressive or uncompensated appropriation practices may deter individuals from migrating or potentially force them into unfavorable migration decisions. Other variables like gender exhibited clear patterns, where males (denoted as '1') showed a stronger inclination towards migration, possibly due to economic or societal factors. The education variable revealed that certain levels of education are more associated with migration than others, indicating a nuanced role education plays in one's decision to migrate. Marital status, with its various categories, provided insights into the complexities of personal relationships and their implications on migration tendencies. However, factors such as health and party affiliation had more intricate relationships with migration, suggesting that personal well-being and political affiliations can also be instrumental in migration choices, albeit in a less straightforward manner compared to the dominant factors of land property rights and government appropriation. In essence, our findings illuminate the multifaceted nature of migration decisions, where systemic, socio-economic, and personal factors converge, with land property rights and government appropriation emerging as pivotal elements in the migration narrative within China's urbanization framework.

5.3. Policy Implication

The intricate relationships unearthed in this study between the variables and migration carry significant implications for policy formulations.

Land Property Rights: The evident positive correlation between secure land property rights and migration emphasizes the necessity for the government to fortify and clarify land tenure systems. By ensuring landowners feel secure in their property rights, migration, especially to urban centers, can be incentivized. A clear, transparent, and just system will not only encourage migration but also foster trust in the government, further promoting stability.

Government Appropriation: The negative relationship between government appropriation and migration signals a warning. Aggressive land acquisition without fair compensation could stifle migration and may even incite distrust or resentment among citizens. Policymakers should strive for transparent, well-compensated, and participatory land acquisition processes to ensure that urban development doesn't come at the cost of potential migrants' trust and rights.

Gender Policies: The study reveals a higher propensity for males to migrate. Addressing gender disparities in migration could involve developing policies that make migration more appealing and safer for women, possibly through women-centric job opportunities, safety measures, or awareness campaigns in urban areas.

Educational Initiatives: Given the nuanced role of education in migration decisions, it's essential to frame educational policies that can channel the potential of different education levels towards the

urbanization goal. Offering urban opportunities that match various educational qualifications could be one such approach.

Health and Well-being: Though the health variable showcased a more intricate relationship with migration, it's essential to have robust health systems in place in urban areas. This would ensure that potential migrants view cities as viable places for long-term living, where their well-being is prioritized.

In a broader context, as China looks towards reaching developed control urbanization rates of 90%, policy frameworks should be holistic, incorporating the lessons from this research. Prioritizing land property rights and addressing issues around government appropriation will be paramount, but the interconnectedness of socio-economic and personal factors also demands attention to foster a comprehensive and humane approach to migration and urbanization.

5.4. Future Research

As urbanization in China progresses, future research should delve deeper into emerging variables and factors, especially in the face of global shifts and technological advancements. The intricate dynamics of the digital economy, the role of sustainable and green urbanization, and the evolving socio-cultural fabric of urban centers might alter migration patterns and motivations. Additionally, longitudinal studies examining the long-term effects of secured land property rights on urban development and the evolving nature of government appropriation in a changing political climate could offer more nuanced insights. In essence, a multi-disciplinary approach, merging insights from sociology, technology, environmental science, and urban planning, will be vital in shaping a more comprehensive understanding of China's urban migration in the decades to come.

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