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ARTICLE

What Influences The Family Migration Decision of China's New Generation Rural-urban Migrants? A Multilevel Logistic Regression Analysis

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ABSTRACT

The massive scale of new-generation rural-urban migrants in China has attracted extensive scholarly attention in recent years. While previous studies on China's rural migrant workers focus on migrants' settlement intentions, migrants' family migration decision-making and the intergenerational differences between the old-generation migrants and new-generation migrants are underexplored. Based on the data of the 2017 China Migrants Dynamic Survey, this paper adopts a multilevel logistic regression approach to explore family and destination factors influencing the family migration decisions of China's new generation of rural migrant workers. The empirical results reveal that both the migrants' family and destination attributes significantly influence their family migration decision. The demographic and socioeconomic characteristics of the family have been pivotal factors underlying the family migration decision of China's new generation rural-urban migrants, while 16.9% of the chances are explained by between-destination differences. Self-employed migrants with housing properties in host cities, long migration duration and high-income levels are more likely to migrate with their family members. Yet, the possibility of family migration is found to be significantly and negatively correlated with the age, education level, number of children and inter-provincial mobility of the new generation of migrant workers. In addition, new-generation rural-urban migrants' family migration is more likely to be found in cities with service-oriented industry structures, better environmental quality, and higher *hukou* barriers which is possibly related to more job opportunities. These research findings not only complement the existing literature on China's new generation of rural urban migrants, but also have important policy implications for reforming *the hukou* system and enhancing social integration of the rural-to-urban migrant population.

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1. Introduction

Migration studies have long focused on individual migration which is often motivated by human capital development and economic considerations [1-3]. Compared with the extensive research on the determinants of individual migration across regions, relatively less scholarly attention seems to be paid to the issues of migrants' family migrations [4-6]. To our best knowledge, until recently, a burgeoning body of literature started to highlight the importance of family and identified how family factors influence migrants' decisions [7-9]. From the existing studies, it can be seen that higher income, a better life for family members and family reunification in the destinations are usually the main incentives of those migrants no matter which country they come from [10,11]. This gave rise to a worldwide heated discussion on social integration, identities and migration. Family migration has been a significant issue on the political agendas of many countries [12,13].

Rural-to-urban migration in a developing country has also been one of the central topics investigated in population geography and migrant studies [14-16]. The last three decades have witnessed an unprecedented wave of rural-to-urban migration in China, which has been the keystone of China's rapid economic development and urbanization. This ever-expanding wave of internal migration in China has attracted much attention from both academic researchers and policymakers. Meanwhile, in the past ten years, the new generation of migrant workers has become the major force of rural-to-urban migration in China. New-generation migrant① workers are rural-to-urban migrants who were born after 1980, including but not limited to the offspring of former migrants. The 'post-80s' migrants are found to be more skilled and educated, and prefer to work in the service and manufacturing sectors instead of the construction industry [17]. As China's urbanization further advances and regional differences increase, the new-generation rural migrants (NGRMs) have a strong desire to settle in urban destinations. Remarkably, an increasing number of married NGRMs migrated with their family members to seek better social welfare for their whole households [18,19]. This indicates that family migration has become a prominent mode of new-generation rural-to-urban migration in China.

In the past few years, realizing social discontent caused by the development model of land-based urbanization, the Chinese central government has gradually put forward the "people-oriented urbanization" strategy that highlights and enhances inclusiveness, social equality and life quality among urban residents. One of the critical parts of this "people-oriented urbanization" policy has been to progressively release the household registration (*hukou*) restriction in cities and designated towns.② NGRMs are given priority to acquire local *hukou* in their urban destinations, which enables them to migrate to the cities they prefer with comparative freedom and based on the needs of their families. In this case, cities may need to transform how they operate to manage the pressures of people coming in. Therefore, it is critical for academic scholars and policymakers to understand the determinants of the family migration decision of NGRMs, known as the major migrant labor force in urbanizing China, so that appropriate migration measures can be carried out.

Much of the literature concerns the intergenerational difference between the old generation and the new generation of rural migrants, investigating NGRMs' career development, social integration and self-identity in their urban life [20-22]. Compared to the old generation, NGRMs are eager to be recognized as urban residents and to find a the sense of belonging in their adopted cities [20]. A steady job with satisfaction and fulfillment is an important way to realize this desire [21]. A small but increasing number of scholars have also attempted to reveal the determinants of NGRM's settlement intention [23-25]. However, attention has been so overwhelmingly paid to the individual permanent settlement intention of NGRM that it obscures the role played by the demographic and socioeconomic characteristics of family and the behaviours of the family settlement.

Meanwhile, a growing number of studies have paid efforts to explore the underlying factors that influence the family migration decision of China's rural-to-urban migrants [26-28]. Most of these studies have treated China's rural-to-urban migrants as a homogeneous and uniform group, while little is known about migrants' internal heterogeneity. While the NGRMs have emerged to constitute a large proportion of the current rural-to-urban migrant population in Chinese cities, studies focusing on the nature

① In the Western literature on migrant studies, 'new generation migrants' refer to migrants who were born in host countries or migrated to host countries at a young age [61,62].

② Since the 2020 China's New Urbanization Document was released, Chinese government has lifted up the *hukou* restriction of cities where urban residence population is less than 3 million, with permission for the access of stable and legal home and employment to *hukou* acquirement for migrants. For cities with population above 3 million, the government has released the *hukou* restriction on the new-generation rural migrants and other migrants who have lived in the city for above 5 years and migrated with their family. Most cities like Dalian, Jinan and Changsha have deregulated. But some better-developed cities located in the central or coastal region like Wuhan, Xiamen and Dongguan, still request for long duration of stay and home ownership. Those cities who have been implementing the credit system for *hukou* acquisition assessment also lower the credit threshold.

and dynamics of the family migration decision of China's NGRMs have been very limited until recent years. As there are remarkable differences between the first-generation migrants and new-generation migrants in their socio-economic characteristics, the dynamics of NGRMs' family migration decision cannot be gleaned from the existing migrant studies which are largely generalized from the experience of the old-generation rural-to-urban migrants.

Based on the sample data of the China Migrants Dynamic Survey in 2017, which involved 43,165 samples and 253 prefecture-level cities, we develop a multilevel logistic model to examine the factors influencing NGRMs' family migration decisions through the family and destination perspectives. We hope to contribute to the existing literature on China's rural-to-urban migrants by empirically exploring the determinants of NGRMs' family migration decisions and associating family and destination factors with NGRMs' intention of urban settlement. We attempt to address a series of questions that remain significant both theoretically and empirically. Can any particular characteristics of NGRMs be identified? What are the family factors that are responsible for NGRMs' family migration decision-making? What are the destination factors underlying NGRMs' family migration decision-making? What are the differences between the old generation and the new generation in terms of family migration decisions? Answering these questions provides a useful complement for empirical research in the literature on NGRMs and new insights into NGRMs' permanent urban settlement as well as China's high-quality urbanization.

The article is organized as follows. The next section reviews the relevant literature on family migration. Section 3 introduces the data source and methods. Section 4 presents the results of our empirical estimation and the robust checks. The final section concludes the major research findings and discusses the important implications.

2. Literature Review

Family is built up of individuals. Previous studies of family migration have divided family migration into two aspects: One is migrating process in the way of one-step moving or moving in batches [7,18], and the other is the completion of family migration and reunion in the destination [26]. We focus on the latter. Although family migration is not the same as a permanent settlement, it can still impact the migrants' settlement intention positively, increasing the possibility of permanent settlement [19].

To date, a growing number of studies have highlighted the influence of factors that are associated with family migration. A family migration decision is a rational and synthesized decision based on multiple conditions in terms of the whole household [29]. Hence we cannot ignore the impact of family factors. Meanwhile, one major approach in early migration studies emphasized economic incentives behind the migration decision [30]. Based on human capital theory, this approach regarded migrant settlement as a process to maximize the value of human capital and economic benefits [31-33]. in particular, education, including formal school learning and vocational training, is an essential part of human capital. Owing to the requirement for degrees from job openings in cities, well-educated migrants are more likely to get employed and attain high income, which promotes their family members' accompanying migration [34]. It is worth mentioning that rural migrants highly value children's education, but the opportunities and costs of attending school in the destination city are closely related to their local *hukou* acquirement [35]. Moreover, the longer stay that migrants have in the urban destinations, the more human capital they will cultivate, which increases the possibility of their family settlement [36]. Distance is also demonstrated as an important factor [37]. Compared with inter-provincial migration, intra-provincial migration is easier for the migrants to cultivate human capital because of the similarity of local language and socio-cultural context within the same regions [38,39].

In China, early rural migrants suffered from serious institutional discrimination in the host cities and could not get employed in the formal sectors due to their rural *hukou*. Many of them chose to work in the informal sectors or became self-employed [40]. As China's urbanization further advanced, an increasing number of rural migrants started to set up their family-owned businesses, such as small stalls and small- and medium-sized firms [41]. It has been noted that self-employed rural migrants can prolong business hours to obtain higher income, which finances their family settlement [42,43]. In addition, housing is considered a major necessity for family settlement. Research reveals that the ownership of rural housing land can influence the urban settlement intention of migrants because of the existing economic and emotional attachment [24], while urban home ownership can contribute to their family migration [44,45].

The *hukou* restriction and unfair access to local public service make destination factors a study focus in the recent literature on family migration decisions in China [46]. Rural-to-urban migrants fail to acquire the same public service and welfare like health insurance, children's elementary education and public housing as residents. Migrants' family migrations are thus discouraged. Existing research proves that the mechanism of destination factors is complex [47]. Migrants tend to move to cities with a higher proportion of non-agricultural industry and greater expected income levels for better employment and career

development opportunities [23,47,48]. A few studies also show that public service provisions such as an abundant supply of elementary education and high environmental quality also encourage migration [27,49-51].

With the successive retirement of the old generation of rural migrants in the last decade, NGRMs, born after 1980, become the major rural-to-urban group and the main urban workforce [17,52]. They show a series of intergenerational differences in economic and social characteristics, which causes concerns from Chinese scholars and policymakers. It has been argued that, compared to the old generation, NGRMs have higher education, careful attention to employment and career, limited farming experiences, and strong aspirations toward urban lifestyles [17,52]. These characteristics may facilitate their family migration and drive them to settle in the host cities. When it comes to policy, since 2016 the Chinese central government has released a circular to urge the necessity for plans to grant *hukou* to the existing 100 million rural migrants with steady jobs, especially NGRMs. This offers NGRMs relatively more choices for the permanent urban dsetinations. All these imply that the determinants of family migration decisions of NGRMs may differ from those of the old generation. But still, the literature on this aspect suffers from a lack of empirical support. We believe that a comprehensive investigation on the determinants of family migration decision of NGRMs will not only help better understand the adjustment and compromise of family migration decisions of Chinese rural-to-urban migrants in the changing social and political context, but also act as useful guides for both Chinese central and local government to make better people-oriented urbanization policies and to steer NGRMs to reasonable family migration and settlement.

This article contributes to the growing body of literature on China's new generation of rural-to-urban migration on two fronts. First, aimed at complementing the lack of studies on the family migration decisions of NGRMs, we explicitly tested the influence of family and destination factors on the family migration decisions of NGRMs. Second, in methodological terms, many previous studies on the determinants of family migration and settlement have been based on frequently-used logistics models which ignores the estimation bias of multilevel data [46,53]. Therefore, we proposed a multilevel logistic model to carry out the test, which we believe will help tackle the bias issue.

3. Data and Methodology

3.1 Data and Variables

China Migrants Dynamic Survey is yearly conducted by China's National Health Commission, using probability proportionate to size sampling. Migrants are defined as those who have been living in their host city for above a month without local *hukou*. The 2017 survey included nearly 170,000 respondents aged above 15.78% of which hold rural *hukou*. In this research, NGRM refers to a married migrant who was born after 1980, received senior high school education or below and had rural *hukou*. Urban socio-economic data of destination cities in 2016 are collected from the 2017 China City Statistical Yearbook. Considering the availability and integrity of a sample and city-level data, we deleted samples whose city only had less than 10 valid samples. We finally selected 43,165 samples from 253 prefecture-level cities. In this study, family refers to the nuclear family [18]. We define the dependent variable of family migration decision as a dummy variable (*Family migration*), which equals 1 if a migrant lives in the urban destination with his spouse and at least 1 underage child (childless couples are also involved), and 0 otherwise.

Following the previous literature, we selected 9 explanatory variables in the family perspective and 5 variables in the destination perspective to explore what are the influences of all these factors. Table 1 shows the definitions and summary statistics of the variables. Among the family factors, we include *Age*, *Years of schooling*, *Number of children*, *Duration of stay*, *Inter-provincial mobility*, *Self-employment*, *Rural housing land*, *Homeownership* and *Income*. *Age*, *Years of schooling*, *Duration of stay* and *Inter-provincial mobility* can promote and reflect the accumulation of human and social capital in the destination and contribute to the economic integration of the migrant following the migration of their family members. Particularly, *Inter-provincial mobility* is set to study the effect of the migration distance which has an impact on migrants' migration cost and social integration [54]. Previous studies display that intra-provincial migration can help reduce costs. Compared with inter-provincial migration, intra-provincial migration is easier for the migrant to cultivate human capital because of the similarity of local language and socio-cultural context within the same province. The *Number of children* measures the household size of migrants' family and can reflect the migration cost that the family suffers from. Since the group of self-employed rural migrants is sizeable, the dummy variable *Self-employment* is added to test if there are differences between the self-employed and the employed. *Rural housing land* and *Homeownership* are also dummy variables to measure the influences of rural housing land and urban home ownership on family migration decisions.

When it comes to the destination factors, we include *Economy*, *Industry*, *Elementary education*, *Environment*

quality and *Hukou threshold*. We include *Economy* and *Industry* to capture a destination city's economic development level and opportunities in the labor market. *Elementary education* and *Environment quality* are set to measure the supply of elementary education and the provision of public green areas. Married migrants are proven to be concerned with the availability and quality of elementary education for their underage children [53]. Due to China's *hukou* system, access to elementary education is closely related to the local *hukou*. The children of migrant workers thus do not have equal access to elementary education compared with those of the local urban residents. Therefore, children's elementary education is often considered an important factor influencing rural-to-urban migrants' migration decisions in the existing literature. The *Hukou threshold* refers to the extent of household registration restriction and the threshold of *hukou* acquisition in the destination city. As found in Liu and Xi's work [46], cities with greater *hukou* registration restrictions tend to discourage migrants' family migration decisions.

3.2 Descriptive Analysis

Figure 1 shows that the ratio of family migration of the selected respondents has maintained continuously above 70% in recent years. This proves the distinct tendency towards family migration in the NGRM group. Table 2 presents the descriptive analysis of our variables. Most selected respondents have one or two underage children. More than half of the samples have only received middle school education, and owned rural housing land in their rural registered place. According to *2020 China's New Urbanization Plan* published by China's State Council, migrants living in the current destination for 5 years or above are thought to be permanent residents and will be given priority in the urban *hukou* acquisition. Results show that 54.9% of NGRMs have lived in their current destination for below 5 years. Those who migrate inter-provincially and got employed account for more than 50% of the selected respondents. Only 16.2% of respondents possessed home ownership in their host cities. After we divided the respondents into 5 groups by their income listed in order from low to high, we found that nearly a half of the respondents fell into the middle-income and low-income group. To sum up, most of NGRMs have small-size families, attain low education, and migrate inter-provincially. Also, the majority of them still own rural housing land, stay in the host cities for less than 5 years and do not obtain high income or house ownership in their urban destinations. Working for employers is the major way for them to access a job in the host cities.

Table 1. Variables included in the multilevel models

Variable	Definition	Mean	SD
Dependent variable			
Family migration	1 for family migration and 0 otherwise	0.70	0.456
Family (householder) characteristics			
Age	Years	30.60	4.077
Years of schooling	Respondent's educational attainment (0 for uneducated experience, 6 for primary school, 9 for junior middle school, 12 for senior high school or technical secondary school)	9.54	1.987
Number of children	Respondents' number of children whose age < 18	1.36	0.715
Duration of stay	Years (in the host city)	5.14	4.488
Inter-provincial mobility	1 for inter-provincial mobility and 0 otherwise	0.51	0.500
Self-employment	1 for if self-employed	0.31	0.464
Rural housing land	1 for having residential land in the rural village	0.70	0.459
Home ownership	1 for owning estates in the host city	0.16	0.368
Income	Family monthly income (yuan)	7354.19	5071.998
Destination characteristics			
Economy	GDP per capita	68949.33	40847.552
Industry	Ratio of GDP of tertiary industry to GDP of secondary industry	1.22	0.677
Elementary education	Number of teachers for every 100 pupils	5.70	1.221
Environmental quality	Public green areas for every 100 residents	0.10	0.083
Hukou threshold	Ratio of residence population to registered population	1.16	0.681

Source: 2017 data of China Migrants Dynamic Survey and 2016 China City Statistical Yearbook.

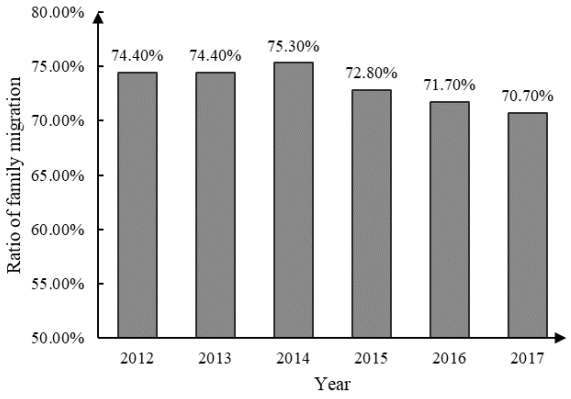

Figure 1. Ratio of family migration of the married new-generation Chinese rural migrant respondents during the period from 2012 to 2017

3.3 Method

A standard logistic regression model cannot be used in a multilevel data structure where participants are nested in clusters (cities) because this violates the fundamental assumption of independence of the residuals in the linear model [55]. In this research, respondents nested in the same city are interdependent and more likely to act in the same way than those nested in various cities. A multilevel logistic model can tackle this bias issue of multilevel data effectively compared to the frequently-used standard logistic model [35,56]. Multilevel logistic models can be divided into 3 model purposes. Here we use a null model to examine whether there are between-destination differences in family migration decisions. The random coefficients regression model is used to select family variables whose $p<0.05$ and examine whether there are between-destination differences in the estimation results of the family variables. We use a full model to estimate the whole influences of family and destination variables. These 3 models are listed as follows.

(1) Null model

$$\text{Level 1: } \text{logistic}\{\text{Prob}(Y_{ij}=1|X)\}=\beta_{0j} \quad (1)$$

$$\text{Level 2: } \beta_{0j}=\gamma_{00}+\mu_{0j} \quad (2)$$

(2) Random coefficients regression model

$$\text{Level 1: } \text{logistic}\{\text{Prob}(Y_{ij}=1|X)\}=\beta_{0j}+\beta_{kj}X_{kij} \quad (3)$$

$$\text{Level 2: } \beta_{0j}=\gamma_{00}+\mu_{0j} \quad (4)$$

$$\beta_{kj}=\gamma_{k0}+\mu_{kj} \quad (5)$$

(3) Full model

$$\text{Level 1: } \text{logistic}\{\text{Prob}(Y_{ij}=1|X)\}=\beta_{0j}+\beta_{kj}X_{kij} \quad (6)$$

Table 2. Profiles of the married second-generation Chinese rural migrant respondents

Householder characteristics	Respondents (%)	Ratio of family migration (%)	Householder characteristics	Respondents (%)	Ratio of family migration (%)
Number of children			Rural housing land		
Childless family	9.4	80.7	1	69.8	68.7
1	49.2	68.4	0	30.2	74.5
2	37.5	70.8	Self-employment		
3 or above	3.9	68.0	1	31.3	75.5
Age			0	68.7	68.2
Born before 1990	75.7	69.9	Home ownership		
Born after 1990	24.3	72.1	1	16.2	76.2
Years of schooling			0	83.8	69.3
0	0.9	76.2	Income		
6	9.2	71.3	Low income	20.1	69.4
9	60.0	70.3	Lower-middle income	20.1	72.8
12	29.9	70.3	Middle income	22.9	70.6
Mobility			Upper-middle income	26.7	67.7
Inter-provincial mobility	51.1	65.1	High income	10.2	74.6
Intra-provincial mobility	48.9	76.1			
Duration of stay					
< 5 years	54.9	66.2			
≥ 5 years	45.1	75.6			

Notes: Householder characteristics are defined in Table 1.

Level 2: $\beta_{0j}=\gamma_{00}+\gamma_{0m}W_{mj}+\mu_{0j}$ (7)

$$\beta_{kj}=\gamma_{k0}+\gamma_{km}W_{mj}+\mu_{kj} \quad (8)$$

The respondents are indexed by the subscript i (Level 1), and the destinations are indexed by the subscript j (Level 2).

Y_{ij}, a binary dependent variable, represents the family migration decision.

In Level 1, X_{Kij} represents variables of respondent i, and k means their numbers.

β_{oj} and β_{kj} respectively represent the intercept and slope of the clusters comprised of respondents from the same destination j.

In Level 2, W_{mj} represents variables of destination j, and m means their numbers.

γ_{00} and γ_{K0} are intercept and slope of Level 2.

γ_{0m} and γ_{k0} are slopes that connect the intercept and slope of Level 1 with W_{mj} of Level 2.

μ_{0j} and μ_{kj} are residuals of Level 2.

4. Empirical Findings

4.1 Null Model

We first run a null model to find out the extent to which the odds that the family migration decisions equalled 1 rather than 0 varied from one destination to another, and calculated the intraclass correlation coefficient (ICC). ICC>0.059 indicates a applicable multilevel logistic model and its ICC can be calculated as the formula $ICC=Var(U_0)/[Var(U_0)+\pi^2/3]$, in which $Var(U_0)$ is the between-cluster variance. In this research, $Var(U_0)=0.669$, $ICC=0.169$, means that 16.9% of the odds of a family migration decision was explained by between-destination differences. Therefore, it is appropriate to use multilevel models to estimate the determinants of family migration decisions, which includes both the family factors and the socioeconomic characteristics of host cities.

4.2 Random Coefficients Regression Model

After the z-score standardization, we employ the random coefficients regression model. Table 3 presents the estimation results. It is found that the self-employed NGRMs are more likely to migrate with their family members. This may be because self-employment is a more financially rewarding option for most rural migrants, and an initiative and rational decision based on the interest of their families [57]. Meanwhile, the possibility of NGRMs' family migration tends to be higher if they own a housing property in the host cities. House purchasing is a way to acquire local *hukou* and accompany public goods [58]. Also, it indicates that the NGRMs' family has a considerable amount of money to afford houses in cities. NGRMs with a longer length of migration and a higher income level at the host locations are found to be more willing to migrate with their family members. These characteristics will help NGRMs cultivate social capital and financial capital and prepare for their families' migration.

However, *Age*, *Years of schooling*, *Number of children* and *Inter-provincial mobility* is significantly and negatively associated with NGRMs' family migration. Small families are proven to be easier to migrate and unite in the destination cities [59]. A long distance away from their hometowns and diverse socio-cultural environments may not help the migrants integrate into the local community, which discourages them from bringing spouses and children to the host cities. The negative impact of *Age* is possibly caused by the intergenerational differences [17]. Younger NGRMs may accept and be used to the urban lifestyle, while some older NGRMs are kind of closer to the old generation in their attachment to their hometowns. For the negative effect of migrants' education, it may be the fact that those who have few school years would immigrate to cities to find a job due to the lack of farming experience, which could help them accumulate human and social capital in an early time and help with the following migration of family members.

The variable of *Rural housing land* does not have a significant impact (p=0.284) on the family migration decision and *Rural housing land* would be deleted in the following full model. In fact, because of the early urban working experience and the lack of farming experience, NGRMs show a weaker connection with their original villages. Although rural residential land becomes an economic insurance for first-generation migrant workers after their retirement, it does not work on NGRMs. On the contrary, home ownership in the host cities can improve the attractiveness of NGRMs in the marriage market and increase their household wealth with housing appreciation [45]. In addition, the result of variance component testing can show whether the outcome of family attributes variables varies from destination to destination. We found that all family attributes variables had passed the significance test ($p<0.01$) except *Years of schooling*, which happened before the migration of NGRMs. This means that the outcome of family variables varied from host city to host city and it is necessary to build Level 2 model for revealing the influence of destination variables.

Table 3. Results of the random coefficients regression model

Variable	Coeff.	Variance component testing	
		Variance Components	Chi-square
Inter-provincial mobility	–0.114** (0.031)	0.131**	288.794
Rural housing land	–0.027 (0.025)	0.048**	277.585
Self-employment	0.362*** (0.033)	0.169***	372.037
Home ownership	0.086* (0.042)	0.314***	403.995
Number of children	–0.030* (0.015)	0.034***	406.491
Age	–0.047** (0.014)	0.022**	293.471
Years of schooling	–0.024* (0.010)	0.007	213.885
Duration of stay	0.168*** (0.017)	0.054***	487.564
Income	0.118*** (0.014)	0.036***	320.298
Intercept	0.758*** (0.053)	0.864***	701.513

Notes: All numbers in parentheses are robust standard errors. ***, ** and * represent statistical significance at the 0.001, 0.01 and 0.05, respectively. Results are based on the calculation of the software HLM 6.08. Variables are defined in Table 1.

4.3 Full Model

Following the results above, we added the family variables (except *Rural housing land*) to Level 1 and destination variables to Level 2 in the full model. The full model of multilevel model not only estimates the outcomes of family variables and destination variables respectively, but also reflects the interaction between them. If the coefficients of these two variables are consistent (both plus or both minus), the interaction results of family migration decisions will be intensified by the consistent effects, otherwise, it will be weakened.

The column whole samples (1) in Table 4 shows the result of the full model. The estimations coincided with the result of Section 4.2. In terms of destination factor variables, *Industry*, *Environmental quality* and *Hukou threshold* had a significantly positive impact on the family migration decision of NGRMs, while *Economy* and *Elementary education* did not influence significantly. The positive influence of *Industry* and *Environmental quality* has been proved in previous studies [27,48,51]. Developed tertiary industries warrant more job opportunities in service sectors for both low-skilled and high-skilled migrants. Meanwhile, environmental quality can significantly influence the health of migrants and their children. The married NGRMs are more concerned with the environmental quality in their destination cities when making family migration decision. But the positive effects of *hukou threshold* found in this research seems to contradict the existing studies [46]. Thereby we will have a further test in the following part.

When the significance level is 0.05 and we look at the interactions of variables, we found that the *Economy* intensified the positive impact of *Duration of stay*. *Industry* and *Environmental quality* respectively intensified the positive impact of *Income*. These indicate that a city with a developed tertiary industry and more green areas tend to retain more NGRMs and their families, especially those who can afford the cost of living. The *Hukou threshold* intensified the negative impact of *Inter-provincial mobility* and the positive impact of *Self-employment*, and weakened the positive impact of *Homeownership* and *Duration of stay*. Although the *Hukou threshold* shows a positive impact in this study, it remains a critical institutional barrier for NGRMs to settle down in cities, whether they can afford the house in the destination city or not. For self-employed migrants, it seems that *hukou* could not limit their work, but still public welfare like medical insurance related to the local urban *hukou* is inaccessible.

Table 4. Results of the full models of multilevel logistic models of family migration decision

Variable	Whole samples (1)	Eastern group	Central group	West group	Whole samples (2)
For *Intercept 1* β_{oj}					
Intercept γ_{00}	0.732*** (0.050)	0.817*** (0.070)	0.684*** (0.090)	0.867*** (0.079)	0.713*** (0.078)
Economy	0.062 (0.060)	0.039 (0.068)	0.149 (0.173)	0.150 (0.126)	0.024 (0.066)
Industry	0.089* (0.042)	0.081 (0.070)	0.069 (0.099)	0.119 (0.084)	0.074 (0.040)
Elementary education	0.035 (0.057)	–0.226** (0.067)	0.195* (0.074)	0.027 (0.081)	0.049 (0.056)
Environmental quality	0.208** (0.066)	0.016 (0.070)	0.174 (0.187)	0.139* (0.070)	0.222** (0.066)
Hukou threshold	0.119*** (0.028)	–0.021 (0.038)	0.179* (0.073)	0.090 (0.159)	0.128*** (0.029)
City size (refer to *Small city*)					
Megacity					–0.231 (0.185)
Large city	No	No	No	No	0.260* (0.120)
Medium-size city					–0.115 (0.130)
For *Inter-provincial mobility*					
Intercept	–0.120** (0.035)	–0.312*** (0.050)	–0.067 (0.049)		–0.204** (0.061)
Economy	–0.017 (0.035)				–0.025 (0.043)
Industry	–0.018 (0.029)				–0.009 (0.028)
Elementary education	0.035 (0.041)				0.052 (0.041)
Environmental quality	–0.068 (0.038)				–0.071 (0.038)
Hukou threshold	–0.077** (0.022)				–0.077** (0.021)
For *Rural housing land*					
Intercept		–0.079 (0.063)			
Economy		–0.111* (0.052)			
Industry		0.042 (0.024)			
Elementary education		0.148* (0.074)			
Environmental quality		0.099 (0.054)			
Hukou threshold		0.142*** (0.031)			
For *Self-employment*					
Intercept	0.381*** (0.034)	0.470*** (0.062)	0.430*** (0.071)	0.185*** (0.043)	0.419*** (0.058)
Economy	–0.151*** (0.036)	–0.111* (0.056)	–0.080 (0.123)		–0.127** (0.042)

Table 4 continued

Variable	Whole samples (1)	Eastern group	Central group	West group	Whole samples (2)
Industry	–0.047* (0.022)	–0.072* (0.033)	–0.056 (0.072)		–0.042 (0.022)
Elementary education	–0.038 (0.039)	0.030 (0.058)	–0.100 (0.079)		–0.047 (0.040)
Environmental quality	–0.022 (0.027)	0.043 (0.069)	–0.318* (0.147)		–0.026 (0.029)
Hukou threshold	0.148*** (0.029)	0.291*** (0.060)	–0.033 (0.063)		0.155*** (0.034)
For *Home ownership*					
Intercept	0.100* (0.044)		0.250** (0.079)		0.201* (0.079)
Economy	0.075 (0.046)		–0.200 (0.136)		0.136* (0.057)
Industry	–0.100** (0.031)		–0.136 (0.088)		–0.084** (0.032)
Elementary education	–0.027 (0.045)		0.001 (0.073)		–0.026 (0.047)
Environmental quality	–0.080* (0.031)		0.328 (0.179)		–0.088* (0.036)
Hukou threshold	–0.060* (0.025)		0.000 (0.071)		–0.046 (0.030)
For *Number of children*					
Intercept	–0.019 (0.015)	–0.038 (0.030)			0.010 (0.031)
Economy	–0.065** (0.019)	–0.101** (0.033)			–0.051* (0.023)
Industry	–0.014 (0.010)	–0.014 (0.020)			–0.012 (0.011)
Elementary education	–0.008 (0.018)	0.059 (0.037)			–0.014 (0.018)
Environmental quality	0.012 (0.022)	0.047 (0.035)			0.011 (0.021)
Hukou threshold	0.006 (0.013)	0.009 (0.022)			0.010 (0.011)
For *Age*					
Intercept	–0.031* (0.015)	–0.057 (0.030)		–0.056* (0.023)	–0.056* (0.026)
Economy	–0.078*** (0.016)	–0.063** (0.023)			–0.093*** (0.021)
Industry	–0.024* (0.011)	–0.032* (0.016)			–0.028* (0.011)
Elementary education	0.011 (0.015)	–0.003 (0.031)			0.017 (0.016)
Environmental quality	0.058*** (0.010)	0.109*** (0.024)			0.061*** (0.010)
Hukou threshold	0.027 (0.015)	0.072*** (0.015)			0.023 (0.017)
For *Years of schooling*					
Intercept	–0.021* (0.010)		–0.034* (0.017)	–0.071** (0.019)	–0.021* (0.010)
Economy					
Industry					
Elementary education					

Table 4 continued

Variable	Whole samples (1)	Eastern group	Central group	West group	Whole samples (2)
Environmental quality					
Hukou threshold					
For *Duration of stay*					
Intercept	0.162*** (0.019)	0.257*** (0.032)	0.184*** (0.036)	0.099** (0.034)	0.207*** (0.033)
Economy	0.066** (0.020)	0.075** (0.025)	–0.079 (0.073)	–0.055* (0.024)	0.102*** (0.025)
Industry	0.007 (0.012)	–0.020 (0.013)	–0.011 (0.035)	0.002 (0.015)	0.018 (0.012)
Elementary education	–0.025 (0.017)	0.032 (0.027)	-0.072* (0.029)	0.052* (0.024)	–0.031 (0.018)
Environmental quality	–0.069*** (0.017)	–0.088** (0.032)	0.132 (0.099)	–0.024 (0.022)	–0.070*** (0.018)
Hukou threshold	–0.036** (0.012)	–0.096*** (0.018)	0.066 (0.038)	–0.004 (0.023)	–0.020 (0.014)
For *Income*					
Intercept	0.111*** (0.017)	0.114** (0.034)	0.137*** (0.025)	0.057* (0.026)	0.120*** (0.028)
Economy	–0.008 (0.015)	0.034 (0.030)		0.011 (0.030)	–0.022 (0.019)
Industry	0.022* (0.010)	0.028* (0.013)		0.008 (0.019)	0.016 (0.010)
Elementary education	–0.030 (0.018)	–0.075** (0.028)		0.005 (0.027)	–0.032 (0.019)
Environmental quality	0.034* (0.014)	0.075* (0.034)		0.040** (0.014)	0.041** (0.013)
Hukou threshold	–0.026 (0.014)	–0.084* (0.035)		–0.032 (0.020)	–0.035* (0.015)
Observations	43165	20000	9795	13370	43165
Cities	253	82	89	82	253
Between-cluster variance	0.669	0.362	0.770	0.773	0.669
ICC	0.169	0.100	0.190	0.190	0.169

Notes: All numbers in parentheses are robust standard errors. ***, ** and * represent statistical significance at the 0.001, 0.01 and 0.05, respectively. Results are based on the calculation of the software HLM 6.08. Variables are defined in Table 1. For each family variable (X_{kij}), there are 1 intercept (γ_{k0}) and 5 destination variables (W_{mj}) in its Level 2 equation (Equations 7-8). The fact that the cells are vacant means the corresponding variables are not added into the full model for their results of the random coefficients regression models. In the column Whole samples (2), City size variables are also added into Level 2, but here we do not present their results of Level 2 due to the limited space.

4.4 Robust Check

Given the regional difference of destinations, the samples were divided into three groups, namely, Eastern, Central and Western groups, to carry out the models. Columns 2 to 4 of Table 4 show that there were no distinct differences between the nationwide samples and regional groups (except *Elementary education*). Although the result of *Elementary education* was not significant, it had a significantly negative impact on the family migration decision of NGRMs in the model for the Eastern group subsample ($p<0.01$) and a significantly positive impact on the family migration decision of NGRMs in the model for the Central group subsample ($p<0.05$).

Another problem we have mentioned before is that the positive impact of the *hukou threshold* ($p<0.000$) seems contradictory to previous studies. To ensure robustness, we added a control variable *City size* based on the work by Qi et al. [60]. Although China's State Council released the new standard of city-size classification in 2014, it did not provide an official list of cities of different sizes. Meanwhile, official statistics concerning the urban resident population which is a key indicator in the new standard are often unavailable in non-census years. Following the new standard of city-size classification released by China's State Council

in 2014, Qi et al. [60] classified the city-size hierarchy of China according to the 6th census data in 2010.

According to their classification, there were 12 megacities, 53 large cities, 70 medium-sized cities and 118 small-sized cities in the list of our destination cities. We found that the significant positive impact of the *hukou threshold* still stayed sound when we looked at the column of Whole samples (2) in Table 4. From the perspective of city size, the chances of family migration were higher if NGRMs immigrated to large cities instead of small cities. Relatively speaking, there are more job opportunities in large cities than in small and medium-sized cities. Moreover, the *hukou* restriction and living cost in large cities is looser and lower than those in megacities. These appeal to NGRMs. In addition, existing studies have already proved the positive externalities of the concentration of a large number of rural migrants, which will encourage more rural migrants to immigrate [48]. By contrast, those who migrated into medium-sized cities and megacities were less likely to settle in urban destinations with their family.

5. Conclusions

Using a multilevel logistic model, this article explored the factors influencing the family migration decisions of the new-generation rural-urban migrants. We found that both family and destination factors influenced NGRMs' family migration decisions. Family factors had a primary influence on the family migration decision, while 16.9% of the chances were explained by between-destination diversities. From a family perspective, this research shows that house purchasing, self-employment, a long and stable settlement with enough income in the destination city strengthen the family migration decision of NGRMs, while migrants' age, education, numbers of children and inter-provincial mobility weaken their intention to reunite families in the host cities. It is also found that whether NGRMs own rural residential land in their original hometowns would not affect their family migration decision, which differs from the important impact of rural housing land on migration decision found in the existing studies focusing on the whole rural-to-urban migrants.

When we look at the destination factors, we found that the development of tertiary industry, environmental quality and *hukou* threshold had a significantly positive impact on the family migration decision of NGRMs, while the economy development level and supply of elementary education did not influence the family migration decision of NGRMs significantly. The NGRMs showed a sensitivity towards work opportunities and environmental quality in the host cities, which is consistent with previous studies on China's rural-to-urban migrants [48,51]. For the unexpected positive impact of the *hukou* threshold, we added the city size variable to the model in the part of the robustness check. Further analysis found that the impacts of the *hukou* threshold remained significantly positive. NGRMs living in large cities are more willing to migrate with family members compared to those residing in small cities. A possible explanation of the positive effect of city size is that cities that impose more barriers on *hukou* entry tend to have larger size of job markets. The concentration of existing rural-to-urban migrants in those cities will also encourage more immigration. However, as shown by the interaction results, when *hukou* restrictions are rigid, it intensifies the impacts of some family factors like inter-provincial mobility and self-employment, and weakens the impact of home ownership and duration of stay, which indicates that the *hukou* threshold is still a critical destination factor underlying NGRMs' family migration decision.

This article enriches the empirical research related to China's new generation of rural-to-urban migrants by focusing on the determinants of their family migration decision through the family and destination perspectives against the backdrop of the *hukou* system reform. The findings deepen our understanding of the obstacles and decisions of NGRMs' family reunions in the urban destinations, which will facilitate better policymaking for migration management and social inclusion. Our analysis shows the new-generation Chinese rural migrants' preference for urban destinations. Compared to small and medium-sized cities where urban *hukou* quotas are comparatively sufficient, NGRMs prefer to settle in large cities and megacities which have abundant job opportunities but with the cost of a high threshold of both *hukou* acquisition and public service bound to *hukou* identity. Therefore, the city government should balance the demand of the labor market and the provision of public service for NGRMs. Meanwhile, the Chinese government at different levels should steer NGRMs' migration among metropolitan areas and various-sizes cities.

Due to the limitations of cross-sectional data, our research on the intergenerational differences between first-generation migrants and the new generation is still exploratory and limited. Therefore, more efforts should concentrate on how the intergenerational differences of family migration connect with their family life experience, demographic characteristics and the socioeconomic characteristics of their host cities. Moreover, compared with NGRMs, family migrants of migrants with urban *hukou* indentities may have different preferences and choices because of their advantages in skills and education. Thus, future research may continue to explore the difference in family migration between NGRMs and urban migrants.

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Conflict of Interest

There is no conflict of interest.

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