

Article

Exploring the Determinants of Migrant Workers' Willingness to Buy Houses in Cities: A Case Study in Xi'an, China

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Abstract: Migrant workers' buying houses in cities can not only help to reduce the number of unsold houses but also improve the efficiency of the use of rural residential lands. A framework is constructed to study how individual resource endowment and the compensation policy of quitting rural residential land act on migrant workers' willingness to buy houses in cities. The paper adopts the logistic regression model with the data collected from 410 migrant workers in Xi'an. The results can be drawn as follows: firstly, migrant workers' desire for buying houses in cities has a close relationship with their individual resource endowment; secondly, there is a gap between the existing compensation policy and migrant workers' actual preference for the compensation policies. Thirdly, the existing compensation policy cannot fully exert its impact. As a result, when migrant workers are allowed to choose their most preferred policies in light of their own conditions, both the policy and resource effect will become more remarked. Thus, the design of compensation policies for quitting rural residential land should take full account of migrant workers' individual resource endowments in order to provide them with selective compensation mechanisms. The conclusion provides a policy reference for cities where the house prices are close to that of Xi'an (11,000 yuan/square m).

Keywords: individual resource endowment; compensation policy; rural residential land; citizenization; migrant workers; willingness

1. Introduction

In the context of supply-side structural reform, how to reduce the number of unsold houses has constituted one of the five tasks of our economic work, and a series of target-oriented policies to tackle this problem are needed [1]. The Central Economic Work Conference in 2015 took the citizenship of migrant workers as an important policy to reduce the number of unsold houses, with the aim to enlarge the effective need for urban commercial housing. It is meaningful for migrant workers to buy houses in cities, as this will not only help them integrate into city life, but also stabilize their jobs. If migrant worker's non-agricultural income increases and their opportunities for working in cities tend to stabilize, then they will be more willing to transfer their land use rights and quit their rural residential lands [2], after all, social and economic costs are undoubtedly tied to this type of housing production [3]. Thus, this study of the effect of the mechanism of quitting rural residential land with compensation on the willingness of migrant workers to buy houses in the city can, on the one hand, help avoid rural residential lands standing idle and phenomena like "one household, multiple housing lands" or even "rural hollowing"; on the other hand, migrant workers can make full use of their idle rural assets, which will help them buy houses in cities, since they have more money [4–6].

On the demand side, migrant workers have a desire for home-ownership in the city when resources allow this [7]. The effectiveness of the compensation policy for quitting rural residential land is also affected by migrant workers' individual resource endowment. Moreover, the endowment effect radiated by migrant workers' personal and household resource endowment on the compensation policy for quitting rural residential land has a direct influence on their willingness to buy houses in cities [8,9]. This study is expected to help set up an alternative compensation mechanism for quitting rural residency based on individual resource endowment, and examine the effect of the compensation policy for quitting rural residential land on migrant workers' willingness to buy houses in cities and the differences of migrant workers' willingness to buy houses in cities under the guide of the compensation policy, according to their individual endowment and the policy actually implemented by the local government.

When migrant workers enhance their tendency and ability to develop sustainably in cities, they are more willing to transfer their rural lands as well as quit rural residential land. Their rural residential lands have multiple functions, such as to maintain stability, to provide security and to act as assets [10]. Therefore, the design of a compensation policy for quitting rural residential land should take migrant worker's micro-recognition of rural residential land and individual resource endowment into consideration, encouraging migrant workers to buy houses in cities [11].

This paper studies the extent to which migrant workers' willingness to buy houses in cities is affected by such three factors as individual resource endowment, the existing compensation policy for quitting rural residential land, as well as the gap between the existing compensation policy for quitting rural residential land and migrant worker's preferences based on individual resource endowment. On the basis of existing theories, together with the positive analysis of micro-research data, this paper finds that migrant worker's resource endowments have a marked influence on their willingness to buy houses in cities; the existing compensation policies for quitting rural residential land differs greatly with those preferred by migrant workers; when the compensation policy for quitting rural residential land can be implemented together with individual resource endowment, migrant workers are more easily motivated to buy houses in cities and the endowment effect will significantly strengthen.

The structure of this paper is arranged as follows: the second part will set up a theoretical framework to analyze how resource endowment and the compensation policy for quitting rural residential land will affect migrant workers' willingness to buy houses in cities; the third section will provide a statistical and descriptive analysis of the collected data; the fourth part intends to build a logistic model to test the influence of individual resource endowment coupled with the compensation policy of quitting rural residential land on migrant worker's willingness to buy houses in cities; the fifth section will make a summary and present some enlightenment for future policy making.

2. Theoretical Framework

Liu (2016) discussed the main factors affecting homestead replacement regarding the farmers' willingness by using a logistical model analysis method and explains the difficulties of homestead replacement in China based on information obtained through field surveys in Jiangxi [12]. Factor analysis was adopted to determine the key components of housing adequacy affecting housing tenure choice in Malaysia (Salleh, A.G., 2008), [13]. However, in China, whether migrant workers can become citizens by means of buying houses and settling down in cities to a great degree depends on their financial status [11,14]. Financial status is influenced by migrant workers' individual resource endowment, which can be assorted into their personal resource endowment and their household resource endowment. Migrant workers' individual resource endowment includes their education, non-agricultural income, occupation and how many years they have worked in cities [14–19]. All these factors can affect the sustainability of migrant workers' living and income in cities. Besides, household resource endowment like living conditions, the ratio of work wage to the total family income, geographic distribution and use conditions of rural residential lands can also influence their sustainable development in cities [20–22]. In short, both personal and household resource endowment can affect

migrant workers' financial status. More specifically, those who have higher individual resource endowments are more inclined to buy houses and settle down in the cities where they work.

The compensation policy of quitting rural residential land affects migrant workers' security expectations. In other words, it influences their willingness to buy houses in cities by increasing their financial resources. At the present, rural residential lands have such basic functions as stability for politics, security for caring for the old, housing, as well as being an asset [10] derived from social transformation. Rural areas can be classified as urban villages, suburban villages and remote villages according to their distance from the city. Researchers have found that the security function of rural residential lands in those three kinds of village are all weakening, while their asset function in urban and suburban villages are strengthening, except in remote villages. The reason why most rural residents do not want to quit their rural residential lands is that they are afraid that they cannot resolve the problem of housing and caring for the aged once they do so. Others embrace the expectation that their rural residential lands may increase in value one day. Thus, the conclusion can be drawn that if migrant workers are satisfied with the compensation policy for quitting rural residential land, the majority are willing to quit their rural residential lands [23]. When migrant workers are allowed to deal with their rural residential lands themselves, proper approaches will enhance their willingness to settle down in cities, among which the compensation policy for quitting rural residential land is the most effective [24,25]. Sensible compensation policies for quitting rural residential land can not only help use rural residential lands collectively and effectively, but also improve migrant workers' financial ability to buy houses and settle down in cities.

Based on the analysis of individual resource endowment and the compensation policy for quitting rural residential land, a comprehensive analytical framework is constructed to study how economic factors, together with policy factors, affect migrant workers' willingness to buy houses in cities.

3. Methods

3.1. Model

The paper made a regression analysis of the factors which influence migrant workers' willingness to buy houses in cities by means of constructing a binary logistic model. According to the requirements of the model, X_1, X_2, \dots, X_n is a set of vectors associated with Y ; p is a dichotomous variable, which refers to the probability of migrant workers' willingness to buy houses in cities: if they are willing to buy houses in cities, then $p = 1$; if they are unwilling to buy houses in cities, then $p = 0$. Transforming p with logistic, denoted by $\text{logit}(p)$:

$$p = \frac{\text{Exp}(z)}{1 + \text{Exp}(z)} \quad (1)$$

$$\text{logit}(p) = \ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n = z \quad (2)$$

As for Equation (1), z is the linear combination of X_1, X_2, \dots, X_n : $z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$. As for Equation (2), X_i is an independent variable, meaning the factor i that affects migrant workers' willingness to buy houses in cities; β_0 is a constant; β_i ($i \geq 1$) is the partial regression coefficient of logistic regression, indicating the degree to which X_i can affect Y or $\text{logit}(p)$.

Based on the target of the study, the paper intends to employ the binary regression model. Model one symbolises the effect of individual resource endowment and compensation policies on migrant workers' willingness to buy houses in cities in light of the existing compensation policy for quitting rural residential land; model two signifies the influence of individual resource endowment and compensation policies on migrant workers' willingness to buy houses in cities, supposing that migrant workers are allowed to choose their favorite compensation policies.

3.2. Variable Selection

3.2.1. The Selection of the Dependent Variable

The descriptive statistics show that the existing compensation policy for quitting rural residential land differs from what migrant workers prefer. To make the research more detailed, the paper selected two dependent variables of migrant workers' willingness to buy houses in cities based on the existing compensation policies (Will 1, denoted by Y_1) and migrant workers' willingness to buy houses in cities according to their preferred policies (Will 2, denoted by Y_2).

3.2.2. The Selection of the Independent Variables

The independent variables of the model were selected from resource endowment and compensation policies for quitting rural residential land. Individual resource endowment can be divided into personal resource endowment and household resource endowment. Personal resource endowment includes education (X_1), monthly income (X_2), occupation (X_3) and working age (X_4). Household resource endowment consists of current living conditions (X_5), the ratio of working wage to overall family income (X_6), geographic distribution features of rural residential land (X_7) and the present condition of rural residential land use (X_8). The compensation policy for rural residential land was measured from policies like monetary compensation (X_9), housing compensation (X_{10}), social security (X_{11}) and quitting by buying shares with the right to rural residential land use (X_{12}). The popularity and migrant workers' preferences were also worked out (measured by a five-point Likert scale).

3.2.3. The Selection of Control Variables

Migrant workers' individual features were selected as control variables, including gender (X_{13}), age (X_{14}), marital status (X_{15}), hometown (X_{16}) and whether they have children studying in Xi'an (X_{17}). See more details in Table 1.

Table 1. Descriptive statistics of variables for analysis.

Name of Variable	Meaning and Assignment of Variable	Type of Variable	Average	Standard Deviation
1. Dependent Variable				
Will 1	Yes = 1, No = 0	Dummy	0.459	0.499
Will 2	Yes = 1, No = 0	Dummy	0.624	0.478
2. Independent Variable				
Education	Elementary and below = 0, junior high school = 1, senior high school = 2, senior college or above = 3	Dummy	1.512	0.910
Monthly income	Less than 1500 = 0, 1500–3000 = 1, 3000–4500 = 2, more than 4500 = 3	Dummy	1.934	0.878
Occupation	Ordinary manufacturing industry (consultative variable)	Dummy	0	0
	Business or service sector = 1		0.546	0.498
	Technician = 1		0.237	0.423
Working age	Actual number of years	Continuous	11.3	8.685
Current living condition	Self-owned housing (consultative variable)	Dummy	0	0
	Renting		0.068	0.253
	Organization-owned housing		0.329	0.471
Ratio of working wage	Ration of working wage to overall	Continuous	0.904	0.145
Geographic distribution feature of rural residential land	Urban village = 0, suburban village = 1, remote village = 2	Dummy	1.441	0.725
Condition of rural residential land use	Inhabited by families (consultative variable)	Dummy	0	0
	Idle = 1		0.227	0.419
	Transferred by renting = 1		0.220	0.414
Compensation policy	Existing policies (all = 1)	Dummy	—	—
Compensation policy	Individual's preference for all kinds of policies (average of 5-Likert Scale)	Continuous	—	—
3. Control Variable				
Gender	Male = 1, female = 0	Dummy	0.715	0.452
Age	Actual value	Continuous	38.807	10.526
Marital status	Married = 1, unmarried = 0	Dummy	0.849	0.359
Hometown	Eastern region (consultative variable)	Dummy	0	0
	Central region = 1		0.212	0.409
	Western region = 1		0.637	0.482
Whether having children studying in Xi'an	Yes = 1, No = 0	Dummy	0.395	0.489

4. Data and Descriptions

4.1. Study Area and Data Collection

There have been 1.3 million of migrant workers in Xi'an, accounting for 0.4% of the total number of 277 million migrant workers nationwide by the end of 2015 (Figure 1). They are distributed in the secondary industries, such as the building industry, manufacturing industry, and power industry, as well as in the tertiary industries, such as the accommodation and catering industry, and the retailing and household service industry.

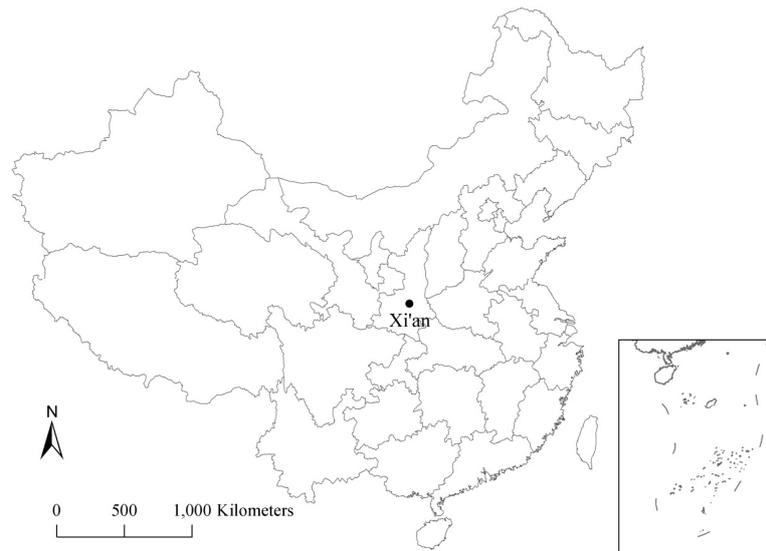


Figure 1. Location of study area—Xi'an.

The research adopted the method of simple random sampling by researching in places where migrant workers gathered, such as the labor market in the main urban area of Xi'an, the wholesale and retail market, the catering industry, construction sites, the building material market, the hardware and electromechanical equipment market, as well as the medicine market. The subjects of this research ranged from 15 years old to 60 years old. They come from 14 provinces which include Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Shaanxi, Anhui, Henan, Hebei, Hunan, Hubei, Shanxi, Gansu and Sichuan province. A total of 460 questionnaires were released with 410 usable responses out of 432 received, representing an efficiency rate of 89.13%.

As the average house price of Xi'an, a city with a large number of migrant workers, is at the middle level in China, the desire of migrant workers to buy a home in Xi'an is easier to achieve. Therefore, the case study of Xi'an is relatively typical. Among the 410 research samples, there are migrant workers from 14 provinces and cities, where the average house prices are at the middle level in China. Therefore, the research in this paper is of great significance to other cities where the house prices are at the same level (11,000 yuan/square meters, 2017). In different cities, whose average house prices differ slightly, the influence of individual factors and compensation policies on the willingness of migrant workers to buy houses in the cities will not be affected by the cities where they work. Therefore, the research in this paper is of some general significance from this perspective.

4.2. Questionnaire Design

The questionnaire consisted of 20 questions. It was delivered as two pages covering the features of individual migrant workers and their families, the condition of migrant workers' rural residential land, the compensation policy for quitting rural residential land in various regions of China, migrant workers' preferences for the policy and migrant workers' willingness to buy houses in cities. According to the

questionnaire there were 23 indexes, some of which were directly presented as numbers (e.g., working age, monthly income, etc.) and others were measured by a five-point Likert scale (e.g., the preference for different kinds of compensation policies, etc.).

4.3. The Description of the Statistical Analysis

4.3.1. Analysis of the General Situation

(1) Basic features of migrant workers

The research made a statistical analysis of migrant workers' gender, their ages, marital status, and their hometowns and whether their children are studying in Xi'an. According to the results, males make up 71.46%, which indicates that there exist obvious sexual differences among migrant workers; in accordance with the age-classification standard put forward by the UN World Health Organization, among the selected migrant workers, young and middle-aged persons (under 40 years old) make up 57.32%, while middle-aged persons (between 40 and 60 years old) make up 42.68%; 84.88% of migrant workers have been married; 63.66% of them come from the western region of China, while 15.12% of them are from the eastern region; approximately 40% have children receiving education in Xi'an. See more details in Table 2.

Table 2. Socio-characteristics of migrant workers.

Basic Feature	Classification	Number	Percentage (%)
Gender	Male	293	71.46
	Female	117	28.54
Age	Under 30	82	20
	30–39	153	37.32
	40–49	97	23.66
	50–60	78	19.02
Marital status	Married	348	84.88
	Unmarried	62	15.12
Hometown	Eastern region	62	15.12
	Central region	87	21.22
	Western region	261	63.66
Whether have children studying in Xi'an	Yes	162	39.51
	No	248	60.49

(2) Willingness to quit rural residential land and willingness to buy houses in cities

Based on the statistical results, 45.61% of migrant workers are willing to buy houses in Xi'an, considering the existing compensation policy for quitting rural residential land (Will 1) in their hometowns; if they are allowed to choose the compensation policy according to their preference (Will 2), the percentage of those who are willing to buy houses in cities rises to 62.44%, which implies that this method is to some extent encouraging. The principal reason why 58.05% of migrant workers are unwilling to quit their rural residential lands is due to economic concerns. A total of 54.62% of migrant workers think the existing compensation policies in their hometown are unreasonable. Some show concern for caring for the aged and housing once they quit their lands, and others expect they can benefit from the asset function of their rural residential lands. See more details in Table 3.

Table 3. Descriptive statistics of willingness for analysis.

Classification	Choice	Number	Percentage (%)
Whether willing to buy houses in cities (Will 1)	Yes	188	45.85
	No	222	54.15
Whether willing to buy houses in cities (Will 2)	Yes	256	62.44
	No	154	37.56
Whether willing to quit rural residential land	Yes	172	41.95
	No	238	58.05
The reasons why unwilling to quit rural residential land	The compensation policy of quitting rural land is irrational	130	54.62
	Land is the last security.	58	24.37
	The sentiment of returning to one's hometown when one is old	40	16.81
	The expectation of benefiting from added-values of rural residential land	12	4.20

(3) Migrant workers' preference for compensation policies for quitting rural residential lands

Migrant workers' preferences for the existing compensation policies for quitting rural residential land are recorded in order and quantified by means of a five-point Likert scale. The numbers from one to five respectively symbolises an ascending preference from "very unimportant", "unimportant", "general", "important" and "very important" with the purpose of calculating the frequency of the most preferred policy and that of the least preferred policy, as well as the average of the five-point Likert scale.

The monetary compensation policy (80.24%) is relatively popular currently, while other policies like housing replacement (25.61%), social security (21.95%) and quitting rural residential land by buying shares with land use rights (6.83%) are not well-disseminated. In this sample, the frequency of the most-preferred housing replacement is the highest (41.46%), followed by that of the social security policy (27.32%). The frequency of the-most-preferred monetary compensation policy (17.07%) is slightly higher than that of the policy of quitting rural residential land by buying shares with land use rights (14.15%). At the same time, the frequency of the least preferred policy of quitting rural residential land by buying shares with land use rights is the highest (71.46%). The highest average of the five-point Likert scale is the preference for housing replacement (3.87), the lowest being the policy of buying shares with rural residential land use rights (2.42). See more details in Table 4.

Table 4. Descriptive statistics of policies for analysis.

Policies	Monetary Compensation	Housing Compensation	Social Security	Quitting by Buying Shares with Land Use Rights
The frequency of the policy	329 (80.24%)	105 (25.61%)	90 (21.95%)	28 (6.83%)
The frequency of the most preferred	70 (17.07%)	170 (41.46%)	112 (27.32%)	58 (14.15%)
The frequency of the least preferred	30 (7.32%)	35 (8.54%)	52 (12.68%)	293 (71.46%)
The Likert average	3.26 (0.82)	3.87 (0.89)	3.21 (0.98)	2.42 (1.64)

4.3.2. Cross-Analysis between Various Factors

(1) Cross analysis between geographic distribution features and willingness to quit rural residential lands

The results show that migrant workers are least willing to quit if their rural residential lands lie in an urban village (22.81%). By contrast, more than half of migrant workers (54.20%) want to quit

their rural residential lands in remote villages. With the expansion of urbanization, the asset functions of rural residential lands in urban and suburban villages are increasingly stronger. At the present, against the background of unclear definitions of farmland property rights and a restricted farmland system [26], most migrant workers are unwilling to quit their rural residential lands on their own initiative. See more details in Table 5.

Table 5. Cross-analysis between geographic distribution features and willingness to quit rural residential lands.

Geographic Distribution Feature	Whether Willing to Quit Rural Residential Land				Total
	Yes		No		
	Number	Percentage (%)	Number	Percentage (%)	
Urban village	13	22.81	44	77.19	57
Suburban village	30	26.01	85	73.99	115
Remote village	129	54.20	109	45.80	238

(2) Cross-analysis between features of migrant workers and preference for compensation policies

In light of the average of the five-point Likert scale, individual gender difference has no apparent link with migrant workers' preference for compensation policies; the older the migrant workers are, the more they favor the policy of exchanging their rural residential lands for social security (the average preference for social security policies among the 50–60 aged group was as high as 3.95), while expressing less preference for monetary compensation policies; there was no marked difference of preference in terms of marital status. As for regional factors, migrant workers from eastern China much preferred the policy of quitting by buying shares with land use rights (3.97), while those from the central and western regions tended to choose housing replacement (4.00) and monetary compensation policies (3.92); those who have children studying in Xi'an preferred housing replacement policies (3.9). See more details in Table 6.

Table 6. Cross-analysis between the features of migrant workers and their preference for compensation policies.

Basic Features of Migrant Workers		Existing Compensation Policy for Quitting Rural Residential Land			
		Monetary Compensation	Housing Compensation	Social Security	Buying Shares with Rural Residential Land Use
Gender	Male	3.20	3.88	3.31	2.48
	Female	3.43	3.84	3.36	2.23
Age	Under 30	3.48	3.82	2.81	2.67
	30–39	3.24	3.97	3.03	2.74
	40–49	3.20	3.86	3.52	2.24
	50–60	3.15	3.80	3.95	1.84
Marital status	Married	3.19	3.84	3.41	2.43
	Unmarried	3.70	4.02	2.83	2.29
Hometown	Eastern region	2.87	3.68	2.87	3.97
	Central region	3.70	4.00	3.28	2.66
	Western region	3.92	3.87	3.44	2.10
Whether have children studying in Xi'an	Yes	3.12	3.94	3.37	2.62
	No	3.36	3.76	3.30	2.27

(3) Cross-analysis of individual resource endowment and the willingness to buy houses in cities

In terms of individual resource endowment, migrant workers with a higher education are more willing to buy houses in cities. The percentage of migrant workers who are willing to buy houses in cities with senior college or higher degrees is 65.08%, much higher than that of those who only received elementary or even lower education (23.64%); when their income increases, migrant workers are also more willing to buy houses in cities. For example, when their monthly wage rises from 1500 yuan to

more than 4500 yuan, the percentage of those who are willing to buy houses in cities will also improve from 16.67% to 61.42%; compared with migrant workers who work in ordinary manufacturing sectors (31.46%), those who work in business and the service industry (53.13%) or work as technicians (42.29%) have a stronger desire to buy houses; besides, the longer they have worked and lived in Xi'an, the more eager they are to buy houses.

From the perspective of household resource endowment, those who live in organization-owned houses are the largest group willing to buy houses in cities (57.14%), followed by those who rent houses (47.39%). Those who have their own houses are the least willing to buy houses in cities (40.74%). The more the working wage takes up of the overall family income, the stronger willingness migrant workers have to buy houses in cities. Those whose rural residential lands lie in urban (66.67%) or suburban villages (58.26%) are more willing to buy houses in cities in comparison with those whose rural residential lands are located in remote areas. In view of how rural residential lands are used currently, the migrant workers who transfer the use right of rural residential land by way of renting are the most eager to buy houses in cities (76.12%), followed by those whose residential lands are standing idle. The least willing to buy houses in cities are those who have families living on rural residential lands (39.41%). See more details in Table 7.

Table 7. Cross-analysis of individual resource endowment and the willingness to buy houses in cities.

Resource Endowment		Whether Willing to Buy Houses in Cities				Total Number
		Yes		No		
		Number	Percentage (%)	Number	Percentage (%)	
Education	Elementary and below	13	23.64	42	76.36	55
	Junior high school	58	37.91	95	62.09	153
	Senior high school	76	54.68	63	45.32	139
	Senior College or above	41	65.08	22	34.92	63
Monthly in-come	Below 1500 yuan	3	16.67	15	83.33	18
	1500–3000 yuan	40	33.90	78	66.10	118
	3000–4500 yuan	67	45.58	80	54.42	147
	Above 4500 yuan	78	61.42	49	38.58	127
Occupation	Business/service sector	119	53.13	105	46.87	224
	Technician	41	42.29	56	57.71	97
	Ordinary manufacturing industry	28	31.46	61	68.54	89
Working age	Less than 5 years	29	29.30	70	70.70	99
	5–10 years	71	48.97	74	51.03	145
	Than More 10 years	88	53.01	78	46.99	166
Living condition	Renting	117	47.39	130	52.61	247
	Organization-owned housing	16	57.14	12	42.86	28
	Self-owned housing	55	40.74	80	59.26	135
Ratio of working wage to overall	<0.75	13	26.53	36	73.47	49
	≥0.75	175	48.48	186	51.52	361
Geographic distribution features of rural residential land	Urban village	38	66.67	19	33.23	57
	Suburban village	67	58.26	48	41.74	115
	Remote village	83	34.87	155	65.13	238
Present condition of rural residential land use	Inhabited by families	121	39.41	186	60.59	307
	Standing idle	16	44.44	20	55.56	36
	Transferred by renting	51	76.12	16	23.88	67

(4) Cross-analysis between the compensation policy and willingness to buy houses in cities.

Based on the sample, there are 188 migrant workers who want to buy houses in cities according to the existing policies in their hometowns; supposing that migrant workers were allowed to choose their favorite policies in light of their own condition, up to 256 people plan to buy houses in cities. In addition, among those migrant workers who regard policies like monetary compensation, housing replacement, social security and quitting by buying shares with the right of rural residential land use as the most important policies, there are respectively 90%, 52.94%, 46.43% and 87.93% of persons interviewed who show a desire to buy houses in cities. The above data indicates that, firstly, the existing compensation policies for quitting rural residential land do not match these migrant workers' preferences; secondly, as an encouraging policy, the compensation policy for quitting rural residential

land can facilitate migrant workers to buy houses in cities and help them to realize citizenship by maximizing its policy effect combined with migrant workers' individual features and their resource endowment. See more details in Table 8.

Table 8. Cross-analysis between the compensation policy and willingness to buy houses in cities.

Policy Preference	Whether Willing to Buy Houses in Cities				Total Number
	Yes		No		
	Number	Percentage (%)	Number	Percentage (%)	
Monetary compensation as the most preferred	63	90	7	10	70
Housing compensation as the most preferred	90	52.94	80	47.06	170
Social security as the most preferred	52	46.43	60	53.57	112
Quitting by buying shares as the most preferred	51	87.93	7	12.07	58
Total number	256		154		410

5. Empirical Results

5.1. Logistical Model Estimated

This paper made a regression analysis of the researched data, making use of Eviews8.0 (Econometrics Views, IHS Global INC, Englewood, NJ, USA). Please refer to the estimated results in Table 9. The correlation coefficients between the variables are all less than 0.47 and, thus, there is no apparent correlation between variables.

Table 9. Logistical model estimated: Probability of factors affecting willingness to buy houses in cities.

Name of Variable	Option	Model 1		Model 2	
		Coefficient	Standard Error	Coefficient	Standard Error
1. Individual Resource Endowment					
Education		0.264 *	0.152	0.288 **	0.144
Monthly income		0.310 **	0.146	0.353 ***	0.136
Occupation	Business or service sector	0.492 *	0.290	0.542 *	0.326
	technician	0.529	0.368	0.584 *	0.314
Working age		0.039 **	0.019	0.053 ***	0.019
2. Household Resource Endowment					
Current living condition	Renting	0.376 *	0.220	0.542 *	0.312
	Organization-owned housing	0.710 **	0.276	0.892 ***	0.258
Ratio of working wage		1.158	0.840	1.157	0.831
Geographic distribution feature of rural residential land		−0.154 *	0.091	−0.186 **	0.086
Condition of rural residential land use	Idle	0.745 **	0.292	0.972 ***	0.266
	Rented	1.042 ***	0.340	1.055 ***	0.332
3. Compensation Policies for Quitting Rural Residential Land					
Monetary compensation	Yes	0.243 *	0.140	—	—
Housing compensation	Yes	0.180	0.313	—	—
Social security	Yes	0.025	0.288	—	—
Quitting by buying shares with right of rural residential land use	Yes	0.240	0.371	—	—
Monetary compensation	Preference	—	—	0.290 **	0.133

Table 9. Cont.

Name of Variable	Option	Model 1		Model 2	
		Coefficient	Standard Error	Coefficient	Standard Error
Housing compensation	Preference	—	—	0.287 ***	0.110
Social security	Preference	—	—	0.031 **	0.132
Quitting by buying shares with right of rural residential land use	Preference	—	—	0.175	0.153
4. Control Variable					
Gender		0.240	0.274	0.237	0.282
Age		−0.041 *	0.021	−0.042 **	0.018
Marital status		0.492	0.390	0.511	0.394
Hometown	Eastern region	0.164	0.407	0.182	0.405
	Western region	0.097	0.372	0.143	0.368
Whether having children studying in Xi'an		0.768 ***	0.260	0.831 ***	0.263
R^2		0.306		0.412	

Note: ***, **, * signifies variables statistically significant at the 1%, 5%, 10% level.

5.2. Robustness

In this section, the paper verifies the robustness of the obtained results. In the previous section, the paper depicts the migrant workers' willingness to buy houses in cities in two ways. The first one is based on the existing compensation policy, while the second is based on the assumption that migrant workers are allowed to choose their favorite compensation policy. The sign and significance level of each coefficient in the two models is similar, so the obtained results are robust.

Furthermore, considering that control variables may also influence the models [17–20], the paper then excludes control variables in order to validate the models. Please refer to the estimated results in Table 10. The significance level of each coefficient does not change significantly after the exclusion of control variables. Therefore, the obtained results can be considered robust.

Table 10. The robustness test: the exclusion of control variables.

Name of Variable	Option	Model 1		Model 2	
		Coefficient	Standard Error	Coefficient	Standard Error
1. Individual resource endowment					
Education		0.258 *	0.150	0.288 **	0.141
Monthly income		0.386 ***	0.112	0.410 ***	0.136
Occupation	Business or service sector	0.412 *	0.278	0.540 *	0.325
	technician	0.521	0.379	0.572 *	0.309
Working age		0.039 **	0.022	0.049 ***	0.011
2. Household resource endowment					
Current living condition	Renting	0.372 *	0.226	0.542 *	0.312
	Organization-owned housing	0.690 **	0.342	0.909 ***	0.267
Ratio of working wage		1.156	0.840	1.144	0.767
Geographic distribution feature of rural residential land		−0.152 *	0.092	−0.181 **	0.083
Condition of rural residential land use	Idle	0.745 ***	0.222	0.968 ***	0.261
	Rented	1.031 ***	0.325	1.041 ***	0.328

Table 10. Cont.

Name of Variable	Option	Model 1		Model 2	
		Coefficient	Standard Error	Coefficient	Standard Error
3. Compensation policies for quitting rural residential land					
Monetary compensation	Yes	0.237 *	0.135	—	—
Housing compensation	Yes	0.176	0.307	—	—
Social security	Yes	0.022	0.274	—	—
Quitting by buying shares with right of rural residential land use	Yes	0.233	0.389	—	—
Monetary compensation	Preference	—	—	0.283 **	0.137
Housing compensation	Preference	—	—	0.311 ***	0.105
Social security	Preference	—	—	0.443 ***	0.132
Quitting by buying shares with right of rural residential land use	Preference	—	—	0.145	0.149
R ²			0.289		0.353

Note: ***, **, * signifies variables statistically significant at the 1%, 5%, 10% level.

5.3. Results

5.3.1. Analysis of Model 1 Estimated Results

The estimated results of Model 1 suggests that based on the existing compensation policy, individual resource endowment has a significant effect on migrant workers' willingness to buy houses in cities, while policies alone are not very motivating.

In terms of personal resource endowment: education, monthly income and working age all have a positive influence on migrant workers' willingness to buy houses in cities; compared with those who work in the ordinary manufacturing industry, those who are employed in business or the service sector have a stronger desire to buy houses in cities. In a word, the results above indicate that the more personal resource endowment migrant workers have, the stronger ability they can obtain to seek resources and an opportunity to survive and develop in cities. Therefore, they are more capable of living continuously and stably in cities—eventually, they are more willing to buy houses in cities.

In terms of household resource endowment, in comparison with migrant workers who have self-owned houses, those who live in rented houses or houses owned by organizations have a stronger desire to buy houses in cities; those who have houses in urban villages or suburban villages are more willing to buy houses in cities than those whose houses are in remote villages; compared with migrant workers whose families are still living on rural residential lands, those whose rural residential lands are standing idle or are transferred by means of renting are more eager to buy houses in cities. In a nutshell, household resource endowment can directly improve migrant workers' financial ability, making their careers and development strategies more diversified, thus motivating them to buy houses in cities.

The existing monetary compensation policy has a positive impact on migrant workers' willingness to buy houses in cities, but only shows a significant level of 10%. The reason for this may be that monetary compensation policies give direct financial support to migrant workers and to some extent encourage them to buy houses in cities, while other compensation policies have no prominent influence on migrant workers' willingness to buy houses in cities.

5.3.2. Analysis of Model 2 Estimated Results

In order to compare the difference between existing policies and what migrant workers prefer, Model 2 estimated the impact of various factors on migrant workers' willingness to buy houses in cities if they are allowed to choose their favorite compensation policies for quitting rural residential land. The result manifests that when individual preference is respected and an alternative

compensation mechanism is employed, resource endowment (including personal and household resource endowment) has a more remarkable effect on migrant workers' willingness to buy houses in cities. Meanwhile, policies play a more positive role.

When migrant workers are permitted to choose their favorite policies according to their own conditions, the effect of resource endowment strengthens. Compared with Model 1, the positive impact of education shows a significant level of 5%; the positive impact of monthly income stands the test with a 1% significant level; technicians are more prone to buying houses; the positive effect of working age attains the significant level of 1%; the regression coefficient of renting rises from the original 0.376 to 0.542; the positive impact of living in organization-owned houses stands the test with a significant level of 1%; the positive impact of the present condition of rural residential land use stands the positive impact with a significant level of 1%. The reason for the differences of significance above may lie in the fact that as a rational group, migrant workers will sort the effectiveness of existing compensation policies for quitting rural residential land combined with their own resource endowment. If compensation policies can be well matched with individual features, then the effectiveness of resource endowment can be further strengthened and more migrant workers will be willing to buy houses in cities.

The positive impact of monetary compensation policies on migrant workers' willingness to buy houses in cities is more outstanding, and stands the test with a significant level of 5%. For some migrant workers, lacking disposable income is the most obvious factor that prevents them from buying houses and settling down in cities. Another possibility is that the asset function of their rural residential land is remarkable. As a result, if migrant workers are allowed to choose their favorite compensation policies for quitting rural residential land, monetary compensation can supply them with powerful financial aid.

The positive impact of housing compensation policies on migrant workers' willingness to buy houses in cities is more remarkable with the significant level of 1%. Rural residential lands in remote villages have nearly no asset function, with their security function bating; for those migrant workers who have taken their families to where they work, they are desperate to improve their current living conditions. Therefore, the policy of exchanging rural residential lands for houses (most are houses centralized in towns at present) or a housing allowance (migrant workers can buy houses priced at the construction cost) can not only encourage migrant workers to quit rural residential lands in their hometown actively, but also reduce the cost of improving current living conditions and facilitate them to buy houses in cities.

In Model 2, social security policies have a positive impact on migrant workers' willingness to buy houses in cities, with the significant level of 5%. For some migrant workers, when their disposable income is fixed, their precautionary demand for money increases, while their transaction currency for buying houses declines. Thus, if migrant workers are allowed to choose their favorite compensation policies for quitting rural residential lands, replacing rural residential land with social security can effectively ease individual concerns towards ageing and future emergencies. Consequently, individuals will have more disposable income to satisfy their need for transactions. For instance, they will be much more eager to buy houses in cities.

In summary, the differences between Model 1 and Model 2 are mainly due to different compensation policies. Since the compensation policies can provide part of the economic subsidy for migrant workers to buy houses in cities, migrant workers' endowments, their family endowments and compensation policies will jointly affect their willingness to buy houses. However, the individual endowments of migrant workers and the expected economic subsidies provided by the compensation policies are different, which explains to a certain extent the fact that migrant workers' expected compensation policies have a greater impact on their willingness to buy houses in the cities compared with the actual compensation policies.

6. Conclusions and Recommendations

A comprehensive analytical framework was set up from the perspective of individual resource endowment and compensation policies for quitting rural residential land to analyze the key factors that affect migrant workers' willingness to buy houses in cities. The study found that migrant workers' willingness to buy houses in cities is closely related to their individual resource endowment. In terms of migrant workers themselves, those who have a higher education and monthly income, longer working age and jobs in business or the service sector are more willing to buy houses in cities; in terms of their families, those migrant workers who are renting or living in organization-owned houses are inclined to buy houses in cities. If their rural residential lands are located in urban or suburban villages or stand idle or are transferred by renting, then their willingness to buy houses in cities will also become stronger.

The results of the two regression models suggests that the existing compensation policies for quitting rural residential land do not match with what migrant workers actually prefer and that there are differences between their influences on migrant workers' willingness to buy houses in cities. The results also reveal why the compensation policies cannot fully exert impact on migrant workers' willingness to buy houses in cities. The empirical results further indicate that when migrant workers are permitted to choose their favorite compensation policies for quitting rural residential land, the policy effect will be more remarkable and the effect of individual endowment will also be amplified.

Since that individual resource endowment also determines migrant workers' preference for the compensation policy for quitting rural residential land, a packet of alternative policies should be designed to allow heterogeneous migrant workers to have more choices in terms of compensation policies for quitting rural residential land. For example, based on the differences between regions, the government can inject more money into implementing compensation policies such as quitting by buying shares with the right of rural residential land use or mortgages on land use rights for migrant workers in the eastern region, while for the central and western regions, monetary or housing compensation policies are more applicable; for elderly migrant workers, policy support for social security should be strengthened.

As a huge group under the urban–rural dual system, migrant workers on the one hand are willing to quit their rural residential lands in their hometowns; on the other hand, they plan to buy houses and settle down in cities. The compensation policy for quitting rural residential land can not only improve the efficiency of intensive land use, but also fulfill the target of reducing the number of unsold houses by fostering migrant workers desire to buy houses in cities. Therefore, future studies should endeavor to explore further how to make flexible compensation policies in order to coordinate with migrant workers on transferring their right of rural residential land use without conflict and to improve their willingness as well as their ability to buy houses in cities.

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