sustainability

MDPI

Article

The Effect of Urban Experience on the Settlement Intention of Rural Migrants: Evidence from China

Chengkui Liu [1,2], Feirong Ren [1,*] and Zengzeng Fan [3,*]

[1] Economics and Management School, Wuhan University, Wuhan 430072, China; lck518@163.com
[2] The Centre of Finance Research, Wuhan University, Wuhan 430072, China
[3] Business School, Zhengzhou University, Zhengzhou 450001, China
* Correspondence: 2011300040152@whu.edu.cn (F.R.); fanzengzeng@zzu.edu.cn (Z.F.); Tel.: +86-159-0712-0331 (F.R.)

Abstract: Urban experience can increase the ability of rural migrants to integrate into cities, thereby enhancing their settlement intentions. This paper empirically supports these findings using data from the China Migrants Dynamic Survey (CMDS). The mechanism analysis finds that urban experience promotes economic survival skills and adaptive capacity among rural migrants and enhances their willingness to settle in cities. It has significantly increased the labor market income, social activity, and interpersonal interaction of rural migrants. Compared with other cities, the urban experience of rural migrants who move to first-tier cities in their first migration significantly impacts their willingness to settle in cities. Finally, further discussion finds that the impact of urban experience on rural migrants' settlement intention is nonlinear, with an inverted U-shaped curve. These findings can help local governments in China improve the integration ability and willingness of rural migrants to settle in cities through measures such as optimizing household registration and improving the social security system. They can also provide lessons for urbanization development in other countries.

Keywords: urban experience; settlement intention; economic integration; social integration; psychological integration

check for updates

Citation: Liu, C.; Ren, F.; Fan, Z. The Effect of Urban Experience on the Settlement Intention of Rural Migrants: Evidence from China. *Sustainability* **2024**, *16*, 5671. https://doi.org/10.3390/su16135671

Academic Editor: David Lopez-Carr

Received: 18 April 2024
Revised: 12 June 2024
Accepted: 28 June 2024
Published: 3 July 2024

Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Urbanization is driving a growing number of rural residents to cities. By 2023, there were 297.53 million rural migrants in the urban areas. Rural-to-urban migration on this scale has enhanced the spatial allocation of labor and driven China's rapid economic growth [1]. However, many rural migrants are systematically excluded from urban welfare systems and marginalized in Chinese urban society [2]. This marginalization and exclusion make it difficult for rural migrants to settle in cities permanently. Therefore, overcoming marginalization is crucial for their permanent settlement.

In general, four factors affect the settlement: factors from the origin, factors from the destination, the relation between origin and destination, and rural migrants' factors [3]. The push–pull theory from Lee (1966) [4] suggests that the push factors from the origin and the pull factors from the cities promote the migration of rural workers to urban areas [5,6]. Many studies have also emphasized the importance of the relationship between the origin and the destination: cultural disparities, language isolation, and geographical distance between the origin and the destination [7–9]. Finally, among the rural migrants' factors, the research found that being married, higher levels of educational attainment, occupational status, income, family migration, housing availability, and residence stability in the host city can boost migrants' long-term and permanent settlement intention [6].

Although a growing body of literature focuses on the factors that affect the settlement of rural migrants, the existing literature rarely mentions the relationship between the spillover of human capital in cities and the settlement intention of rural migrants. Some of the literature argues that working in cities enhances workers' human capital accumulation,

and where workers acquire experience matters more than where they use it [10,11]. Meanwhile, urban integration capabilities significantly influence rural migrants' willingness to settle down. More experienced and knowledgeable migrants were more likely to obtain suitable and stable occupations, which increased their ability to integrate into current urban settlements [12]. Tang and Feng (2015) also found that the educational attainment of rural migrants was positively related to the desire to settle in the urban areas [13]. In the existing literature, little is known about how far the urban integration capabilities of rural migrants should be developed for urban experience to induce a significant impact on settlement intention.

This paper concentrates on the urban experience of rural migrants and seeks to answer the following questions: Is urban experience more beneficial to the current settlement of rural-urban migrants? For the empirical analysis, the paper attempts to combine urban experience with settlement intentions and empirically test the impact of urban experience on the settlement intentions of rural migrants, using the 2007 China Migrants Dynamics Survey. The empirical results show that urban experience significantly increases the willingness of rural migrants to settle in cities. In particular, the impact of urban experience on settlement intentions is more substantial for rural migrants who have completed less than a college degree and previously moved less frequently.

In contrast to the previous literature, the marginal contributions of this paper are mainly in the following three aspects. First, the paper provides a valuable addition to existing research by analyzing the impact of urban experience on settlement intentions from the spillover of human capital in cities. Second, the paper offers an in-depth analysis of the mechanisms and heterogeneity of the effect of urban experience on the settlement intentions of rural migrants. Third, further discussion finds that the settlement intentions are not proportional to the urban experience of rural migrants, which means a nonlinear relationship exists between urban experience and settlement intentions. All the results show that urban experience contributes to the sustainable development of urbanization.

2. Urban Experience, Urban Integration Capabilities, and the Settlement Intention

In this section, the paper starts with a discussion of two potential channels through which urban experience could affect the settlement intention of rural migrants.

According to Liang (2016) [14], urban integration capabilities could be divided into economic survival skills and adaptive capacity. Several studies have examined the separate effects of cities and part dimensions of urban integration capabilities on the settlement intention of rural migrants [6,15,16]. Rural-urban migration in less developed countries depends on the difference in expected wage from migration versus an agricultural wage [17,18]. For example, Biswas et al. (2019) [16] used the Urban Health Survey (UHS) 2013 to ascertain the reasons for urban migration in large divisional cities in Bangladesh, which suggested that more jobs, better income, or transfer in services from cities might contribute to their motivation for moving to the city. Additionally, Hosnedlova (2017) [15] suggests that the social integration of immigrants can significantly affect their settlement intentions.

On the contrary, the literature on the potential relationship between the cities and these determinants of urban integration capabilities is surprisingly scant. A few exceptions to this generalization include studies about the effect of the urban experience on labor market returns. For example, rural migrants acquiring early urban experience would be beneficial in improving current labor market returns and increasing their economic survival skills in urban settlements [19]. However, it is noteworthy that despite being an essential aspect of the urban integration capabilities, the level of economic survival skills may not fully reflect the overall urban integration capabilities, which include adaptive capacity. A similar study on the complementarity between urban experience and specific aspects of urban integration capabilities examines how cities affect individuals' skills through interactions [10,11]. The following section will discuss two potential channels through which urban experience could affect the settlement intention of rural migrants.

The economic survival skills channel: Rural migrants must possess the ability to survive in the city and transition from rural to urban areas. Improving survival skills helps rural migrants meet their needs, increasing individual utility and welfare and ultimately enhancing their willingness to settle in urban areas. Therefore, the better the economic survival skills of rural migrants are, the more likely they are to settle in cities. As the center of resource concentration and economic development, the city can accelerate rural migrants' skill acquisition and human capital accumulation [10,11,20], which improves their subsequent employment performance and labor market earnings [19]. Therefore, the urban experience of rural migrants helps perpetuate a high level of economic survival skills.

The adaptive capacity channel: Due to faster learning in cities, urban experiences facilitate knowledge exchange among rural migrants and develop their non-cognitive abilities [10,11,19,20]. Meanwhile, some of the literature has noted that superior non-cognitive abilities can encourage rural migrants to expand social networks and actively participate in urban social life [21,22]. As a result, the spillover of human capital in cities is expected to improve the adaptive capacity of rural migrants when they acquire the urban experience.

The two potential channels between urban experience and the settlement intention suggest that urban experience could affect the settlement intention of rural migrants through their urban integration capabilities: economic survival skills and adaptive capacity. Given the absence of any empirical study on this topic, the present paper aims to address this gap in the literature by studying, in the case of China, the extent to which urban experience affects the settlement intention of rural migrants.

3. Data and Methodology

3.1. Methodology

This paper estimates the effect of urban experience on the settlement intention of rural migrants. The explained variable is the intention of rural migrants to settle in the city, with a dummy variable equal to 1 if the rural migrant expects to settle permanently in the city and 0 otherwise. The model (1) estimates the probability that rural migrants are willing to settle into cities. Therefore, the probit model is used for the empirical analysis.

The model is as follows:

$$P\left(\text{Settlement}_{ij} = 1 \middle| \text{City}_i, X_i\right) = F\left(b_0 + b_1\text{City}_i + b_2X_i + h_j + e_i\right) \quad (1)$$

In the model, the City is the urban experience, represented by the cumulative time since rural migrants first left their hometowns up to the present, without considering their movements between different cities during this period. X is a vector of control variables, including individual, household, and migration characteristics. Finally, h is a fixed effect of the inflow city and e is a random error term. The subscripts i and j refer to the rural migrant and the destination city of the rural migrant, respectively.

3.2. Data Sources and Sample Selection

The paper empirically analyzes the impact of urban experience on rural migrants' willingness to settle in cities using the 2017 China Migrants Dynamics Survey (CMDS). The survey, conducted by the National Health Commission of China P.R., collected information on household membership, income, spending, employment, health services, and intention to settle. Respondents were migrants aged 15 or older who had been living in their destination for more than one month.

The potential mechanism explored in this paper is the impact of the spillover of urban human capital on the urban integration capabilities of rural migrants, which examines how cities affect individuals' skills through interacting with one another when working in cities [9,10]. Therefore, the analysis restricted the sample to those with rural household registration who had moved for work and business.

After eliminating some samples with missing information, the paper ends up with a sample size of 112,709 rural migrants in 345 cities.

3.3. Variable Descriptions

3.3.1. Dependent Variable

The dependent variable in the paper is the intention of rural migrants to settle. The dependent variable is constructed based on the answers to the following two questions. The first question is whether rural migrants plan to stay in their destination in the future, with answer options: (1) yes, (2) no, (3) not sure. The second question is how long do rural migrants want to stay if they plan to stay there, with answer options: (1) 1–2 years; (2) 3–5 years; (3) 6–10 years; (4) more than 10 years; (5) settlement; (6) not sure. The dummy variable is equal to 1 if rural migrants answered the first question with option (1) and simultaneously answered the second question with options (3), (4), and (5), and 0 otherwise.

3.3.2. Independent Variable

The independent variable is the urban experience of rural migrants. The urban experience uses the cumulative years rural migrants have spent in cities as a proxy for urban experience. This proxy allows an analysis of the marginal impact of urban experience.

3.3.3. Mechanism Variables

The mechanism variables include the following two aspects: economic survival skills and adaptive capacity. The first is economic survival skills, which use labor market income as a proxy. The second is adaptive capacity, which mainly refers to the social interactions of rural migrants in their destinations. The following two variables are used to measure adaptive capacity: social activity and interpersonal interactions.

3.3.4. Control Variables

The control variables consist mainly of individual, household, and migration characteristics that affect the settlement intentions of rural migrants. Individual characteristics include demographic and employment characteristics such as gender, age, marriage, health, education, and employment. Household characteristics include the number of household members living together in the destination, monthly household income, home ownership, rural residential land, land contract rights, and rural living difficulties. Migration characteristics include the range and distance of migration. In addition, the fixed effects of occupation, industry, and destination city are controlled. Table 1 shows the definitions of the variables used in the empirical analysis.

Table 1. Variable definition.

Variables	Variable Definition
Settlement	1 = Permanent settlement intention in cities; 0 = Otherwise
City	Urban experience = the cumulative number of years rural migrants have been in cities
Labor market income	Ln (Monthly wage income)
Social activity	The number of social organizations in which rural migrants participate, including labor unions, volunteer associations, fellow-students associations, fellow townspeople associations, hometown chambers of commerce, and other organizations
Interpersonal interaction	1 = Yes; 0 = No: Whether rural migrants interact with others than customers and relatives
Gender	1 = Male; 0 = Female
Age	Age of rural migrants in the survey year
Marriage	1 = Married; 0 = Otherwise
Health	1 = Unable to take care of themselves; 2 = Unhealthy, but can take care of themselves; 3 = Basically healthy; 4 = Healthy
Education	1 = Never been to school; 6 = elementary school; 9 = junior high school; 12 = high school/technical secondary school; 15 = College; 16 = bachelor degree; 19 = postgraduate and above

Table 1. *Cont.*

Variables	Variable Definition
Employment	1 = Working in government departments, public institutions, state-owned, state-holding, and collectively-owned enterprises; 0 = Otherwise
Family size	The number of household members living together in the destination city
Monthly household income	Ln (Average monthly total income of the household)
Home ownership	1 = Have home-ownership; 0 = Otherwise
Rural residential land	1 = Have their own house in the countryside; 0 = Otherwise
Land contract rights	1 = Have land contract right in the countryside; 0 = Otherwise
Living difficulties	1 = Have living difficulties in the countryside; 0 = Otherwise
Range	1 = Interprovincial mobility; 0 = mobility within province
Distance	Ln (the straight-line distance calculated by the latitude and longitude of the inflow and the domicile)

3.3.5. Summary Statistics

Table 2 reports summary statistics for all variables. Only 36.9% of rural migrants in the sample were willing to settle in the city where they currently live, while 63.1% chose to continue moving or stay for a short period. Overall, many rural migrants have no intention of settling in cities.

Table 2. Summary statistics.

Variables	Sample Size	Mean	Std. Dev.	Min	Max
Settlement	112,709	0.369	0.483	0	1
City	112,709	11.29	7.812	0.167	66.08
Labor market income	101,879	8.081	1.007	0	12.21
Social activity	112,709	0.695	0.992	0	6
Interpersonal interactions	112,708	0.771	0.420	0	1
Gender	112,709	0.573	0.495	0	1
Age	112,709	36.41	10.04	15	93
Marriage	112,709	0.828	0.377	0	1
Health	112,709	3.811	0.444	1	4
Education	112,709	9.594	3.029	1	19
Employment	102,152	0.0602	0.238	0	1
Family size	112,709	2.641	1.212	1	10
Monthly household income	112,643	8.639	0.678	0	12.21
Home ownership	112,709	0.210	0.407	0	1
Rural residential land	112,709	0.709	0.454	0	1
Land contract rights	112,709	0.550	0.497	0	1
Living difficulties	112,709	0.574	0.494	0	1
Range	112,709	0.526	0.499	0	1
Distance	112,709	5.648	1.353	0	8.298

4. Empirical Results

4.1. Baseline Regression Results

Table 3 suggests baseline regression results showing the effect of urban experience on the intention of rural migrants to settle. Columns (1) and (2) in Table 3 show the results of regression coefficients and marginal effects considering only the urban experience. Meanwhile, columns (3) and (4) in Table 3 show the results of regression coefficients and marginal effects controlling individual, household, and migration characteristics. The results show that the urban experience of rural migrants can significantly enhance their settlement intentions, and their willingness to settle in cities increases with the cumulative years that rural migrants have spent in cities.

Table 3. Baseline regression results.

Dependent Variable	**Settlement**			
	(1) Regression Coefficient	(2) Marginal Effects	(3) Regression Coefficient	(4) Marginal Effects
City	0.0266 ***	0.00920 ***	0.0227 ***	0.00693 ***
	(0.0005)	(0.0002)	(0.0007)	(0.0002)
Gender			−0.00273	−0.000834
			(0.0097)	(0.0030)
Age			0.0256 ***	0.00783 ***
			(0.0037)	(0.0011)
Age squared			−0.000318 ***	−0.0000973 ***
			(0.0000)	(0.0000)
Marriage			0.0191	0.00584
			(0.0165)	(0.0050)
Health			0.0642 ***	0.0196 ***
			(0.0117)	(0.0036)
Education			0.0428 ***	0.0131 ***
			(0.0019)	(0.0006)
Distance			−0.0713 ***	−0.0218 ***
			(0.0054)	(0.0016)
Range			−0.177 ***	−0.0539 ***
			(0.0143)	(0.0043)
Employment			0.140 ***	0.0427 ***
			(0.0203)	(0.0062)
Family size			0.146 ***	0.0445 ***
			(0.0045)	(0.0014)
Monthly household income			0.187 ***	0.0571 ***
			(0.0100)	(0.0030)
Home ownership			0.729 ***	0.223 ***
			(0.0124)	(0.0036)
Rural residential land			−0.154 ***	−0.0471 ***
			(0.0115)	(0.0035)
Land contract rights			0.000831	0.000254
			(0.0103)	(0.0031)
Living difficulties			−0.0126	−0.00384
			(0.0095)	(0.0029)
Occupation FE	NO	NO	YES	YES
Industry FE	NO	NO	YES	YES
Inflow-City FE	YES	YES	YES	YES
Pseudo R^2	0.077	0.077	0.174	0.174
N	112,701	112,701	97,058	97,058

Notes: (1) The standard errors are reported in parentheses under the estimated coefficients; (2) ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively; (3) The regression model uses robust standard error.

Furthermore, the result of column (4) in Table 3 shows that when controlling for individual, household, and migration characteristics, the marginal effect of the urban experience of rural migrants is 0.00693, which means that for each additional year of urban experience, the probability of intending to settle in the city increases by 0.693%. In general, the richer the urban experience of rural migrants is, the more inclined they are to settle in cities.

The results in columns (3) and (4) of Table 3 also report the effect of individual, household, and migration characteristics on the settlement intentions of rural migrants. First, the impact of age on the settlement intentions of rural migrants shows an inverted U shape. At a young age, rural migrants strongly desire urban areas. They are more willing to leave their rural hometowns and seek work in cities. While in their middle and old age, rural migrants are influenced more by traditional ideas. Like fallen leaves returning to their roots, they prefer to return to their hometowns and settle there. Second, rural migrants

with improved education are more willing to settle in urban areas, which is consistent with the existing literature results.

Third, the increasing number of household members living together at the destination has also significantly increased the willingness of rural migrants to settle in the city. Family reunification reduces rural migrants' attachment to their hometowns and helps enhance social integration into cities. Fourth, rural migrants who move across provinces have lower settlement intentions than those who move within provinces. Moreover, as the distance to emigrate increases, the settlement intentions of rural migrants gradually diminish.

In addition, higher household incomes, working in the public sector, and owning their own homes in cities have improved settlement intentions among rural migrants. These characteristics provide rural migrants with favorable economic conditions, stable employment, and an excellent living environment, which enhance the urban integration ability of rural migrants and improve their urban settlement intentions. Moreover, Table 3 also shows that land contract rights do not significantly affect the willingness of rural migrants to settle in cities. This result is consistent with existing research, which shows that the overall marketization of rural land transfers in China is low, and rural migrants benefit less from land contract rights transfers. As a result, the land still has a restraining effect on rural migrants.

4.2. Robustness Tests

4.2.1. Endogenous Tests

The baseline regression model may suffer from endogenous problems due to omitted variables and the sample selection. Therefore, an instrumental variable is used to overcome the potential endogeneity. The instrumental variable should correlate with the urban experience of rural migrants but not directly affect their current settlement intentions. Therefore, the paper uses the area of crops exposed to natural disasters at the registration location when rural migrants move to cities in their first migration as an instrumental variable for the urban experience. Natural disasters can reduce rural residents' agricultural income, affecting their emigration decisions. At the same time, the more severe the natural disaster is in a given year, the more rural residents move to urban areas to mitigate their income risk. Moreover, past disasters do not directly affect the current settlement intentions of rural migrants. Overall, the area of crops exposed to natural disasters theoretically satisfies the requirements of the instrumental variable.

Table 4 shows the regression results of the two-step instrumental variable probit model. To begin with, the Wald test of exogeneity in Column (1) of Table 4 provides evidence that urban experience is an endogenous variable. Weak instrumental tests based on the A.R. and Wald tests also suggest that the instrumental variable is valid. Moreover, the first stage results show that the area of crops exposed to natural disasters has a statistically significant positive effect on the urban experience of rural migrants. The second stage results also show that increasing the urban experience of rural migrants is beneficial in terms of their willingness to settle in cities. In summary, the urban experience can improve the desire of rural migrants to settle in cities, in agreement with the baseline regression results and further indicating robustness.

Table 4. Endogenous test.

Dependent Variable	**City**	**Settlement**
	(1) The First Stage	(2) The Second Stage
The area exposed to natural disasters	3.2320 *** (0.0263)	
City		0.0324 *** (0.0020)
Control variables	YES	YES

Table 4. *Cont.*

Dependent Variable	City	Settlement
Occupation FE	YES	YES
Industry FE	YES	YES
Inflow-City FE	YES	YES
Wald test of exogeneity	23.48 ***	
A.R. Test (Weak instrument robust test)	261.20 ***	
Wald Test (Weak instrument robust test)	262.84 ***	
R^2	0.420	
N	95,946	95,946

Notes: (1) The area of crops exposed to natural disasters is 1000 Ha in units, and the regression in column (1) uses the natural logarithm value of the area exposed to natural disasters; (2) The standard errors are reported in parentheses under the estimated coefficients; (3) ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively.

4.2.2. Replacing the Sample Size and Variables

This section adjusts the sample size to exclude sample selection bias. Firstly, after excluding the sample of rural migrants who answered "Not Sure" when asked about their intention to settle, the result of column (1) in Table 5 shows that the urban experience still has a significant positive effect on the settlement intentions of rural migrants. Secondly, the paper has excluded samples of rural migrants who had been in their destination for less than one year. The result in column (2) of Table 5 reports that the urban experience still significantly improves the settlement intentions of rural migrants.

Table 5. Robustness checks.

Dependent Variable	Settlement			
	(1)	(2)	(3)	(4)
City	0.0232 ***	0.0230 ***	0.00524 ***	0.0259 ***
	(0.0009)	(0.0008)	(0.0007)	(0.0013)
Rural revitalization				−0.171 ***
				(0.0204)
City × Rural revitalization				−0.00494 ***
				(0.0014)
Control variables	YES	YES	YES	YES
Occupation FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Inflow-City FE	YES	YES	YES	YES
Pseudo R^2	0.238	0.159	0.098	0.166
N	59,576	79,629	96,978	88,870

Notes: (1) The regression model is the probit model; (2) The standard errors are reported in parentheses under the estimated coefficients; (3) ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively; (4) The regression model uses robust standard error.

In addition, the dependent variables are replaced for robustness testing. The new dependent variable is constructed based on the question: if rural migrants are eligible for the requirement, whether they are willing to move their household registration, with answer options: (1) yes, (2) no, and (3) not sure. The dummy variable equals 1 if rural migrants are willing to move their household registration and 0 otherwise. The result in column (3) of Table 5 shows that the urban experience has a significantly positive effect on the willingness of rural migrants to migrate their residence registration to cities, although the estimated coefficient of urban experience decreases. The result is consistent with the baseline regression results.

4.2.3. Rural Revitalization

The push–pull theory from Lee (1966) [4] suggests migration results from the negative incentives that push migrants out of rural areas. However, with the advancement in rural revitalization, more job opportunities have been created for rural laborers, significantly boosting nonagricultural employment and providing a strong incentive for rural migrants to return to their hometowns [23]. Therefore, rural revitalization might act as a counterforce to rural migrants' willingness to settle in cities.

To further verify the robustness of the conclusions, the paper controls for variables related to rural revitalization. Considering that the main focus of this paper is the impact of urban experience on rural migrants' willingness to settle in the city, the empirical analysis includes rural revitalization factors in the robustness checks to ensure the validity of the conclusions. The results in column (4) of Table 5 show that after controlling for public services in the hometown (such as whether the government in the household registration area provides social security), the urban experience still significantly impacts rural migrants' willingness to settle in the city. However, the results of the interaction term indicate that the government's rural development policy has a positive effect on arresting out-migration from rural areas.

5. Heterogeneity Tests

5.1. Education Level

The findings suggest that urban experience can enhance the willingness of rural migrants to settle in cities. However, the spillover of human capital in cities varies with education levels. While excluding samples of rural migrants who completed formal schooling after moving to the city, the regression results in Table 6 show that urban experience significantly affects the willingness to settle among rural migrants with a college degree or less. In contrast, the urban experience has a less significant effect on the intention to settle among rural migrants with a bachelor's degree or more. The impact of education may be more important than the effect of urban experience for rural migrants with a bachelor's degree or above.

Table 6. Heterogeneity test based on education level.

Dependent Variable	**Settlement**				
Education level	(1) Primary school and below	(2) Junior high school	(3) Senior high school	(4) Junior college	(5) Bachelor and above
City	0.0212 ***	0.0225 ***	0.0260 ***	0.0453 ***	−0.00168
	(0.0014)	(0.0010)	(0.0022)	(0.0080)	(0.0184)
Control variables	YES	YES	YES	YES	YES
Occupation FE	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES
Inflow-City FE	YES	YES	YES	YES	YES
Pseudo R^2	0.161	0.164	0.182	0.214	0.274
N	16,990	44,073	14,275	2918	945

Notes: (1) The regression model is the probit model; (2) The standard errors are reported in parentheses under the estimated coefficients; (3) ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively; (4) The regression model uses robust standard error.

5.2. Migration Experience

The urban experience provides additional opportunities for rural migrants to interact with each other, gain experience, and accelerate their accumulation of human capital. Migration experiences vary widely among rural migrants. In the sample of rural migrants moving from rural to urban areas, 49.43% had moved once, while 50.57% had moved between cities twice or more. This subsection reviews the effect of urban experience on the willingness of rural migrants to settle in cities in terms of the number of times rural

migrants move. The results in Table 7 show that urban experience has a more substantial effect on the willingness of rural migrants to settle in cities among rural migrants who have moved only once. The study finds that frequent migration experiences reduce the positive effect of urban experiences on the settlement intentions of rural migrants.

Table 7. Heterogeneity analysis based on migration experience.

Dependent Variable	**Settlement**		
Migration experience	(1) Once	(2) Twice	(3) Three or more times
City	0.0356 ***	0.0263 ***	0.0191 ***
	(0.0011)	(0.0016)	(0.0019)
Control variables	YES	YES	YES
Occupation FE	YES	YES	YES
Industry FE	YES	YES	YES
Inflow-City FE	YES	YES	YES
Pseudo R^2	0.186	0.185	0.176
N	46,694	26,525	23,572

Notes: (1) The regression model is the probit model; (2) The standard errors are reported in parentheses under the estimated coefficients; (3) ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively; (4) The regression model uses robust standard error.

5.3. City Level

Urban density can accelerate the accumulation of workers' human capital. De La Roca and Puga (2017) [11] also show substantial advantages in bigger cities, and where workers acquire experience matters more than where they use it. Rural migrants in large cities receive more human capital spillover than in small and medium-sized cities. By the city where rural migrants first moved, the sample cities are divided into first-tier and alternative cities. First-tier cities significantly outperform alternative cities' population density, economic development, and industrial structure. The human capital externalities available to rural migrants in first-tier cities are considerably higher than in other cities.

The paper analyzes the role of first-tier cities in the effect of urban experience. The sample can be divided into three categories based on the number of times rural migrants moved: once, twice, and three or more times. Table 8 shows the regression results. Compared with other cities, the urban experiences of rural migrants who move to first-tier cities in their first migration significantly affect their willingness to settle in cities. Moreover, the effects are significant for rural migrants who move only once and diminish with migration frequency.

Table 8. Heterogeneity analysis based on city level.

Dependent Variable	**Settlement**					
Migration experience	Once		Twice		Three or More Times	
City Level	(1) First-tier	(2) Alternative	(3) First-tier	(4) Alternative	(5) First-tier	(6) Alternative
City	0.0411 ***	0.0346 ***	0.0296 ***	0.0263 ***	0.0229 ***	0.0191 ***
	(0.0036)	(0.0012)	(0.0044)	(0.0018)	(0.0048)	(0.0021)
Control variables	YES	YES	YES	YES	YES	YES
Occupation FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Inflow-City FE	YES	YES	YES	YES	YES	YES
Pseudo R^2	0.205	0.186	0.198	0.189	0.184	0.179
N	4660	42,013	4804	21,535	4683	18,652

Notes: (1) The first-tier cities in China are the four following cities: Beijing, Shanghai, Guangzhou, and Shenzhen; (2) The regression model is the probit model; (3) The standard errors are reported in parentheses under the estimated coefficients; (4) ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively; (5) The regression model uses robust standard error.

6. Mechanism Analysis

The section explores two potential channels through which urban experience could affect the settlement intention of rural migrants.

The model is as follows.

$$M_{ij} = a_0 + a_1 City_i + a_2 X_i + h_j + e_i \quad (2)$$

The dependent variable M consists of economic survival skills and adaptive capacity. City is the urban experience, and X is a vector of control variables, including individual, household, and migration characteristics. In addition, h is a fixed effect of the inflow city, and e is a random error term. Finally, the subscripts i and j refer to the rural migrant and the destination of the rural migrant, respectively.

Controlling for individual, household, and migration characteristics of rural migrants, the results in column (1) of Table 9 indicate that urban experience improves the labor market income of rural migrants at the 10% significance level. For each additional year of urban experience, the labor market earnings of rural migrants increase by 0.0883%. Empirical results show that urban experience can effectively raise the economic survival skills of rural migrants.

Table 9. Mechanism analysis.

	Economic Survival Skill	**Adaptive Capacity**	
Dependent Variable	**Labor Income**	**Social Activity**	**Interpersonal Interaction**
	(1)	(2)	(3)
City	0.000883 *	0.00568 ***	0.00768 ***
	(0.0005)	(0.0005)	(0.0007)
Control variables	YES	YES	YES
Occupation FE	YES	YES	YES
Industry FE	YES	YES	YES
Inflow-City FE	YES	YES	YES
R^2	0.123	0.126	-
Pseudo R^2	-	-	0.060
N	96,856	97,073	96,882

Notes: (1) The standard errors are reported in parentheses under the estimated coefficients; (2) ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively; (3) The regression model uses robust standard error.

The results in columns (2) and (3) of Table 9 show that the urban experience can significantly enhance the adaptive capacity of rural migrants. The urban experience promotes active participation in social activities and improves interpersonal interactions, which helps rural migrants expand their social networks and escape marginalization in urban areas.

7. Further Discussion

The main conclusion is that urban experience can significantly increase the settlement intention of rural migrants. Specifically, as the duration of their migration from rural areas to cities increases, their willingness to settle in the city also grows. However, two issues with this conclusion need to be discussed. Firstly, Chinese rural residents have a solid attachment to their homeland. Older individuals prefer to return to their hometown rather than settle in the city. Therefore, the impact of urban experience on their settlement intention still requires further analysis. The interaction term result in column (1) of Table 10 indicates that for individuals aged 46 and above, the impact of urban experience on their settlement intention is lower than for younger people. Secondly, cities can significantly improve the human capital of rural migrants, which increases their settlement intention. Then, the question is raised: is the impact of urban experience linear? The results in column (2) of Table 10 show that the impact of urban experience on rural migrants' settlement intention is nonlinear, with an inverted U-shaped curve.

Table 10. Further Discussion.

Dependent Variable	Settlement	
	(1)	(2)
City	0.025 ***	0.042 ***
	(0.001)	(0.002)
The square of the City		−0.001 ***
		(0.000)
Age group (aged 46 and above = 1)	0.050	
	(0.031)	
City × Age group	−0.005 ***	0.042 ***
	(0.001)	(0.002)
Control variables	YES	YES
Occupation FE	YES	YES
Industry FE	YES	YES
Inflow-City FE	YES	YES
Pseudo R^2	0.163	0.163
N	88,870	88,870

Notes: (1) The regression model is the probit model; (2) The standard errors are reported in parentheses under the estimated coefficients; (3) ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively; (4) The regression model uses robust standard error.

8. Conclusions

This paper shows that urban experience can significantly increase the willingness of rural migrants to settle in cities. Baseline regression may underestimate the effect of urban experience due to omitted variables and sample selection. An instrumental variable is used to eliminate the endogeneity bias. The instrumental variable is the area of crops exposed to natural disasters at household registration sites when rural migrants first migrate to cities. The results for the instrumental variable remain consistent with the baseline regression results, again demonstrating robustness.

Heterogeneity analysis shows that urban experience positively affects the willingness to settle of rural migrants who have completed less than a college degree and previously moved less frequently. Moreover, the effect of urban experience on the desire of rural migrants to settle in cities is more pronounced in first-tier cities than in alternative cities, and the positive effect diminishes with the frequency of migration. Mechanistic analysis reveals that urban experience enhances the willingness of rural migrants to settle in cities by improving their economic survival skills and adaptive capacity. Finally, further discussion finds that for individuals aged 46 and above, the impact of urban experience on their settlement intention is lower than for younger people. The impact of urban experience on rural migrants' settlement intention is nonlinear, with an inverted U-shaped curve.

Therefore, this paper offers the following policy implications for the Chinese government. Firstly, the government should deepen the reform of the household registration system. For example, the household registration requirements may consider the length of time a person has resided in the city. For rural migrants who have worked in cities for a long time, the government can appropriately lower the threshold for obtaining an urban hukou. Secondly, the government should ensure that rural migrants and their children enjoy the same essential public services as urban residents. An open, fair, and equitable urban environment can create conditions for young rural people to move to cities early, accelerating their human capital accumulation. Finally, the government should expand the channels of expression for rural migrants. Rural migrants can be encouraged to integrate into urban life actively, strengthening their urban integration ability and sense of identity and belonging to the city.

Author Contributions: Conceptualization, C.L. and F.R.; methodology, F.R.; software, F.R.; validation, F.R. and Z.F.; formal analysis, F.R.; investigation, F.R.; resources, C.L. and F.R.; data curation, C.L. and F.R.; writing—original draft preparation, F.R.; writing—review and editing, C.L. and F.R.;

visualization, F.R.; supervision, C.L. and Z.F.; project administration, F.R.; funding acquisition, C.L. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the National Social Science Foundation of China (NO. 18BJY213).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Publicly available datasets were analyzed in this study. These data can be found here: http://www.geodata.cn/wjw/#/home (accessed on 17 April 2024).

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Tombe, T.; Zhu, X. Trade, migration, and productivity: A quantitative analysis of China. *Am. Econ. Rev.* **2019**, *109*, 1843–1872. [CrossRef]
2. Démurger, S.; Gurgand, M.; Shi, L.; Yue, X. Migrants as second-class workers in urban China? A decomposition analysis. *J. Comp. Econ.* **2009**, *37*, 610–628. [CrossRef]
3. Chen, J.; Wang, W. Economic incentives and settlement intentions of rural migrants: Evidence from China. *J. Urban Aff.* **2018**, *41*, 372–389. [CrossRef]
4. Lee, E.S. A theory of migration. *Demography* **1966**, *3*, 47–57. [CrossRef]
5. Ishtiaque, A.; Nazem, N.I. Household-level disaster-induced losses and rural-urban migration: Experience from world's one of the most disaster-affected countries. *Nat. Hazards* **2017**, *86*, 315–326. [CrossRef]
6. Lin, L.; Zhu, Y. Types and determinants of migrants' settlement intention in China's new phase of urbanization: A multi-dimensional perspective. *Cities* **2022**, *124*, 103622. [CrossRef]
7. Karemera, D.; Oguledo, V.I.; Davis, B. A gravity model analysis of international migration to North America. *Appl. Econ.* **2000**, *32*, 1745–1755. [CrossRef]
8. Falck, O.; Heblich, S.; Lameli, A.; Südekum, J. Dialects, cultural identity, and economic exchange. *J. Urban Econ.* **2012**, *72*, 225–239. [CrossRef]
9. Lu, Y.; Zhang, K. Geographic distance, dialect difference, and spatial labor mobility. *Stat. Res.* **2019**, *36*, 88–99. (In Chinese)
10. Glaeser, E.L.; Mare, D.C. Cities and skills. *J. Labor Econ.* **2001**, *19*, 316–342. [CrossRef]
11. De La Roca, J.; Puga, D. Learning by working in big cities. *Rev. Econ. Stud.* **2017**, *84*, 106–142. [CrossRef]
12. Feng, W.; Zuo, X.; Ruan, D. Rural Migrants in Shanghai: Living under the Shadow of Socialism. *Int. Migr. Rev.* **2022**, *36*, 520–545. [CrossRef]
13. Tang, S.; Feng, J. Cohort differences in the urban settlement intentions of rural migrants: A case study in Jiangsu Province, China. *Habitat Int.* **2015**, *49*, 357–365. [CrossRef]
14. Liang, Z. China's great migration and the prospects of a more integrated society. *Annu. Rev. Sociol.* **2016**, *42*, 451–471. [CrossRef]
15. Hosnedlová, R. Embedded settlement intentions: The case of Ukrainians in Madrid. *Soc. Netw.* **2017**, *49*, 48–66. [CrossRef]
16. Biswas, R.K.; Kabir, E.; Khan, H.T.A. Causes of Urban Migration in Bangladesh: Evidence from the Urban Health Survey. *Popul. Res. Policy Rev.* **2019**, *38*, 593–614. [CrossRef]
17. Todaro, M.P. A model of labor migration and urban unemployment in less developed countries. *Am. Econ. Rev.* **1969**, *59*, 138–148.
18. Harris, J.R.; Todaro, M.P. Migration, unemployment, and development: A two-sector analysis. *Am. Econ. Rev.* **1970**, *60*, 126–142.
19. Wei, D.; Lu, M. The returns to early migration to cities: Rural migrants' life experiences and the labor market performances. *Econ. Res. J.* **2021**, *56*, 168–186. (In Chinese)
20. Glaeser, E.L. Learning in Cities. *J. Urban Econ.* **1999**, *46*, 254–277. [CrossRef]
21. Haug, S. Migration networks and migration decision-making. *J. Ethn. Migr. Stud.* **2008**, *34*, 585–605. [CrossRef]
22. Li, P.; Tian, F. A cross-generational comparison of the social cohesion of migrant workers in China. *Chin. J. Sociol.* **2012**, *32*, 1–24. (In Chinese)
23. Luo, Y.; Luo, X.; Wang, L. Rural infrastructure, labor productivity gap between industry and agriculture, and nonagricultural employment. *Manag. World* **2020**, *36*, 91–121. (In Chinese)

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.