

## Article

# Incomplete Urbanization and the Trans-Local Rural-Urban Gradient in China: From a Perspective of New Economics of Labor Migration

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**Abstract:** The urbanization in China is “incomplete” and the migration of non-*hukou* migrants is circular, wherein rural migrants often keep their rural land in the home village as a social safety net. The informal housing market is one of the main housing providers for migrant workers. Existing studies see informal housing as the migrants’ passive choice under the discriminatory *hukou* system, while underplaying the migrants’ familial multi-site tenure strategies between village homes and city places. As suggested by New Economics of Labor Migration (NELM), attachment to a place of origin (such as keeping hometown lands), while choosing informal housing at the destination, is a familial utility maximization strategy that can control risks when migrating between locations. Informal housing areas, therefore, become a trans-local rural-urban gradient and semi-urban landscape. We use the 2017 Migrant Dynamics Monitoring Survey data and the binary logistic regression to examine (a) whether hometown landowning is a significant predictor of the migrants’ choosing of a temporary stay in informal settlements in urban destinations, and (b) which kind of hometown land arrangement (farmland or homestead holding or both of them) is the strongest indicator of the higher probability of staying in informal settlements in urban destinations? The data analysis reveals that homestead in hometown is a more prominent pulling factor than farmland to “glue” rural migrants together within an integrated rural land “insurance regime” between the migrant-sending and -receiving places. The land-use and informal housing governance (including urban village demolition) ignore the trans-local nature of the migratory networks and semi-urbanizing dynamics. The traditional analysis of the rural-urban gradient with many landscapes should consider the functional and tenurial linkage between the locations at different points along with the complex migration activities.

**Keywords:** incomplete urbanization; rural-urban migration; rural land tenure; urban villages; new economics of labor migration; China



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## 1. Introduction

### 1.1. Informal Settlements as the Semi-Urbanizing Gradient in the Incomplete Urbanization

Existing studies have focused on informal settlements in rapidly urbanizing and developing countries [1]. In Hernando de Soto’s arguments, a lack of property rights security inhibits engagement with the formal sector, and a more secure lease on a home will encourage a migrant to invest in loyalty at a work and living place that might yield better opportunities [2]. Ho and Sun in 2021 [3] regarded informal housing in transitional China as a development model for “inclusive and pro-poor urbanization”, as it can reduce the social costs of urbanization and facilitate massive rural-to-urban migration. According to Ho [4], formal registration of housing in the urban destinations may not matter from the perspective of temporary migrant tenants; and, on the contrary, migrants’ access to affordable housing can get improved by informal means. Informal settlements are a typical rural-urban gradient with mixed functions and changes in ecological patterns and processes

because of urbanization. The rural-urban gradient was used to assess the human influence on the land-use change spatially from a certain distance (like some concentric buffers with distance intervals) from the city center. The gradient analysis is a widely used analysis tool for ecology and landscape studies, measuring the ecological and land-use patterns and processes because of urbanization, especially when it is a linear form developing along the rural-urban gradient from the city center [5,6]. This rural-urban gradient did not develop linearly from the city center. Informal settlements represent complex patterns of migration, and Vliet et al. in 2020 [7] regard it as a multidirectional process that further blurs the distinction between rural and urban. This rural-urban gradient is neither a gradual transformation of the territory nor a continuum in geography—tenants in the informal settlements are “trans-local”. It is easy to detect the informal settlements as a typical rural-urban gradient (semi-urban and semi-rural) in China, as they are the high-density urban villages which are the specific urbanizing phenomenon where local land losing peasants have built informal habitats to house migrant workers and other low-wage earners. They are rural patches of land within the city area and are surrounded by or next to the urbanized landscape [8]. Facilities in the urban village units are inadequate and poorly maintained. Zheng et al. compared the role of distance from the city center in determining rent [9]. The per-unit rent in urban villages is significantly lower than that in adjacent formal housing units, but the gap in rent per square meter between the two types of housing is small. Her research reported a significant negative rent gradient for urban village units concerning distance to the city center—this rent gradient is consistent with urban theory. The urban village represents the trans-local networks of actors. However, land-use regulations are local, ignoring incomplete urbanization between the migrant-sending and -receiving places in transitional China.

The concept of informal settlements in China differs from the squatter communities in other developing countries [10]. China’s informal settlements take the form of the informal housing sector called *chengzhongcun*, or villages in the city (urban villages). This gradient typically combines both rural and urban functions and has its root in China’s rural-urban dual system (in terms of land tenure, community organization, welfare provision, and labor migration). China’s urbanization rate has broken the 50 percent urban threshold in 2012, which predicted an urban housing consumption boom fueled by the new urbanites. Rural migrant workers have however played a minor role in the real estate booms, because of their unassimilated status in the urban destinations under the *hukou* system [11,12]. *Hukou* system is a residency permit system that has separated the rural population from urban population, and the local population from the non-local. *Hukou* system confers a wide range of welfare benefits and rights on the urban population. The migrants maintain their non-local residency status and enjoy practically relatively few welfare benefits in the urban destination. The *hukou* limit has been lifted in recent years. In China, the urbanization and migration of non-*hukou* migrants are “incomplete” (called “limited urbanization” by Zhang Li [13]), as migrant workers cannot access the full legal status of residency in their destinations. The internal population movement is circulatory under this “incomplete” urbanization, wherein the rural migrants often keep their rural land in the home village as a social safety net.

### 1.2. The Role of Informal Settlements in Promoting Rural-Urban Migration

The migrant housing provision during the rapid urbanization is an unprecedented challenge in transitional China. As pointed out in previous studies, under the discriminatory *hukou* system, migrants can hardly access government-subsidized housing and suffer housing poverty in urban destinations [14]. The formal and informal housing market plays a prominent role to meet the large housing demand during rapid urbanization in China. Formal housing is provided by developers, employers, and local governments. Informal housing is built by urban villagers on the rural collectively owned land and is characterized by instability of tenure, violation of construction regulations, and a lack of public facilities and services. As pointed out by Huang and Tao, the informal housing market and

employers were the two main housing providers for the migrant workers, but the formal housing market played a limited role and the government played an insufficient role in providing migrant housing according to their data analysis in 2009 [14]. Living in informal housing has been seen for a long time as a passive choice and poverty trap of rural-urban migrant tenants in the destinations. The recent studies also revealed that the possession of farmland and housing land in rural hometowns can significantly influence the rural migrants' intention of permanent settlement in the cities [15].

The rural-urban circular migration between village and city and amphibious migrants (who move back and forth between their home and destinations rather than settle down) are prevalent in the cities of the Global South (including industrializing Asia), with informal work, precarious employment, and social security inequalities [16–18]. From the perspective of individual capabilities, circular migration can serve as a decision-making framework for maximizing the migrant individual choices. Migrants can choose to move back and forth between their home and destinations, avoiding making a definitive choice (such as permanent settlement), but they can maintain the significant ties between both home and destination. Migrants can maximize the capabilities and utilities of themselves and their families. For instance, they can attend the non-agricultural activities in an urban location that offers them superior earnings, but educate their children in a location with superior schools, while keeping hometown properties as a social safety net when they retired and returned countryside. Existing studies on China's circulatory migration underplayed the familial tenure strategies of rural-urban migrants, which go beyond rural-urban land-uses between origins and destinations. Under China's rural-urban "mega dual system", the recent National New Urbanization Plan (2014–2020) and the Strategic Plan for Rural Revitalization (2018–2022) have enabled the rural migrants' multi-site well-being (in both city and their hometown), guaranteeing that the migrants can get more adaptive to the uncertainties and risks in the urbanization (such as the risk of economic fluctuation and unemployment in the urban markets because of the financial crisis, labor-replacing robots and the COVID–19 pandemic) [19]. The 2021 Land Management Law has improved the three-layer system of rural land rights, which is composed of ownership rights, contract rights, and land management/use rights. According to the Regulation on the Implementation of the Land Administration Law of the People's Republic of China (2021 Revision), Article 36: The rural residences and their ancillary facilities obtained from the farmer's homestead and the homestead are protected by law. The local governments cannot use the giving up of rural homestead as a term of the farmers' rural-to-urban *hukou* transfer. Farmers cannot be forced to give up their rural homesteads. The rural-urban migrants who transfer rural *hukou* to urban areas can keep their collectively owned rural homesteads in their hometown until their occupied housing properties disappear [20]. The 14th Five Year Plan (covering the years 2021 to 2025) was officially endorsed by China in 2021, addressing the economic, social and environmental development goals over the next five years and presenting China's 2035 vision. The 14<sup>th</sup> Five-Year Plan has protected the rural migrants' land rights in their hometown (including their rights to farmland, homestead, and collective income), even though some of them have settled permanently in the cities.

This study examines the relationship between the circular labor migration and prevalent informal settlements that take the form of the informal housing sector (urban villages) in China. If we consider the "incomplete urbanization" between migrant-sending and -receiving places, we can better interpret a complex peri-urbanization process of informal settlements that are a typical rural-urban gradient. We consider the "micro-level family economy" based on the "New Economics of Labor Migration" (NELM), reflecting a blending of the economic rationales of circular migration to keep tenure security in hometown but ignoring the tenure status (secure vs. insecure; formal vs. informal) in urban destinations. This trans-local tenure strategy is part of the familial utility maximization strategy that can control risks when migrating between locations and avoid wage dissipation from the multi-site well-being system. We focus on this rural tenure continuum linking "land for welfare" (an unalienated system parallel to marketplaces) between village homes and

city places (see Cai's article entitled "land for welfare in China") [21]. Migration is also the migrant socio-tenurial choice within and beyond such a mega rural tenure system between migrant-sending and -receiving places. In urbanizing China, rural and urban areas are the main migrant-sending and -receiving places, and the less developed west is the main migrant-sending places, while the more advanced coastal belts and regional central cities are the main migrant-receiving places. Migrant-sending and -receiving places have the multi scales (e.g., national, regional, and local scale), as the migration is multi-scalar. For instance, the spatial units can involve the migrant-sending and -receiving countries, provinces (including inter- or intra-provincial migration comparison), cities, communities, and households in the previous international and internal migration studies [22–24]. The complex migration patterns link the urban village mosaics between different rural-urban settlements. However, existing studies ignored a subtle link between the migrant-sending and -receiving areas in land-use and settlement formation. In this study, we give the theoretical interpretations of the rural migrants' preference for China's informal settlements (urban village) first. Then we use the 2017 Migrant Dynamics Monitoring Survey data and the binary logistic regression to examine (a) whether hometown landowning is a significant predictor of the migrants' choosing of a temporary stay in informal settlements in urban destinations, and (b) which kind of hometown land arrangement (farmland or homestead holding or both of them) is the strongest indicator of the higher probability of staying in informal settlements in urban destinations? More secure tenure in cities is a more convincing sign of urban settlement than self-reported perceptual intentions.

## 2. Materials and Methods

### 2.1. Theoretical Basis: Re-Examining the New Economics of Labor Migration in the Incomplete Urbanization

China's urban village mosaics link the rapid urbanization process through complex migration patterns between different settlements. We re-examine the "micro-level family economy" based on the "New Economics of Labor Migration" (NELM), reflecting a blending of the economic rationales of circular migration and multi-site strategies to keep tenure security in the hometown and avoid family income dissipation in the destination. NELM is distinct from Neoclassical Economics (NE), as the former assumes that people move circularly, whereas the latter assumes people move permanently and maximize lifetime earnings [25,26]. NE views the return migrants as "failures", but NELM emphasizes recurrent/circular migration and views return migrants as "successes". Based on NELM, families or communities (instead of individuals) make the migration decisions. Households maximize their income and control risks through the geographic diversification of productive resources and family assets. NELM fits into Chen's [23] observation in 2019 in the migrant-sending village in Anhui, China, wherein the migrant workers continued to build large houses in home villages to attract their potential brides and facilitate the patrilocal residence while living in the urban village of destination to save money. NELM gives attention to attachments such as birthplace, homeownership, and identity; but NE understates the effects of attachment to the place of origin.

Although the internal migration system in China has shifted from a circular flow of rural workers to settled families (familization of migration), the migrants' flexible tenure choice of "amphibious" status between village homes and city places is still popular [27,28]. In China's mega dual system, rural land functions as welfare similar to Ishikawa's "minimum subsistence level of existence" (MSL) in the two-sector migration system [29]. Land provides the rural communities with a source of income-generating and social insurance. Knowing rural land is the last resort to generate income and a pension for the elderly in the village, the rural surplus labor dares to migrate to the cities for higher-income jobs, promoting the rural-urban migration in China [21]. The collectivized landownership in rural China guarantees the peasants' rights to subsistence farming and land for a house lot (*zhaijidi*). In the early 1980s, land reforms saw the redistribution of rural land to households under a household contract responsibility system, and the ownership has

transformed, de facto, into land-use right or lease [8]. Migrants who feel good about cities and express their permanent urban settlement intention are, however, unwilling to give up rural *hukou* and landed benefits in their hometown (including farming, housing land, and land-loss compensation) that are increasingly more valuable than urban *hukou* [30].

As told in NELM, the hesitancy toward permanent migration, including a transitory stay in the informal settlement of destination, is a symbol of success too, deploying a household strategy to maximize familial utility and not a sign of failure for losers who have not made it in the city [31]. Migrants are heterogeneous for different migratory motivations. By keeping rural lands, migrants can diversify sources of household income to manage risks in the absence of a well-functioning insurance system of sending places.

Based on NELM and rural migrants' attachment to their home village, we hypothesize that:

**Hypothesis 1.** *The rural landholding can lower down migrants' concerns with the urban housing security—the rural lands suggest a lower probability of permanent urban settlement and less secure housing in the destination cities.*

## 2.2. China's Urban Villages as a Trans-Local Rural-Urban Gradient

### 2.2.1. Community Principle of Land Distribution for Welfare in the Rural System

Collective land ownership and rural communities as collective owners of their land have attracted much attention [32]. Peasants increasingly register as homestead "owners" to the same degree as individual and corporate persons (Property Law of PRC since 2007, and laws on the identification, registration, formalization, and governance of such community property). *Albeit* without rights to transfer, except through inheritance or within-village transaction, peasants still need to heighten their territoriality and defend the inalienable land rights inherited through village membership. Till now, peasants still tie the rural landed property to identity, membership, and welfare in the agricultural community principle. The community-defined property is internal to the relationship that individuals (including migrants) held with the community.

How should we interpret rural land keeping during the rural-urban migration, wherein the migrants leave the rural land behind and under-cultivated? The community-based property relations (inherited rather than the market- or state-led) have vibrantly existed in the 21st century, and even hardened, rather than dissipated, and the reason for its robustness is complex. As summarized by Wily [32], community tenure is a local reaction to decreasing land availability and rising threats of official takings, and also an embedded logic as practical, cost-free, and adaptive through consensus. Wily [32] compared the different community tenure systems across different countries and concluded that China is within the countries where legal provision for community landholding is strongest, owing to the jurisdiction efforts for mitigation against rampant involuntary rural land loss and the law enactment recognizing community property (e.g., 1982 Constitution and 2007 Property Law). However, there are still limited legal provisions for communities to lease directly to investors. Only collective operating construction land is available for the rural land transaction to build up the integrated rural-urban land trading market, based on the 2021 Land Management Law. The above robust community principle of rural land distribution has laid the foundation for the formation of China's informal settlements.

### 2.2.2. Rent Dissipation in China's Informal Settlements as Frugal Use of Rural Land in Destinations

The central and local governments in China make regulations on the real estate legal status of rural lands, including the peasants' rights to real estate. Since land reforms in the 1980s, properties built on rural lands have become a tradable commodity after their conversion to urban land use. However, in the rural land urbanization process, rural land expropriation practices are rampant by the "growth coalition" to extract "surplus value" [33]. The state expropriated the rural land and thereafter redistributed it to developers in a real estate-driven growth regime. In response, the entrepreneur peasantry has

countered state-led land expropriation and reclaimed its legal rights to real estate transfer, through leasing or selling the (semi-) illegal constructions on rural collective land to outsiders including migrant tenants (China's informal settlements called "urban village").

*Albeit* extralegal, above transactional relationships between the village and outside users can get self-enforced by common interests and a reputation system, as analyzed by Zhang and He in 2020 and Qiao in 2017 [34,35]. Informal property rights in destinations provide affordable living and entrepreneurial spaces to millions of rural migrants, creating informal housing markets outside of the formal legal system such as a) petty entrepreneurs and traders from rural Wenzhou congregating in Beijing suburb called Zhejiang Village, and b) small-scale garment factory owners and workers from rural Hubei Province clustering in Guangzhou called Hubei Village [36,37]. The "urban village" creates a sense of *quasi*-rural community that can help the migrants of rural origins adapt to urban lives, and build cultural connections and social organizations that can connect migrants to both their original and current places.

Existing literature on the informal property rights in transitional China has pointed out the "rent dissipation", namely disordered land-rent competition, suboptimal land-use, or price differentials because of heterogeneity of tenure security [38–40]. These research results support that these individual decisions lead to rent accrual at levels far below optimum in the informal housing market (Figure 1). However, the rent dissipation problem is a form of "social inclusion", as providing affordable and accessible shelters for the rural migrants in the Chinese metropolises such as Beijing, Guangzhou, and Shenzhen [41,42]. The scholars seldom link such an informal settlement phenomenon with a landholding status of amphibious migrants in a circulatory migration—rarely bridging land-use functions between migrant-sending and -receiving places to interpret China's informal settlement phenomena.



**Figure 1.** Urban villages as peri-urban mosaics in the Chinese metropolises (a,b): Shu Village in Haidian, Beijing; (c): Xi'an Village in Tianhe, Guangzhou; field trip by authors.

As proposed in Hypothesis 1, based on NELM, attachment to the place of origin, such as homeownership, is a familial utility maximization strategy that can control risks when migrating between locations. We are interested in whether rural migrants would choose the rural community system, again, in destinations.

In rural origins, migrants' rural tenure in their origins has four groups: (I) holding both farmland and homestead in their hometown; (II) holding farmland only in their hometown; (III) holding homestead only in their hometown; and (IV) the land loss (neither farmland nor homestead) in their hometown. If migrants lease their lands to other villagers, tilled by relatives, or kept idle, they still identify this status as farmland keeping.

In urban destinations, rural-to-urban migrants' housing acquisition has two types: (A) China's informal settlements (urban village) as embedded in the rural tenure system; and (B) urban housing market. It is difficult to collect taxes on urban villages as

their property is unregistered. The lawmakers have made regulations on urban villages. Land transactions in the urban villages are illegal too, and the state can expropriate their land for public purposes.

We will give a more detailed hypothesis:

**Hypothesis 2.** *Rural migrants who keep both farmland and homestead are more likely to choose to live in the informal settlements of destination, showing a circulation between the rural community and tenure systems of migrant-sending and -receiving places. Rural migrants who do not hold hometown lands are more likely to settle in the urban housing market (formal community) of the destination than landholders.*

### 2.3. Logistic Regression Analysis

#### 2.3.1. Methods: Binary Logistic Regression

The binary logistic regression is widely used to examine whether one set of variables (such as individual and household characteristics in the hometown and destination) can predict one of two outcomes/conditions (such as whether migrants will choose insecure tenure and semi-urbanizing landscape in urban destination or not). If the research needs to predict more than two outcomes/conditions, we need to choose the multinomial logistic regression. This study uses binary logistic regression to predict which kind of housing tenure (insecure tenure in semi-urban areas vs. secure tenure in the fully urbanized areas) rural migrants are likely to choose in urban destinations. We can conduct the logistic regression in the software packages such as SPSS, Stata, SAS, R, Python, and MATLAB. Next, we introduce how to investigate the relationship between the binary discrete responses and a set of explanatory variables [43,44].

The binary logistic regression applies to the binary response/choice models. The response/choice,  $Y$ , of an individual migrant household can take on one of the two values (insecure vs. secure tenure), denoting 1 and 0 (for example,  $Y = 1$  if migrants live in informal housing, otherwise  $Y = 0$  if they live in formal housing). We suppose  $X$  is a vector of explanatory variables and  $\pi = \Pr(Y = 1 | X)$  is the response/choice probability to be modeled. The form of the linear logistic model is as follows.

$$\text{Logit}(\pi) = \log(\pi/1 - \pi) = \alpha + \beta' X$$

where  $\alpha$  is the intercept parameter and  $\beta = (\beta_1, \dots, \beta_s)'$  is the vector of  $s$  slope parameters.

The logistic regression models predict the binary discrete response/choice data by the method of maximum likelihood. The analysis reports the odds ratio estimates along with parameter estimates and  $p$  values. The  $p$ -value associated with the independent variables is significant if  $p$  is less than 0.05, and we can conclude whether this independent variable significantly relates to the binary response/choice, after controlling for all the other independent variables. However, the significance or  $p$  values do not clarify whether the independent variables are positively or negatively related to the binary response/choice. The  $B$  coefficient can tell if the independent variable can improve or impede binary response/choice, and the extent to which the explanatory variables can differentiate the binary group (insecure vs. secure tenure), after controlling all the other independent variables. The column labeled  $\text{Exp}(B)$  is especially informative, as this is the odds that equals the probability migrants live in informal housing over the probability they do not live in informal housing.  $\text{Exp}(B)$  represents  $e^B$ , where  $e$  is a constant, called Euler's number.  $\text{Exp}(B)$  shows the degree to which the covariate, such as age, affects the odds. An increase in one unit on the covariate affects the odds by a multiple of  $\text{Exp}(B)$ . If you increase age by one unit, you would multiply the odds by the value of  $\text{Exp}(B)$  for age. The binary logistic regression can generate equations that predict the likelihood of outcomes, such as the probability of living in informal housing, from a set of predictors or covariates, such as individual and household characteristics in the hometown and destination. The logistic regression model is shown in the following ways, too.

$\text{Log}_e$  (odds that the migrant living in informal housing) =  $\beta_1 \times \text{covariate 1} + \beta_2 \times \text{covariate 2} + \dots \text{constant}$

The goodness-of-fit tests include the Hosmer-Lemeshow test for the binary response data. The logistic regression is preferable when the sample size is reasonably large.

### 2.3.2. Study Area, Data, and Variables

This empirical study predicts the probability of the migrants living in informal housing, from a set of covariates, such as individual and household characteristics in the hometown and destination. The study area covers mainland China without Hongkong, Macao, and Taiwan regions. Data is available in the 2017 Migrant Dynamics Monitoring Survey (MDMS) conducted and provided by the National Health Commission of China. Migrants are those who moved across the boundary of a county (*Xiàn*) or city (*Shì*) from the registered households and have stayed in their current destination for over one month. The data collection on basic residential committee units has adopted the probability proportional to size (PPS) sampling schemes from each sub-district or town at the city destination. The data set contains 87,821 migrant workers with rural origins but does not include the non-market housing behaviors, such as those having an involuntary residential choice of cost-free or subsidized housing (provided by governments, employers, workplaces, or relatives). The eligible 87,821 samples of migrants are breadwinners and need to choose to house in the formal and informal markets, excluding those who did not report employment sectors as in the dependent or precarious situations.

Migration is a self-perpetuating process over time, with each move creating additional social capital, and a self-reinforcing process of valuable experience and skills at the point of destination including housing market experience that would yield greater efficiency in finding lodging more rewarding and less costly. The NELM claims the micro-level family economy that maximizes the familial utility and mitigates the risks in imperfect markets. Migration is not without costs, risks, and uncertainties. The NELM claims that migration is driven by the imperfect markets for capital, futures, and insurance beyond the geographic differences in wages [17]. Rural households act collectively, sending out migrants to diversify income sources, generate savings, and minimize their familial risks. Keeping ownership of land assets in hometown helps to mitigate the risks of migration, but reduces the probability of permanent departure.

The variables such as land and homeownership are good measures of their household “physical capital”. According to Bourdieu in 1986 [45], rural land (as household physical capital) can present itself as “social capital”, made up of the social connection and membership in community organizations, *albeit* unable to become directly convertible into money, but still convertible, in certain conditions, into “economic capital” and can be “institutionalized” as rural welfare. The social tie to informal property rights at places of destination makes up a potential source of “social capital”, too, because this can provide the low-rent land to lower the costs of settlement in the city and increase familial savings. As stated by Bourdieu (1986: 249) [45], the existence of a network of connections is not a natural given, but is the “product of an endless effort at the institution”.

Therefore, as proposed in Hypotheses 1 and 2, we expect the hometown landed status (I, II, III, IV) to be a powerful predictor of rural migrants’ tenure security choice (secure vs. insecure; formal vs. informal) in the destination. Such land-use linkage between migrant-sending and -receiving places has (re) produced the hyper-growth, informality, and temporality of China’s informal settlements (urban village). In 87,821 rural migrant samples, 27.8% choose an insecure tenure in urban villages of destination. Keeping homestead in hometowns can predict the higher odds of choosing an insecure tenure in the urban villages of destination, therefore lower odds of permanent urban settlement (as shown in Table 1). Based on NELM, we can derive the measures of this physical and social capital [45] in the tenurial arrangement in this circular trip. In the urban village, migrants can purchase the “small property housing” built and sold by villagers. This home-occupation is another form of rentiership in a long-term form, with village-issued documentation but still op-

posed to the legally built normal properties with legal titles of ownership [35]. The analysis conducts the regression later to attest the Hypotheses 1 and 2.

**Table 1.** Migrants' tenure arrangement matrix between rural origins and urban destinations.

Tenure in Rural Origins	Tenure Choices in Urban Destinations (Secure or Insecure?)		Total%
	Urban Private Market%	Urban Villages%	
(I) Holding both farmland and homestead	45.8	51.9	47.5
(II) Farmland only	7.5	6.1	7.1
(III) Homestead only	22.8	26.0	23.7
(IV) Land loss	23.9	16.1	21.7
Total	100.0	100.0	100.0

Data source: MDMS, 2017.

### 2.3.3. Results

The binary logistic regression is used to test the probability of rural migrants presenting in the insecure tenure in destination (urban village). We hypothesize that the hometown landholders are more likely to be floaters in the informal settlement of destination, whereas land losers prefer a more stable settlement in cities such as urban formal communities. The former signifies a circular migration, whereas the latter points to a stronger tendency for permanent migration. The regression model is highly significant ( $p < 0.001$ ). The moderate level of the Nagelkerke *R Square* value (0.234) and the satisfactorily high value of predicted percentage correct (76.2%) show that this model can distinguish successfully between rural migrants who choose the informal settlement with insecure tenure in the destination or not (Table 2).

**Table 2.** Logistic regress on the rural migrants' tenure security choices in urban destinations.

Predictors	Tenure Insecurity in Destination (Ref = Formal Private Market)		
	<i>B</i>	<i>SE</i>	<i>Exp(β)</i>
<b>Household profile</b>			
Age	−0.011 ***	0.001	0.989
Gender (ref = female)	0.028	0.018	1.029
Marriage (ref = unmarried)	−0.082 ***	0.030	0.921
Education level (ref = college and higher)			
Primary and below	0.942 ***	0.041	2.566
Junior secondary	0.809 ***	0.036	2.245
Senior/technical secondary	0.447 ***	0.037	1.564
Logged familial income (annual)	−1.195 ***	0.042	0.303
<b>Employment in the urban destination</b>			
Occupation (ref = blue collar)			
Cadre, manager or head	−0.439 **	0.209	0.644
Technician/professional	−0.298 ***	0.041	0.742
Staff/clerk	−0.353 ***	0.107	0.702
Service worker	−0.460 ***	0.027	0.631
Agricultural worker	−0.080	0.098	0.923
Other	−0.286 ***	0.042	0.752
Industry (ref = labour-intensive manufacturing)			
Primary industry	−0.017	0.079	0.983

Table 2. Cont.

Predictors	Tenure Insecurity in Destination (Ref = Formal Private Market)		
	B	SE	Exp( $\beta$ )
Non-manufacturing in secondary industry	−0.083 **	0.038	0.920
Capital-intensive manufacturing	0.057	0.052	1.058
Skill-intensive manufacturing	−0.124 ***	0.046	0.883
Other types of manufacturing	0.343 ***	0.040	1.409
Producer services	−0.334 ***	0.038	0.716
Public services	−0.218 ***	0.051	0.804
Consumer services	−0.294 ***	0.029	0.745
Employer type (ref = privately owned/joint stock)			
State-owned	−0.299 ***	0.048	0.741
Collective-owned	0.081	0.087	1.085
Foreign-invested/joint venture	−0.280 ***	0.049	0.756
Family or individually owned	−0.142 ***	0.028	0.868
Non-profit organization	−0.069	0.187	0.933
Other	0.285 ***	0.033	1.329
Employment status (ref = stable employees)			
Temporary employees (no contract)	−0.057 *	0.034	0.945
Employer	−0.156 ***	0.045	0.855
Self-running	0.117 ***	0.028	1.124
Other	−0.031	0.065	0.970
<b>Migration status</b>			
Household size in the urban destination	0.015 *	0.009	1.015
Inter- or intra-provincial migration (ref = intra-provincial)	0.401 ***	0.019	1.493
Place of origin (ref = East China)			
North-eastern region	0.439 ***	0.054	1.551
North-western region	0.517 ***	0.042	1.676
North China	0.160 ***	0.039	1.174
Central China	0.388 ***	0.029	1.474
South China	0.955 ***	0.047	2.598
South-western region	0.620 ***	0.031	1.859
Destination (ref = East China)			
North-eastern region	−0.982 ***	0.056	0.375
North-western region	−1.158 ***	0.038	0.314
North China	0.101 ***	0.033	1.106
Central China	−1.216 ***	0.042	0.296
South China	−0.692 ***	0.038	0.501
South-western region	−1.463 ***	0.037	0.231
Second generation of rural migrants (ref = no)	−0.016	0.022	0.984
<b>Housing pressure in the urban destination</b>			
Housing expense-to-income ratio	−3.424 ***	0.083	0.033
<b>Landed status in the hometown (ref = land loss)</b>			
Holding both farmland and homestead	0.412 ***	0.024	1.510
Homestead only	0.415 ***	0.026	1.514
Farmland only	0.108 ***	0.039	1.115
Constant	3.846 ***	0.170	
N	87,821		
df	50		
$\lambda^2$	15,520.703 ***		
−2 Log Likelihood	88,190.919		
Nagelkerke $R^2$	0.234		
Percent correctly classified	76.2		

Note: Significant at \* 0.1; \*\* 0.05; \*\*\* 0.01 level; Data source: MDMS, 2017.

Results support Hypotheses 1 and 2. Exp( $\beta$ ) value is the odds ratio (OR) for each explanatory variable. As listed in Table 2, hometown landholders, compared to land-

loss counterparts (ref), are more likely to choose the insecure tenure in an urban village (OR = 1.510 for those holding both farmland and homestead, 1.514 for those holding mere homestead, and 1.115 for those holding mere farmland), controlling for all other factors.

The homestead in hometown is a stronger pulling factor than farmland to “glue” rural migrants together within the two “villages” (instead of rural and urban that are two extremes of an urbanizing gradient) between migrant-sending and -receiving areas, as OR values for homestead holdings (1.514) are higher than that for mere farmland holding (1.115).

This study uses the “housing expense-to-income ratio” (i.e., the ratio of monthly household housing expenses to the monthly household revenues) to measure the migrant housing stress in the urban destination. Housing stress is the major impetus for choosing the informal settlements of destination ( $B = -3.424$ , OR = 0.033), as the most powerful predictor (stronger than income variable) of tenure security choices in all the explanatory variables. This shows that, to some extent, informal property rights are likely to be a voluntary choice of migrants, different from the scholars’ conventional thesis that China’s dual system was the “opportunities for discrimination” [46] against rural migrants.

In the household profile, rural migrants who are younger, single, poorly educated, and low earned are more likely to choose the informal settlements, controlling for all other factors. In the employment status at the destination, blue workers (especially in labor-intensive and other types of manufacturing) and those in more flexible employment and self-running business are more likely to stay in the informal settlements.

Inter-provincial migration and larger family size co-living in the urban destination (see the household size in the urban destination in Table 2) report the higher odds of choosing the insecure tenure, too. Migrants from South China, and towards North China, have reported the highest likelihood of staying in the informal settlements, compared to East China (ref), when controlling for all other factors.

### 3. Discussion

#### 3.1. “Land as Insurance” and Security as Land-Use Criteria against Risks of Economic Fluctuation

There is a never-ending debate as to the protection for tenure security of socially based collective property *versus* how far rural land should be a marketable commodity [47]. In this research, security is social welfare, not title formality. Security of tenure itself is a good thing, not because doing so aids production. The perspective of welfare and utilitarianism (implicit in Bentham’s theory of property as “a basis of expectations”) may tell us that keeping the property is the institutionalization of feelings of security [48,49]. The stability of such expectation is useful during migration, and undermining this basis is itself a bad thing because of the loss of the sense of security that property provides. In the migrant-sending places, the improvement of security of rural land possession is a response to sustainable urbanization goals—not only giving the real estate legal and economic security to the peasantry but also permitting the rural migrants to straddle between their origins and destinations, associated with the possibility of return migration. Rural migrants, including those who settle in cities, would not give up their rural *hukou* because of landed benefits associated with rural *hukou* [30]. However, secured land contract rights coupled with inefficient land transfer systems will contribute to an increasing number of “amphibious” landholders—former rural residents who permanently settle in cities holding land and property rights in both the city and the countryside, resulting in under-use or even abandonment of farmland and rural homestead [50].

We have elaborated this delicate land institution design that allows the under-use and migrants’ persistent occupations of their privately used homeland. Such a rural land insurance regime allows the rural-urban migrants to behave strategically in the rural tenure system, protecting their exclusive property rights. This landownership regime accommodates multiple activities (including suboptimal ones) and can raise another land-use and policy-making criterion from the perspective of the multi-site choices and collective actions by migrant groups. For a long history, studies on the informal settlements (of migrant-receiving places) and hollowed villages (of migrant-sending places) in the rapidly

urbanizing countries have focused on their conditions for suboptimal or inefficient use of lands. Some collectively owned resources will remain overused or idle with positive marginal productivity.

Our analysis of the incomplete urbanization and circular migration has questioned the optimal land-use criterion that if the dollar value of lands of action exceeds its alternatives, the land-use action is economically efficient. Hernando de Soto called the informal property “dead capital”, as informal property cannot readily be turned into capital or used as an investment tool. According to De Soto (2000: 47): “any asset whose economic and social aspects are not fixed in a formal property system is extremely hard to move in the market” [2]. The economic returns from the market are an optimal land-use criterion that is widely acknowledged in the market environment. In reality, informal markets can function effectively in developing countries. *Albeit* suboptimal, the family- and community-based property in rural origins can, to some extent, overcome the uncertainties during migration, and interact with the possibilities of urban settlements, rural returns, or amphibious landholdings. The regression results support the hypotheses on the micro-level family economy based on the NELM. The circulation within the two “villages” between migrant-sending and -receiving places is likely to be a voluntary choice of rural migrants—they are using and devising this mega dual system to maximize familial utility through geographic diversification of productive resources and social assets. Homestead in hometown is a valuable asset that needs protection.

Hollowed villages (of migrant-sending places) and informal settlements (of migrant-receiving places) are the important research topics on the land under-use problems in the previous studies. For instance, Long et al. elaborated on the empirical study on Huantai county in Shandong province, wherein the failures to engage with local actors had led to the protests against the top-down policy of demolition of unused rural housing land in the hollowed villages [51]. As explained, the rural-urban migration and rural depopulation continue, and more and more disused housing land appears in rural communities, but neither rural migrants nor farmers are keen to release the properties that they have vacated in the home village. One concern is the security issue. Those taking up non-agricultural jobs are reluctant to give up their hometown rural lands because of the perceived insecurity of urban employment and the inadequacies of social welfare provision in the destinations. Our empirical studies on rural migrants’ preference for insecure tenure in urban destinations have further proved that individual decision-making is a critical factor in driving and addressing the land under-use phenomena (village-hollowing and informal settlements). The top-down settlement rationalization policy is not necessarily rational for the bottom-up strategies of individual migrants.

### *3.2. Informal Housing as the Community Property in a Mobile Society, beyond the Binary Definition of Secure vs. Insecure*

The statistics in different countries consider various ways of classifying and registering “common land”. According to Kocur-Bera in 2021 [52], common land in Latvia is all attributed to agricultural holdings as the rented or allotted area, like the Chinese context; but in Spain, Italy, Hungary, Poland, Iceland, and Serbia, other types of common land exist at regional levels in Europe. In this study, migrants’ hometown tenure arrangement in rural origins signals their keeping of agricultural land and homestead plot, as they hold the “common ownership” to the agricultural community in their hometown.

Migrants’ access to the common land in destinations also includes their access to lived spaces in a (peri-) urban village if they can take part in the common use of a group of village residents in the urban destination. The typical common land status of rural migrants’ housing acquisition in the destination can fall into informalities—complete lack of legal tenure security, or moderate security levels, but no formal title in self-built housing on rural lands, namely urban village. Why are the migrant tenants not concerned about the insecurity of their illegal properties without titles on such an immense scale of transaction

of illegal buildings (Table 1)? According to Oostrum in 2021 [53], the urban village in Asia embodies urban design principles and can respond to residents' needs.

We tentatively interpret from the perspective of New Economics of Labor Migration why the urban villages and their insecure property rights can survive and sustain. The migration and urbanization process is incomplete, away from the political risks of producing uprooted migrant groups. Is the conventional principle of clarity of rights and title formality most applicable to the informality phenomena? Would the formalization of illegal and inefficient property (hypothesized by the economist Hernando de Soto) become well-functioning and more inclusive? The answer is negative.

We can put more attention on the community property—as a territory between the state, market, and communities/families/individuals. Figure 1. has shown the urban villages as peri-urban mosaics in the Chinese metropolises that play a positive role in rural-urban circular migration. However, the particular “bundle-of-rights metaphors” of migrants' tenure choice have varied between urban villages, leading to the heterogeneous assemblages of property rights at a community level. Informal community is also a social and psychological space, and a space of services, building cultural connections and social organizations that can connect the migrant tenants to both their original and current places [36,37]. Recent acts that enable the rural land transaction in the market (confined to collective operating construction lands) should take into consideration the “full dimensions” of the rural land-use, rather than the old optimal land-use criterion in their highest economic efficiency. We should not mistake vibrancy and flexibility for optimality. Tenure rights have multiple definitions for the migrants on the move. How much security of tenure is enough for the people in the different migratory or settlement status? This is not a binary choice between nothing and full rights. Community property can accommodate multiple forms of property rights, including the customary rights in the community, the ownership rights, use rights, and leasehold rights that can provide people with different levels of security of tenure that is sufficient for their needs. Hernando de Soto in his 2000 book *The Mystery of Capital* proposed that the legalization of informal land assets is helpful to reducing poverty [2]. However, this is conditional on the multi-site status of the households on the move. As revealed in our study, in the trans-local migratory networks and semi-urbanizing dynamics, the pro-migrant tenure legal designs are often absent, because of the “localized” property laws and land use regulations. Informal land use and settlements in the community play prominent roles to shelter the rural migrant workers. As pointed out by Otto [54], tenure formalization on the contrary can drive up prices, stimulate land speculation, and push the poor out to the periphery. We will elaborate on the informal settlement upgrading in the next section, in a prevailing neo-liberal ideology of market-led growth.

### *3.3. Informal Settlements Upgrading in the Chinese Metropolises, but Still in a Top-Down Dominated Approach*

The vast rural areas are a mega land system to provide affordable living and entrepreneurial spaces to millions of rural migrant workers. If some urban villages disappeared in the demolition, more peri-urban villages would enter this informal housing market. The location and distribution of urban villages (as a gradient of incomplete urbanization influence) are not only the product of the urbanization processes, but are also determined by the power relations between the migrants and city governance. Most times (Figure 2), rural migrants' tenancy ends with demolitions, thus living in a state of flux [55]. The debates on the urban village demolition focus on the benefits of spatial upgrading in the globalizing cities, rather than the housing needs and tenancy rights of migrant workers. Such urban village demolition has led to the dislocation of migrant tenants without the respondent resettlement measures. As a result, some famous urban villages (e.g., *zhejiangcun*) in Beijing have disappeared, and the dislocated migrants flocked to the villages in the outer suburbs.



**Figure 2.** Urban village demolition and redevelopment to intensify and upgrade the urban land-uses (a,b): Tangjialing Urban Village pre- and post-redevelopment in Haidian, Beijing; (c,d): Xi'An Village pre- and post-redevelopment in Tianhe, Guangzhou; field trip by authors.

On the one hand, the urban village demolition is justified on the grounds of their “informality” and “illegality”, such as the substandard housing, informal businesses, highly competitive petty services, and insanitary amenities. The hyper-growth of urban villages has gone out of control and become a prominent concern for local governance because of years of poor management of the rural-urban fringes. For instance, urban villages in Beijing are the main area to supervise, prevent occurrences of gas poisoning, fire, and crime, maintain social security, provide services, and collect information about migrant workers. However, few studies have investigated how the migrant workers have reproduced their informal settlements after being dispersed away from their demolished informal habitats, through both the “formalized” urbanization processes and the informal mechanisms.

A top-down approach still dominates the urban village redevelopment (see Figure 2 in the government-dominated redevelopment and resettlement scheme,  $a \rightarrow b$ ,  $c \rightarrow d$ ). The urban village demolition has attempted to solve the rural-urban divide in land use development which has created informal settlements including the construction of illegal rented housing, to create “more governable spaces” [55], but failed to tackle the high demand for “unregulated living and working space” for rural-urban migrant workers.

In the state-dominated redevelopment mode, local governments and developers can expropriate rural land and convert it into urban lands that are state-owned. However, Shuiwei village redevelopment in Shenzhen offered a new government-backed method to use some informal operations to strengthen the “perceived tenure security” and upgrade the spatial quality of the informal property to better fit into the local government agenda [56]. Such an alternative approach to regenerating urban villages can preserve the collective land ownership in the agricultural communities and may inspire the new policy practices

concerning how to keep low-rental space for low-wage rural migrants in the metropolises. Our discussion raises the significant role of a systematic collectively owned land system that straddles the rural origins and urban destinations to support forms of the multi-site and flexibility in tenure choices during a rural-urban circular migration. Therefore, keeping urban villages as a gradient of incomplete urbanization influence should be a priority in policy-making to support a sustainable urbanization mode in the transitional economies. Preserving informal settlements is beyond De Soto's land registration and formalization program [2]. De Soto's proposal more fits into the context with clear land rights claims. However, in developing countries, informal settlements (like China's urban villages) are full of conflicting and overlapping claims to land by local governments, communities, and outside users. The informal land-use regime is more effective in these concrete situations (e.g., on the side of migrants' rights to land). Otto [54] pointed out that one of the main problems with De Soto's strategy is that he overlooked the multiple-use rights phenomenon on one plot of land, especially secondary rights of vulnerable groups including the migrant tenants in urban villages and other disadvantaged populations.

#### 4. Conclusions

This research tentatively reveals the complexity of the rural property system in transitional China, concerning the interaction between rural land-uses and rural-urban migration between migrant-sending and -receiving places in China. Why is tenure security not that important for migrant tenants in urban destinations? We borrow the New Economics of Labor Migration (NELM) to interpret the migrant multi-site land-use strategies and their ignoring of insecure tenure in the informal settlements. The suboptimal and extralegal rural land-uses are components of a unified interpretative framework that regards the migrants' tenure choice as the "bundle-of-rights metaphors" linking village home and city place. In rural origins, rural-urban migrants can strategically behave in a rural tenure system, protecting their exclusive property rights in the hometown. Lands act as insurance, promoting rural-urban migration in China. In urban destinations, the rural migrants may choose the rural communities, again, through the local informal housing markets, *albeit* extralegal and suboptimal. This rural-urban migration, however, results in under-use or even abandonment of farmland and homestead in their hometown [47], as well as the informal settlements (e.g., urban village) in destination [36,37]—both of them are suboptimal. The latter makes up the semi-urbanizing landscapes in the Chinese metropolises.

We expect ties to (a) *hometown lands for welfare* and (b) *informal property rights at places of destination* for familial utility maximization to be important in interpreting and predicting the circular migration between the two "villages" between migrant-sending and -receiving places. The temporary stay in the informal settlements is likely to be a voluntary choice of rural migrants. As proved in regression analysis (Table 2), hometown landholders, compared to land-loss counterparts, are more likely to choose an insecure tenure in the rural community. Homestead in hometown is a stronger pulling factor than the farmland to "glue" rural migrants together within the two "villages" between migrant-sending and receiving places. Losing homestead is a powerful motivation for a more permanent stay in the city.

The micro-level family economy based on the New Economics of Labor Migration (NELM) can explain the migrants' tenure choices within the mega rural-urban dual system in China. Our research has highlighted and attested the fluidity and flexibility of property relations during the rural-urban circulatory migration in transitional China. First, migration is a mobile world, and we should start with the fact of fluidity, flexibility, and amphibiousness, to avoid the error of seeing urbanization as a fixity (such as policy advocates for a permanent urban settlement). Second, in discussion parts, this article goes further to justify the persistence of the so-called informal property rights in destinations, since the migrant tenants are not concerned about the insecurity of their illegal properties without titles. Third, through the lens of NELM, we prove the necessity of an alternative land-use criterion for insurance, security, and inclusiveness that is more pragmatic in the settings of

economic fluctuation and transitional economies. Fourth, recent acts in the 2021 Land Management Law in China should take into consideration the “full dimensions” of collectively owned lands of agricultural communities (e.g., social, psychological, cultural, and organizational), since the particular “bundle-of-rights metaphors” vary between villages. This study also contributes more insights into the hollowed village problems in China. We can give more attention to individual decision-making and bottom-up initiatives in driving and addressing the rural land under-use problems. In addition, we elaborate on the role of community property in addressing migrant housing poverty. The community property can accommodate multiple forms of property rights, including the customary rights, ownership rights, use rights, and leasehold rights that can provide people with different levels of security of tenure that is sufficient for their needs. The multiple-use rights on one plot of land are of great importance to accommodate the secondary rights of vulnerable groups, including the migrants. Hernando de Soto’s legalization of informal land assets is not necessarily pro-migrants (in a multi-site status) and may push the poor out to the periphery. This research did not go further to examine the specific institutional design and functioning of the community property institution (on a community scale) that can accommodate the migrants’ housing needs. Community property conforms to the customary rights within a community, performs spontaneously, and can function in a *quasi*-market pattern. We can conduct more research to look into its institutional design in different contexts, including that in transitional China.

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