Economic development level and urban settlement intentions of the new-generation migrants in China: direct or interaction effect?

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Abstract

Based on a theoretical framework, this paper uses a multilevel model to examine the factors that correlate with the settlement intentions of China's new-generation migrants. The level of regional economic development exerts not only random effects, but also an interaction effect with social integration on urban settlement intentions. Economic factors, including household income and home ownership, have a significant positive correlation with settlement intentions, while social characteristics such as social integration and social identification also have a positive correlation with the settlement intentions of new-generation migrants. Moreover, family migration strategies, parental migration experiences, short migration distances, and long migration durations enhance urban settlement intentions. The settlement intentions exhibit significant inter-group differences between the migrants born in the 1980s and in the 1990s. Differences in the effects of the determinants are observed between these group samples and the total sample.

Keywords Settlement intentions · Multilevel analysis · China · New-generation migrants · Regional differences · Determinants

1 Introduction

China's migrants do not have household registrations (hukou) in the places to which they migrate; their household registrations remain in their places of origin. Since access to the social security systems of urban areas is related to possession

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of a hukou (household registration) for the urban area, most migrants return to their outflow provinces to receive basic elderly care. However, with the reform of the household registration system, more migrants have strong intention to settle in cities. Settlement intention refers to the willingness of individuals to reside in a place permanently. This paper is concerned with the factors that correlate to the settlement intentions of China's new-generation migrants to settle permanently in the urban areas to which they have migrated.

Early studies concentrated on return migration intentions (Zhao 2002), and recent studies indicate that migrants might maintain their floating status, return to their rural hometowns, or migrate to other cities such as the capital cities of migrant inflow provinces or even to small towns (Tang and Feng 2015). Such settlement intentions are affected by the Chinese hukou (household registration) system. Those individuals with the hukou of the inflow cities to which they migrate are citizens and have access to social benefits provided by the inflow region (Cai and Wang 2008; Chan and Buckingham 2008; Hu et al. 2011). However, recent studies suggest that the attraction of urban household registration has declined among migrants (Yang and Fei 2018; Zhu et al. 2012). One reason for this phenomenon may be that migrants with an agricultural household registration have access to farmland or bonuses that come through participation in a collective ownership system in rural areas. Moreover, the children of these migrants with an agricultural household registration also have access to these benefits. Another possible reason is that market mechanisms are becoming increasingly important in affecting settlement intentions of migrants (Huang et al. 2018).

Many studies have focused on the determinants of urban settlement intentions. Demographic characteristics, such as gender, age, marital status, educational attainment, migration duration (Liu et al. 2017; Xie et al. 2017), health conditions (Xie et al. 2017), employment situation (Hu et al. 2011; Hao and Tang 2015), and even housing (Zhu and Chen 2010; Liu et al. 2017; Yang and Fei 2018) affect new-generation migrants in ways that are similar to the effects these characteristics had on the settlement intentions of earlier generations of migrants. Many migrants leave some family members behind in rural hometowns, and this arouses negative psychological feelings among migrants. Family migration reduces the negative psychological feelings caused by the separation of family members and enhances settlement intentions in the city (Connelly et al. 2011). Existing studies have also shown that social integration, relative deprivation, socio-cultural attachment, and other social psychological factors motivate migrants to seek permanent urban residence (Zhu 2007; Hao and Tang 2015; Chen and Liu 2016). Economic factors such as the urban-rural income disparity also impact settlement intentions (Chen and Wang 2018).

Settlement intentions have also been studied from regional perspectives (Zhu and Chen 2010; Tang and Feng 2015; Liu et al. 2018). The main direction of people's migration is not only toward China's southeast coastal provinces and megacities like Beijing and Shanghai, but also toward China's western provinces where there is currently a focus on industrial upgrading (Sun and Wang 2016; Xia et al. 2015). Some studies have investigated whether the personal characteristics of migrants show obvious regional differences, and the results indicate that regional differences exist within a single migrant inflow province, like Jiangsu or

Fujian (Zhu 2007; Zhu and Chen 2010; Tang and Feng 2015). Existing studies also focus on the influence city characteristics, such as city size, spatial location, and urbanization level have on the urban settlement intentions of migrants (Zhu and Chen 2010; Liu et al. 2018). Some studies pay more attention to the settlement intentions of migrants from a micro level perspective and also the interaction effects between macro and micro level variables (Liu et al. 2018; Sheng 2017). Population growth is continuous in economically developed regions due to the process of rural–urban migration, and economic development is promoted by population growth (Lu et al. 2014). However, few articles have examined whether the economic development level of China's four major economic regions has a significant impact on settlement intentions, nor have studies identified the existence of influence channels between economic development at the macro level and settlement intentions at the micro level.

Earlier research has demonstrated that the new generation of migrants was born after 1980. For example, the National Federation of Trade Unions defined the new generation of migrant workers as “those who were born beginning in the 1980s, are over 16 years of age and are employed in non-agricultural industries in cities”. China's migrants are characterized by differentiation and intergenerational differences between migrants born in the 1980s and 1990s and migrants born earlier (Wang 2001). Some scholars have proposed the existence of the second generation of migrants as an alternative concept. They have defined this generation as one that was born in cities to parents who had migrated earlier to the cities; this group was raised in cities (Duan and Jin 2017). Although the availability of data presents challenges, the new or second generation is defined as migrants who were born during and after the 1980s, and those who were born prior to the 1980s are categorized as the first generation. The number of new-generation migrants has been increasing, accounting for 22.7% of total migrants in 2011 and 49.7% in 2016. Massive rural–urban migration since the late 1980s has triggered rapid urbanization. Compared to the first generation of migrants, many new-generation migrants have grown up in cities and never worked as farmers; their attachment to their rural hometowns is gradually weakening. What's more, second-generation migrants generally have a higher level of education (Simpson et al. 2002). They try to maximize personal development in ways that benefit the whole family. Some new-generation migrants have stronger settlement intentions to remain in urban areas than first-generation migrants have. The long-term settlement of younger migrants in urban areas is affecting China's industrialization process and changing the development of different regions.

Existing research focused on settlement intentions is plentiful. However, past studies have generally not paid much attention to regional differences in settlement intentions. Moreover, few studies have examined how the level of economic development acts on settlement intentions or how regional and individual-level variables interact on settlement intentions. In terms of an empirical strategy for this study, we developed a multilevel model to address the bias due to autocorrelation problems caused by a clustered sample group.

Using data from a survey on the migrants in China's urban areas, this paper examines the settlement intentions of new-generation migrants. Our research question asks whether the level of a region's economic development is correlated with

the urban settlement intentions of new-generation migrants, and this study examines this hypothesis. It contributes to a more complete understanding of the urban settlement intentions of these migrants. Some policy implications can be drawn from the findings of such an analysis.

The remainder of this paper is organized into the following sections: First, we establish a framework for settlement intentions. Second, we describe the database and present a multilevel analysis of the settlement intentions of new-generation migrants. The final section presents the conclusions of the paper.

2 Framing settlement intentions

2.1 Regional economic development

The macroeconomic development level of a region may affect the settlement intentions of younger migrants. The study of geographic economics shows that geographic location creates advantages for socio-economic development in some regions. Because locations closer to consumer markets enjoy lower transport costs, manufacturing industries are drawn to locate in these economic centers, creating large numbers of job opportunities, and generating demands for labor (Krugman 1980).

Wages are predicted to be higher in an economic center and lower on the periphery. Neoclassical economics regards the migration decisions of migrants as motivated by expected income disparities (Todaro 1969). Surplus labor in rural areas migrates to economic centers seeking higher wages. This expands the size of consumer markets in the economic centers and promotes the agglomeration of industries in these areas. A positive cumulative causality cycle is generated by the industrial agglomeration and economic development of a region, and this, in turn, attracts immigrants and leads them to take up long-term residence in the region. In addition, infrastructure construction and social benefits, such as access to high-quality medical facilities and convenient transportation links in the economically developed region, reduce migration costs for migrants and increase their desire to reside permanently in urban areas.

2.2 Interaction of a region's economic development level with settlement intentions

Economic development level has a correlation with settlement intentions through interaction terms. First, we test the interaction of macroeconomic development with household income and settlement intentions. According to the *Statistical Yearbook of China*, the average wage of employees in urban units is positively associated with economic development. For instance, the average annual wage reached CNY 119,935 in 2016 for Beijing, the capital of China, and this was nearly 2 times the average annual wage in Heilongjiang, a province in northeastern China. The relative income of rural migrants is low compared with that of urban residents in

economically developed areas (Yang 2011). Therefore, economic development may increase the probability of urban settlement intentions by raising the income of the migrants. However, urban settlement intentions may be decreased because of the relative income deprivation rural migrants suffer from compared with urban residents.

Second, the interaction of economic development level with home ownership. Home ownership is identified as an important economic determinant of settlement intentions because housing may affect “the feeling of home, social status, and ontological security” (Shaw 2004). Home ownership is affected by housing affordability and price in a migrant’s inflow location. In terms of being able to afford a house, migrants with relatively high incomes can afford to purchase housing in more economically developed regions. However, factors other than housing prices may also influence the ability of migrants to purchase homes. For instance, the implementation of policies to manage population growth restrict migrants from purchasing housing in some migrant inflow cities, especially large cities (Sheng and Tong 2015). The residence permit system is a migrant population registration and management approach that was developed in China in 2016. Migrants who have a residence permit may apply to access public services or apply for permanent residence status, as long as the migrants meet certain conditions such as a minimum number of years of residence in the inflow area and specified level of social insurance payment. Cities with higher levels of economic development like Beijing and Shanghai provide substantial job opportunities and, as a result, many migrants have migrated to such cities. Housing prices increase as the cities grow, reducing the possibility of purchasing housing (Lu et al. 2014).

Third, the level of regional economic development level may interact with the level of social integration. Studies have shown that the social integration level of new-generation migrants is higher in high-income regions than it is in other regions because of the gap in income levels between inflow destinations and original hometowns (Tian 2013; Yang 2016). Convenient transportation, especially the accessibility of public transport, effectively improves the social integration of migrants in economically developed regions (Tian 2013). Some studies have suggested that the absolute economic integration level of migrants may increase, but that the relative economic integration level of this population may decrease in economically developed regions (Yang 2011). To measure the social integration of migrants, we use a scale that takes into consideration the satisfaction migrants have for the inflow city, their attention to urban development, and the social discrimination that migrants feel.

New-generation migrants can be divided into two groups by age, one consists of migrants born in the 1980s and the other of those born in the 1990s. Migrants born after 2000 are not considered, as this group accompanies parents to migrate to inflow cities due to their young age and do not form their own settlement intentions. Settlement intentions of migrants born in the 1980s and 1990s may have correlations with different factors, as these two groups exhibit differences in working seniority, income, and migration experience. China’s legal working age is aged 16 or over, hence a large number of migrants born in the 1990s are not yet employed because they have not completed their education. For migrants born in the 1990s who are employed, they generally get low wages because of their lack of working experience.

The group born in the 1980s has higher incomes because the majority of this group has work experience and has completed their education. Accordingly, the settlement intentions of migrants born in the 1990s exhibit more uncertainty than those of migrants born in the 1980s (Yang 2016). Moreover, migrants born in the 1980s are mostly the rural surplus labor force, while younger migrants born in the 1990s are often second-generation migrants who moved with their parents to the inflow city. As a result, migrants born in the 1980s have a closer emotional connection to the outflow region than those born in the 1990s, and they may be more likely to return to the outflow region at some point in their lives. Further research is needed to determine if there are different correlations between economic income level and settlement intentions of the group born in the 1980s and the group born in the 1990s.

2.3 Economic factors

The existing literature on settlement intentions has already identified economic determinants. Rural–urban migration can be regarded as a family strategy to diminish risk. Migration decisions are household decisions made jointly by family members rather than individual decisions, and migrants send remittances to their rural households as economic coinsurance (Stark and Bloom 1985).

Because ownership of urban housing is a benefit related to possession of an urban household registration, many migrants do not own urban housing and their living conditions in cities are poor (Wang and Zuo 1999). However, having urban household registration is not the key factor influencing migrants' purchases of homes; rather, it is the long term settlement intentions of the migrants (Lin and Zhu 2008). Housing is considered a durable good and a psychological guarantee for migrants. Consequently, urban settlement intentions are enhanced for those who own homes in urban areas (Liu et al. 2017).

2.4 Social integration and social identity

Social integration not only influences migration behavior but also impacts the livelihood of migrants. Social integration reflects the psychosocial and social behaviors of individuals and groups, and affects the settlement intentions of migrants (Fan 2011).

Social identity represents the level of migrants' social integration in cities. From the perspective of social integration, migrants who identify themselves as citizens of the inflow city where they live have a positive social integration status in that city and have established a social network with urban residents. Such networks provide access to resources and hence influence the decisions these migrants make about settlement in the city (Reynolds 2010).

2.5 Migration characteristics

The migration distances involved in intra-provincial migration are relatively short; therefore, local customs in the origin and the inflow destination are similar. The relatively limited distances of intra-provincial migration also make it easier for migrants

to maintain contact with family members or other relatives who remain in rural areas, and this contributes to urban settlement intentions. In fact, intra-provincial migrants are more likely to settle in cities permanently than are inter-provincial migrants. Even though migrants can return to their outflow regions using transportation links, the cost of transportation can be high as migration distances increase. As a result, transportation links make migration convenient when the migration distances are not too great, but when the distances are great, transport can be very costly and the advantages of access to transport links are reduced.

Remaining for long periods of time in a migrant inflow city enables younger migrants to develop more positive feelings for the city. Some migrants expand their networks and generate social capital in urban areas (Ryan and Siara 2008), and this promotes integration and enhances the modernity of these migrants (Peng 2007). The attachment of such migrants to their rural hometowns is weakened in this process, and this is another factor that increases the settlement intentions of younger migrants.

2.6 Household migration strategies

The economics of labor migration theory indicates that migration decisions are influenced by household migration strategies rather than individual choices (Stark and Bloom 1985). Traditional households maintain family decision making functions, such as determining which family members remain in the rural hometown and which migrate to an urban area. China's migrants have developed three migration strategies. Strategy one calls for one individual from the household to migrate alone. Strategy two has some family members migrate to cities and some remain in the hometown. In the case of these two strategies, some members of a rural household migrate to cities and others remain behind. The rural household is split into two parts: an urban part and a rural part. The natural, unbreakable bonds between the rural and urban parts of the household are maintained. For instance, migrant family members living in migrant inflow areas support rural members through remittances. In strategy three, the entire household migrates as a family unit. In some cases, the family members all migrate to the city at the same time. In other cases, some family members settle in the inflow city first for a long period of time, while family members remaining in the rural area follow at a later date until the entire family is reunited in the inflow city. The family migration strategy choice has a positive correlation with settlement intentions (Zhang et al. 2017).

For many new-generation migrants, the settlement decision is affected by family members. New-generation migrants are forming nuclear families centered around themselves and their spouses. However, in keeping with the traditional rural family system, these nuclear families are integrated with parents and the families of children. Therefore, the settlement intentions and migration decisions of new-generation migrants have a correlation with their parents. The migration behavior of parents might positively benefit the welfare of other family members. For instance, migration behavior has a positive effect on increasing income (Duan and Jin 2017),

improving health, and enhancing the educational attainment and academic performance of the family's children (Cox 2003). Studies have analyzed the differences of settlement intentions between the older and new generations of migrants from the macro level and found that residential preferences might be similar, or that there is continuity (Zhu et al. 2012; Liang 2011) between the two generations. However, few studies have examined whether there are group differences in the impact the migration experiences of parents have on the settlement intentions of migrants born in the 1980s and in the 1990s.

2.7 Demographic characteristics

Numerous research results indicate that the influence of the demographic characteristics of migrants on settlement intentions varies. New-generation migrants migrate at a young age and return to rural areas in specific life cycle stages, even when urban and rural socioeconomic conditions are constant (Davies 1991). According to Zhu and Chen (2010), better educated, female and younger migrants are more likely to settle down in urban areas.

3 Data sources and research settings

3.1 Model

The settlement intentions of new-generation migrants are not only influenced by variables at the individual level, but also by social and economic factors at the macro level. We are interested in these macro-level factors as well as the effects of the interaction between macro and individual-level factors on settlement intentions. In view of the fact that our data was collected from national, regional, provincial, neighborhood committee and village committee sources, as well as from individual-level sources, we used a mixed effect logit model to analyze settlement intentions. Our model is comprised of three levels: the individual level, the provincial level, and the regional level. Random intercept represents the settlement intentions of new-generation migrants in various migrant inflow regions and is different from the OLS model. It can be expressed as,

$$y_{ij} = \beta_0 + \beta_1 \cdot x_{1ij} + \beta_2 \cdot x_{2ij} + \cdots + \beta_n \cdot x_{nij} + u_{0j} + \varepsilon_{ij}.$$

In this model, i represents individuals and j represents the data level.

A random slope model represents the impact regional characteristics, including factors such as the level of economic development and the region's household registration policies, have on settlement intentions at the individual level. The general form of the random slope model is:

$$y_{ij} = \beta_0 + \beta_1 \cdot x_{1ij} + \beta_2 \cdot x_{2ij} + \cdots + \beta_n \cdot x_{nij} + u_{0j} + u_{1j} \cdot x_{1ij} + \varepsilon_{ij}.$$

In this model, u_{1j} represents random slope and u_{0j} represents the random intercept.

3.2 Data

The data for this paper was taken from the 2011 China Migrants Dynamic Survey (CMDS), which is a nationwide cross-sectional study aimed at presenting the living status of migrants in mainland China. The data for this survey are collected by the National Health Commission of PRC. The survey defines migrants as individuals who migrate from rural to urban areas. Survey data were collected nationwide based on stratified three-stage sampling design. The National Internal Migrant Dynamic Monitoring Survey was first conducted in 2010 and after that, the survey was organized annually with the final survey taking place in 2018. Data from the 2011 China Migrants Dynamic Survey (CMDS) were selected because the relevant variables for younger migrants were included only in the 2011 survey. The total sample included 31 provinces and provincial-level autonomous regions and municipalities directly under the Central Government, 106 cities, and 410 townships in mainland China. In each of the 106 cities, the same number of sub-districts was randomly selected. Based on the official definition of migrant workers used by Chinese administrative departments, the respondents of the survey were individuals whose household registration address and actual residence address were not the same and who were aged 16 years or older. In addition to the main questionnaire, the 2011 survey also used a secondary questionnaire to collect data for new-generation migrants born after 1980. We selected a sample of migrants born after 1980 and matched the variables from the main and secondary questionnaires. The variables derived from the main questionnaire comprised 54,171 cases for analysis, but the variables in the secondary questionnaire about items such as settlement intentions comprised only 16,476 cases, because the questions about settlement intentions are part of the secondary questionnaire, but not part of the main questionnaire.

3.3 Dependent variable

The settlement intentions of migrants can be reduced to two basic alternatives: to stay permanently or temporarily. We categorize settlement intentions as “stay more than 5 years”, “leave the inflow city” and “undecided”, and identify “stay more than 5 years” as the reference group.

3.4 Independent variables

Based on the framework we have established, we group the determinants of settlement intentions into two levels with nested random effects. The first level includes five groups.

The first group consists of four economic characteristics. Household income per capita indicates the monthly income per capita of migrant families in urban areas. Social security programs provided by the inflow city the various types of social security programs that new-generation migrants obtain in inflow cities. Social security programs in urban areas include pension insurance, medical insurance, unemployment insurance, work-related injury insurance, maternity

insurance, and housing provident funds. However, many migrants find it difficult to access all of these forms of social security programs because they work in informal sectors of the dual-tier labor market.

The second group consists of two social characteristics: social integration and social identity. A value for the social integration of new-generation migrants is assigned and converted to a 10-point social integration score. The social identity of new-generation migrants is coded as “0” for farmers or migrant workers and as “1” for citizens or new citizens.

The third group, migration characteristics, consists of migration distance and migration duration at the destination. In terms of migration distance, we define intra-provincial migration as the reference group. Migration duration at the destination is defined as the length of time that new-generation migrants stay in urban areas.

The fourth group, household strategies, consists of three migration strategies, including a single person strategy, split family strategy, and family migration strategy, which are used to measure the migration behavior of the new-generation migrants. In our study, family migration strategies are evaluated by the number of family members that flow into cities, so we defined the core family for the evaluation. A new-generation migrant is one of a couple, or a child in the nuclear family. Respondents under the age of 18 form a family with their parents because the legal age of adulthood begins in China at 18 years of age. Respondents over 18 years of age are single-person households if they are unmarried. Respondents over 18 years of age form a family with his or her spouse if the respondent gets married.

The fifth group consists of demographic characteristics: age, gender, household registration status, educational attainment, and marital status. Age is defined as a continuous variable. Gender is coded as “0” for male and as “1” for female. Household registration is coded as “0” for agricultural and as “1” for non-agricultural. Educational attainment is coded as “0” for primary school or less, as “1” for middle school, and as “3” for college or above. Marital status is coded as “0” for single and as “1” for married.

Regional variables are defined at the secondary level and aim to analyze the correlation between regional factors and the settlement intentions of new-generation migrants. National standards established by the central government divide China’s regions into four categories based on economic development level: Eastern China, Central China, Western China, and Northeastern China (see Appendix Table 1). The GDP per capita of China’s provinces in 2011 (the year these data were collected) represents provincial economic development levels (NBS 2012). We match the survey data for the respondents to the economic development level of the province to which they immigrated. Appendix Table 2 shows the descriptive statistics for our sample.

3.5 Descriptive analysis

Over 40% of new-generation migrants report settlement intentions. Approximately 17% report that they may leave at any time and approximately 42% are undecided about settling permanently in the inflow region. The results indicate that the settlement

intentions of young migrants are not strong, and this is consistent with the findings of previous studies (Zhu et al. 2012). Over 40% of new-generation migrants have a wait-and-see attitude toward settlement locations.

Although the proportion of new-generation migrants with “long term settlement intentions in the city” is not high, among the group with explicit settlement intentions (the sample population that is “unsure” is screened out), the number with long-term settlement intentions is notable. Based on data for the preferred place of residence in the future, it can be seen that nearly 70% of migrants have settlement intentions in migrant inflow cities (see Appendix Table 3).

The economic development level of migrant inflow provinces is positively related to the settlement intentions of new-generation migrants. These migrants have settlement intentions reaching 65.03% in the provinces with per capita GDP of CNY 5000–6999. This shows that new-generation migrants tend to stay in provinces with more developed economies (see Appendix Table 4).

In terms of intergenerational stratification of new-generation migrants, the urban settlement intentions of migrants born in the 1980s were generally higher than that of those born in the 1990s. The data show that the settlement intentions of migrants born in the 1980s reached 42.07% in 2011, while those of migrants born in the 1990s were 32.02% (see Appendix Table 5). With better economic conditions in the city and relatively broad social networks, migrants born in the 1980s are in a good position to settle in the city for the long term.

4 Results

4.1 Modeling

In our model strategy, Model 1 is a diagnostic model designed to correct the consequences of correlation between samples due to clustering; it assumes that the impact of individual characteristics on settlement intentions is constant in different regions. Model 2 is a random intercept model that estimates the effects of individual-level variables on settlement intentions; it assumes that the impact of individual characteristics on settlement intentions varies with the migration inflow destination. Model 3 is a random slope model that analyzes the effect of individual-level variables on settlement intentions in different regions; it assumes that the random intercept and the random slope are independent. Model 4 analyzes the interaction of macroeconomic development and individual variables on settlement intentions (see Appendix Table 6).

4.2 Settlement intentions exhibit regional difference and random effects

The analysis results presented in Appendix Table 6 show that the estimated standard deviation of the constants in Model 1 is 0.301, which is significant at the $P < 0.01$ level. This result means that the data are suitable for multilevel analysis. The log likelihood increased from $-10,780$ in Model 1 to -7234.191 in Model

2. At the same time, both the Akaike information criterion (AIC) and Bayesian information criterion (BIC) statistics were significantly reduced. The results for Model 2 indicate that migrant inflow region and province have a positive correlation with settlement intentions.

Model 2 suggests that the standard deviation of the regional-level variation parameter is 0.3 ($P < 0.1$), and the standard deviation of the provincial-level variation parameter is 0.225 ($P < 0.001$), indicating that migrant inflow region and province have significant positive correlations with the settlement intentions of younger migrants. The empirical results reveal that, if the settlement intentions of new-generation migrants are consistent with their actual residency behavior, their decisions to remain in urban areas permanently will move the pressure of population growth to different provinces in the future.

4.3 Random effects of regional economic development on settlement intentions

Model 3 examines the random effects of provincial economic development level on settlement intentions. The log likelihood value is increased compared with Model 2, and the AIC and BIC values are increased, indicating that the goodness of fit of Model 3 is inferior to that of Model 2.

The analysis of random effects demonstrates that the standard deviation of the variability parameters for economic development level is significant, indicating that there are differences from province to province in the impact of economic development level on settlement intentions ($P < 0.1$). The standard deviation of the provincial-level variation was 0.766 ($P < 0.001$), which means that economic development level has a random effect on the settlement intentions of new-generation migrants in different migrant inflow provinces. In Model 4, the regression coefficient of the independent variable is consistent with Model 2, but the magnitude of the change is not obvious, showing that the statistical results are robust.

4.4 Effect of the interaction of regional economic development level and individual characteristics

We test whether there is an interaction correlation between the level of provincial economic development and variables at the individual level on the urban settlement intentions of new-generation migrants. Model 4 shows that the interaction of economic development level and social integration have a significant correlation with settlement intentions. In an economically developed province, the urban settlement intentions of new-generation migrants will be significantly enhanced by improvements in their level of social integration ($P < 0.05$).

Neither the interaction between economic development level and household income nor the interaction between the economic development level and home ownership are statistically significant. While achieving a higher income is the principal purpose of rural–urban migration, social factors play a more important role in the decision to permanently settle in an urban area.

4.5 Economic factors are significantly correlated with settlement intentions

The monthly income of new-generation migrants has a positive correlation with settlement intentions ($P < 0.001$). The proportion of households with a monthly income of CNY 0–2000 is 28.89%, and the proportion of households earning CNY 2001–5000 per month is 55.84%, indicating that most new-generation migrants achieve low or middle-income levels in cities.

Home ownership in the current residence also has a significant positive correlation with settlement intentions ($P < 0.001$). However, our data shows that only 9% of new-generation migrants own the residence they currently live in, while the vast majority of this population do not own homes in urban areas. Like previous research findings, our study found it is difficult for new-generation migrants to obtain a stable residential situation (He and Yang 2013).

No significant correlation is found between social security programs accessed in urban areas and settlement intentions, a finding that was contrary to our research expectations. New-generation migrants tend to leave the inflow cities and return to the outflow regions, which means that applying for social security in cities is less important than obtaining income. Migrants generally take part in rural social security programs through initiatives such as the New Rural Cooperatives. Moreover, social insurance is only needed when migrants confront difficulties such as diseases. According to the survey data, 72.82% of new-generation migrants do not receive any forms of social security programs, and only 3.3% receive all forms of social security benefits available in urban areas. These reasons weaken the correlation between urban social security and migrants' urban settlement intentions.

4.6 Social integration has a significant correlation with settlement intentions

Social identity and social integration have a positive correlation with settlement intentions among new-generation migrants. Migrants who identify as citizens or who attain a higher level of social integration have increased settlement intentions in the migrant inflow region. Some migrants establish social networks with other migrants from the same village, town or province because they share common cultural backgrounds, customs, and values. According to the 2011 survey data, approximately 73.49% of new-generation migrants participating in such social networks identify themselves as “migrant workers” rather than “citizens”. Only 25% identify themselves as citizens or new citizens. The level of social integration needs further improvement.

4.7 Household strategy and migration characteristics

Household migration strategy has a significant correlation with settlement intentions. Compared with those who migrate as a family group, single migrants are less likely to settle in cities ($P < 0.001$). According to the survey data, approximately 55% of migrants migrate in family units, reflecting a desire to settle in cities. The migration experiences of parents are significantly correlated with the settlement intentions of new-generation

migrants, and those new-generation migrants whose parents have migration experience are more likely to remain in inflow cities than those whose parents do not. The fact that parents have migrated affects the settlement intentions of children in various ways through the social and cultural capital of the family. In terms of cultural capital, parents' migration behavior can increase the family's income, and improve the educational attainment of the family's children, especially by providing educational opportunities for girls. In terms of social capital, the social networks developed by parents in urban areas can provide children with information and resources that lead to job opportunities and housing, reduce the information asymmetry of the labor market, and increase the children's long-term settlement intentions in urban areas. One noteworthy result is that the migration experiences of mothers have a significant positive correlation with children's settlement intentions and decision-making processes, indicating that gender differences are crucial to intergenerational effects.

Migration duration shows a positive correlation with the settlement intentions of new-generation migrants ($P < 0.001$). As migrants increasingly stay longer in cities, younger migrants not only adapt to city life but also accumulate social capital and household savings, both of which increases the likelihood of settlement in the inflow area.

Migration distance displays a negative correlation with settlement intentions ($P < 0.001$). Intra-provincial migrants generally travel relatively short distances, and the customs and dialects of the areas where these migrants originate and the inflow areas are similar. This makes it easier for migrants to integrate into urban areas. Moreover, intra-provincial migration decreases transportation costs, making it relatively convenient for new-generation migrants to maintain attachments with their rural hometowns, thus increasing the ability of this population to permanently settle in urban areas.

4.8 Demographic characteristics

When we examine the control variables in Models 2, 3 and 4, we observe intergenerational differences between younger migrants born in the 1980s and the 1990s. The new-generation migrants born in the 1990s are less likely to have the intention to settle in migrant inflow areas than migrants born in the 1980s. Migrants born in the 1980s are more likely to have settlement intentions favorable to remaining in the inflow area because they have lived longer in the urban area and have more stable economic bases and broader social networks. Younger migrants born in the 1990s exhibit uncertainty when it comes to settlement intentions, with about 50% of this group reporting uncertain settlement intentions.

Educational attainment has a positive correlation with settlement intentions in urban areas ($P < 0.001$). However, new-generation migrants have an average of 10 years of schooling, with only 12.27% of this group having obtained a college degree or more. As China's manufacturing industries continue to develop and the use of artificial intelligence becomes more common, rural migrant workers in labor-intensive industries will be replaced. Therefore, the educational attainment level of new-generation migrants needs to be elevated, not only so they have the skills to take

part in the industrial upgrading process, but also to enhance their social integration. Married migrants tend to express stronger urban settlement intentions than younger migrants who are not married. For the sample as a whole, the correlation between gender, household and settlement intentions did not pass the statistical significance test.

4.9 Results for different age groups

We grouped the pooled data into separate datasets by age to test the correlation between economic development and the settlement intentions of new-generation migrants born in the 1980s with the group born in the 1990s (See Appendix Table 7).

For new-generation migrants born in the 1980s, a positive correlation was found between the monthly income of the migrant family and settlement intentions. Interestingly, the level of monthly income had no significant correlation with settlement intentions for the group born in the 1990s. The correlation of GDP per capita and settlement intentions of migrant groups born in the 1980s and the 1990s is different in our regression model. New-generation migrants born in the 1980s tended to flow into regions with high levels of economic development because these regions provided more employment opportunities. Further analysis found that the interaction between the level of GDP per capita and income, and the interaction between the level of GDP per capita and home ownership, both have a positive correlation with the settlement intentions of migrants born in the 1980s. However, no significant correlation between urban economic development level and settlement intentions of migrants born in the 1990s is found in our model. Some migrants born in the 1990s are relatively new to the workforce, and tend to have low-income levels and limited career development; many are focused on personal development. As a result, factors related to personal development, such as social security programs, social inclusion, and migration duration significantly affect the settlement intentions of migrants born in the 1990s.

Another difference between the two groups is found in household strategies. The choice of household strategies was shown to have a significant correlation with settlement intentions of the group born in the 1980s, but this was not been found to be the case with the group born in the 1990s. Further analysis showed that the migration experiences of parents had a positive impact on the settlement intentions of the group born in the 1990s, but did not significantly impact settlement intentions of the group born in the 1980s. This may indicate that migrants born in the 1980s are already family decision-makers and directly involved in making settlement decisions, whereas the settlement intentions of migrants born on the 1990s depend on social networks or family capital created by the migration experience of parents.

There is a significant correlation between educational attainment level and settlement intentions of migrants born in the 1980s, but no significant correlation is found between education level and settlement intentions of migrants born in 1990s. A possible explanation is that most migrants born in the 1990s have not received a college education. The regression results for the correlations between other variables and settlement intentions show no differences between the two groups.

4.10 Results for different economic regions

To test whether the correlation between various factors and the settlement intentions of new-generation migrants varied from economic region to economic region, we grouped the pooled data into separate datasets by economic region (See Appendix Table 8).

The correlation between household income with the settlement intentions of new-generation migrants is robust in different regions in China. The correlation between home ownership on settlement intentions shows no regional differences. Participation in social security programs from region to region shows no significant correlation with settlement intentions, which is consistent with the overall results of the pooled data.

As expected, social identification has a positive correlation with the settlement intentions of the new-generation migrants. Strikingly, social integration level has less correlation with settlement intentions of younger migrants in Northeastern China. In terms of migration characteristics, migration distance has a positive correlation with settlement intentions in Eastern, Central, and Northeastern China but not in Western China. Household strategy influences settlement intentions significantly in Eastern, Central, and Western China but not in Northeastern China. A plausible explanation for these results is that the sample size for Northeastern China was small. For instance, the sample populations for the single and split household strategies in Northeastern China were only 33 and 49, respectively.

In contrast to correlations observed in the pooled data, the correlations between educational attainment and settlement intentions in the regional data are not significant. Neither age nor educational attainment is significantly correlated with settlement intentions. This finding is plausible because the education level of new-generation migrants who migrate to the same region is similar. The age characteristics of migrants to the same inflow province are similar as well. Female migrants are more likely to have settlement intentions than males in Western China. However, this factor does not have a significant correlation with settlement intentions in other regions. The correlation between household registration and settlement intentions is not significant and is omitted from the model because of multicollinearity in Northeastern China. Marital status has a significant correlation with settlement intentions in Eastern, Central, and Western China; however, this factor is not significant in Northeastern China according to our data.

5 Discussion and conclusion

We discussed the correlation of interactions between macroeconomic level and individual characteristics on new-generation migrants' settlement intentions, and came to the following conclusions:

The settlement intentions of the new-generation migrants reveal regional differences that vary from inflow region to inflow region. Regions with high levels of economic development offer higher wages and this attracts migrants to these areas. These regions also generate labor demand through the agglomeration of industries and the expansion of consumer markets. Economically more developed

regions have superior infrastructure and offer better social benefits, both of which increase the desire of new-generation migrants to reside permanently in these areas.

The level of regional economic development not only has a random effect but also has a significant interaction correlation between macroeconomic development and social integration on the settlement intentions of new-generation migrants. The role of economic factors is relatively stronger in the process of migration decision making, while the influence of social factors is more obvious than that of economic factors in the decision-making process about settlement areas. The policy implication is that an important way to increase the urbanization level is to rely on migrants to become citizens of the urban inflow areas where they reside. Migrants who have settlement intentions in urban areas must not only demand policies to enhance their income and social security levels but also to promote their social integration. Community organizations should play an important role in the process of improving the social integration of migrants by increasing interpersonal exchanges among community residents and improving migrants' sense of belonging in the city, gradually eliminating the two-tiered urban social structure and the isolation and discrimination that accompany it.

Household income has a significant positive correlation with urban settlement intentions. However, the correlations between urban social security programs and settlement intentions are not significant. Higher levels of social integration or migrants identifying as citizens of the inflow city increases the probability of urban settlement intentions. New-generation migrants who choose family migration strategies are more likely to form a sense of citizenship in migrant inflow regions and experience weakened attachments to their hometowns. The migration experiences of parents contribute to children's intentions to settle in urban inflow areas, but with respect to this intergenerational influence, there are gender differences between fathers and mothers. This represents a characteristic of intergenerational effect on migration behavior which has been underestimated by previous studies. Migration behavior of parents not only changes the life course of individuals and affects the life cycle of the family, but also has a correlation with the children's migration decision-making. The more people have migration experience, the more likely their children are to settle in cities. This will accelerate the urbanization of China in the future. Migration duration shows a positive correlation with the settlement intentions of new-generation migrants, while migration distance displays a negative correlation with settlement intentions. Migrants with higher education levels tend to have significantly higher urban settlement intentions, and married migrants also tend to express stronger settlement intentions. For the sample population as a whole, the influences of age, gender and household registration on settlement intentions did not pass the statistical significance test.

There are significant inter-group differences in the correlation between factors and settlement intentions of new-generation migrants born in the 1980s and those born in the 1990s. The settlement intentions of migrants born in the 1990s are lower than that of migrants born in the 1980s; the younger group is uncertain of the settlement location. Parental migration experiences have a significant positive correlation with the settlement intentions of migrants born in the 1990s. However, because

migrants born in the 1980s are already household decision-makers, the settlement intentions of this group are affected by family migration strategies. The level of economic development of the region has both direct and indirect correlation with the settlement intentions of migrants born in the 1980s, but the influence of this factor on migrants born in 1990s is not obvious. The results of our analysis indicate that the connection between new-generation migrants and outflow regions is weakening, and their settlement intentions exhibit uncertainty. As more rural people born in the 1990s become migrant workers, second-tier and third-tier cities could implement favorable policies to attract young migrant workers.

Grouping the pooled data into separate datasets by economic region produced results for some of the variables that were different than the results for the total sample. The results suggest that the correlation between household income, home ownership, social identification and settlement intentions vary considerably from region to region. Nevertheless, the level of social integration, migration distance, and household migration strategy influenced settlement intentions differently in different regions. In contrast to the correlations observed in the pooled data, the correlations between educational attainment and settlement intentions were not significant when the sample population was divided into groups by region. Gender and marital status have a significant correlation with settlement intentions.

The limitations of this study concern the choice of the dependent variable. Migrants of 5–10 years who have urban settlement intentions may not be able to obtain household registration (*hukou*) for the migrant inflow region. In such cases, settlement behavior and settlement intentions are not consistent. It is difficult to draw conclusions from cross-sectional survey data regarding whether migrants who exhibit settlement intentions are finally able to settle permanently in cities and obtain urban household residency. Therefore, although new-generation migrants may stay in migrant inflow regions for 5–10 years and then return to their hometowns, it is possible to regard these migrants as virtual citizens. These individuals do not obtain an urban household registration, but still require the inflow city to provide public services and social policies like education for their children and employment services that serve their needs. Migrant inflow regions should take this into consideration and promote the marketization of social services for the migrants. The availability of public services, transportation development, and household registration restrictions in different regions also have correlations with settlement intentions. However, because we use a multi-level model, our model cannot converge if more macro-level variables are added. We will try to find more appropriate methods or proper instrument variables to manage the endogenous problem so that future research can make up for the shortcomings of this research.

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Appendix

See Tables 1, 2, 3, 4, 5, 6, 7 and 8.

Table 1 Four economic regions in mainland China

Region level	Provincial level
Eastern China	Beijing, Tianjin, Hebei, Shandong, Jiangsu, Shanghai, Zhejiang, Fujian, Guangdong, Hainan
Central China	Shanxi, Henan, Hubei, Hunan, Jiangxi, Anhui
Western China	Sichuan, Guangxi Zhuang Autonomous Region, Guizhou, Yunnan, Chongqing, Shaanxi, Gansu, Inner Mongolia Autonomous Region, Ningxia Hui Autonomous Region, Xinjiang Uygur Autonomous Region, Qinghai, Tibet Autonomous Region
Northeastern China	Heilongjiang, Jilin, Liaoning

Table 2 Sample profile

Variables	Category	N	Percent (%)	Mean (std.)
Settlement intension	No or uncertain	9888	60.01	
	Yes	6588	39.99	
Economic factors				
Monthly income of migration family		59,171		3761.22 (–2865.24)
Social insurance		51,375		0.85 (1.69)
Home ownership	No	49,077	90.6	
	Yes	5094	9.4	
Social characteristics				
Social identity	Migrant worker	10,045	73.47	
	Citizen	3628	26.53	
Social integration score		54,171		8.121 (–1.18)
Family characteristics				
Household strategies	Family	9094	55.2	
	Single	1513	9.18	
	Split	5868	35.62	
Parents migration experience	Stay in rural area	10,576	67.2	
	Both have migration experience	3798	24.13	
	Father has migration experience	1191	7.57	
	Mother has migration experience	174	1.11	
Migration characteristics				
Migration distance	Intra-provincial migration	26,501	48.99	
	Inter-provincial migration	27,597	51.01	
Migration duration in destination		16,472		3.877 (3.36)
Control variables				
Age group	1980s	42,653	78.74	
	1990s	11,518	21.26	
Gender	Male	26,594	49.09	
	Female	27,577	50.91	

Table 2 (continued)

Variables	Category	<i>N</i>	Percent (%)	Mean (std.)
Household registration	Agricultural registration	46,101	85.17	
	Non-agricultural registration	8028	14.83	
Education Level	Primary school or less	3566	6.58	
	Middle school	43,957	81.14	
	College or above	6648	12.27	
Marital status	Single	7331	44.47	
	Married	9156	55.53	
Type of destination	Eastern China	23,010	42.48	
	Central China	10,830	19.99	
	Western China	17,921	33.08	
	Northeastern China	2410	4.45	
	GDP per capita	54,171		42,453.37 (18,755.6)

Std standard deviation

Table 3 Settlement location

	Percent
Migrant inflow city	69.77
Rural area	10.72
Town in the province of household registration	8.18
The capital city in the province of household registration	2.86
Megacity in the province of household registration	1.86
Other mega city	5.43
Other town	1.02
Other rural area	0.17

Table 4 Economic development level and settlement intentions

	CNY 0–4999 (%)	CNY 5000–6999 (%)	CNY 7000–9999 (%)	CNY 10,000 (%)
Yes	53.68	65.03	61.17	60.01
No or uncertain	46.32	34.97	38.83	39.99

Table 5 Age groups and settlement intentions

	Yes	No	Uncertain
1980s	42.07	16.83	41.10
1990s	32.02	19.34	48.64

Table 6 Results of mixed-effects logit regression. Source: Survey results

	Model 1 Diagnostic model	Model 2 Random intercept model	Model 3 Random slope model	Model 4 Interaction effect model
Fixed effects				
Monthly income of migrant family		0.0000525*** (0.0000007)	0.0000528*** (0.0000007)	0.0000603*** (0.000001)
Home ownership (Ref: No)		1.444*** (0.108)	1.444*** (0.108)	1.426*** (0.124)
Yes				
Social insurance		-0.017 (0.014)	-0.017 (0.014)	-0.019 (0.014)
Social identity (ref: migrant workers)				
Citizen		0.500*** (0.046)	0.503*** (0.046)	0.498*** (0.046)
Social integration score		0.131*** (0.018)	0.131*** (0.018)	0.114 (0.019)
Household strategies (family)				
Single		-0.285*** (0.079)	-0.288*** (0.079)	-0.286*** (0.079)
Split		0.011 (0.059)	-0.014 (0.059)	-0.012 (0.059)
Parents migration experience (stay in rural area)				
Both have migration experience		0.108 (0.050)	0.113* (0.050)	0.104** (0.050)
Father has migration experience		-0.109 (0.078)	-0.109 (0.078)	-0.109 (0.078)
Mother has migration experience		0.472* (0.190)	0.471* (0.190)	0.460** (0.190)
Migration distance (ref: intra-provincial migration)				
Inter-provincial migration		-0.480*** (0.057)	-0.494*** (0.056)	-0.482*** (0.057)
Migration duration		0.080*** (0.007)	0.080*** (0.007)	0.081*** (0.007)
Age group (1980s)		-0.107+ (0.061)	-0.108 (0.061)	-0.105+ (0.061)
1990s				
Gender (ref: male)				
Female		0.024 (0.041)	0.024 (0.041)	0.024 (0.041)
Household registration (ref: agriculture)				
Non agriculture		-0.001 (0.126)	-0.002 (0.126)	0.0005 (0.126)

Table 6 (continued)

	Model 1 Diagnostic model	Model 2 Random intercept model	Model 3 Random slope model	Model 4 Interaction effect model
Education level (ref: primary school or less)				
Middle school		0.144 (0.100)	0.146 (0.100)	0.146 (0.100)
College or above		0.370** (0.125)	0.370** (0.125)	0.377** (0.125)
Marital status (ref: single)				
Married together		0.177** (0.066)	0.169*** (0.066)	0.162*** (0.066)
Interaction effects				
Monthly income of migration family × GDP per capita				−5.49e−10 (3.57e−10)
Home ownership × GDP per capita				2.11e−06 (5.03e−06)
Social integration × GDP per capita				1.64e−06** (5.77e−07)
Constant	−0.216 (0.180)	−2.056*** (0.253)	−2.128*** (0.202)	−1.939*** (0.297)
Random effects				
Region				
SD (constant)	0.301***	0.300 ⁺	1.13e−08	0.448**
Province				
SD (GDP per capita)			0.000024***	0.0000018
SD (constant)	0.266*	0.225***	0.766***	0.485***
Sample size	16,480	12,134	12,134	12,134
Log likelihood	−10780.001	−7234.191	−7257.902	−7230.529
AIC	21566	14510.38	14,757.80	14,509.06
BIC	21,589.13	14,665.86	14,913.28	14,686.75

⁺P < 0.1, *P < 0.05, **P < 0.01, ***P < 0.001

Table 7 Results of logistic regression of different age groups. Source: Survey results

Variables	Model 5: 1980s Odds ratio	Model 6: 1990s Odds ratio	Model 7: 1980s Odds ratio	Model 8: 1990s Odds ratio
Monthly income of migration family	1.000*** (8.07e-06)	1.000 (2.16e-05)	1.000*** (3.16e-05)	1.000 (7.94e-05)
Social insurance	0.974 ⁺ (0.0144)	0.899*** (0.0295)	0.973 ⁺ (0.0144)	0.901** (0.0296)
Home ownership (ref: no)				
Yes	5.553*** (0.665)	3.264*** (0.778)	2.432* (1.066)	1.037 (0.885)
Social identity (ref: migrant workers)				
Citizen	1.640*** (0.0837)	1.545*** (0.149)	1.643*** (0.0840)	1.533*** (0.148)
Social integration score	1.169*** (0.0229)	1.182*** (0.0463)	1.138 ⁺ (0.0768)	1.067 (0.129)
Household strategies (family)				
Single	0.706*** (0.0680)	0.873 (0.116)	0.705*** (0.0680)	0.866 (0.116)
Split	0.995 (0.0604)	0.679 (0.193)	0.991 (0.0602)	0.678 (0.193)
Parents migration experience (stay in rural area)				
Both have migration experience	1.024 (0.0583)	1.207 ⁺ (0.122)	1.023 (0.0583)	1.197 ⁺ (0.121)
Father has migration experience	0.936 (0.0813)	0.674* (0.119)	0.940 (0.0817)	0.674* (0.119)
Mother has migration experience	1.371 (0.289)	1.343 (0.535)	1.376 (0.290)	1.376 (0.547)
Migration distance (ref: intra-provincial migration)				
Inter-provincial migration	0.592*** (0.0346)	0.678*** (0.0807)	0.590*** (0.0346)	0.682*** (0.0813)
Migration duration	1.082*** (0.00790)	1.085*** (0.0169)	1.083*** (0.00793)	1.084*** (0.0170)
Gender (ref: male)				
Female	1.020 (0.0463)	1.003 (0.0912)	1.023 (0.0465)	1.000 (0.0910)
Household registration (ref: agriculture)				
Non agriculture	0.865 (0.1119)	1.290 (0.390)	0.875 (0.120)	1.345 (0.406)
Education level (ref: primary school or less)				
Middle school	1.136 (0.1119)	1.309 (0.387)	1.138 (0.119)	1.313 (0.389)
College or above	1.407** (0.185)	1.643 (0.588)	1.428** (0.188)	1.675 (0.601)

Table 7 (continued)

Variables	Model 5: 1980s Odds ratio	Model 6: 1990s Odds ratio	Model 7: 1980s Odds ratio	Model 8: 1990s Odds ratio
Marital status (ref: single)				
Married together	1.041 (0.0712)	1.678* (0.376)	1.032 (0.0708)	1.695* (0.380)
GDP per capita group (ref: ≤CNY 30,000)				
CNY 30,000~50,000	1.183* (0.0888)	0.959 (0.136)	1.151 ⁺ (0.0874)	0.932 (0.142)
≥CNY 50,000	0.872 ⁺ (0.0681)	0.974 (0.143)	0.847* (0.0673)	0.907 (0.154)
Migration family income × GDP per capita group			1.000** (1.17e-05)	1.000 (2.91e-05)
Home ownership × GDP per capita group			1.384 ⁺ (0.232)	1.605 (0.549)
Social integration × GDP per capita group			1.012 (0.0266)	1.044 (0.0503)
Constant	0.111*** (0.0229)	0.0782*** (0.0347)	0.106*** (0.0616)	0.165 ⁺ (0.174)
Log likelihood	-5805.0996	-1527.5949	-5799.9009	-1526.0855
Observations	9490	2644	9490	2644

⁺P<0.1, *P<0.05, **P<0.01, ***P<0.001

Table 8 Results of logistic regression of different regions, Source: Survey results

	Eastern China		Central China		Western China		Northeast China	
	Odds ratio	Std. err.	Odds ratio	Std. err.	Odds ratio	Std. err.	Odds ratio	Std. err.
Monthly income of migration family	1.00004 ***	0.00001	1.00007***	0.00002	1.00006**	0.00003	1.00008 +	0.00005
Home ownership (ref: no)								
Yes	4.875***	0.743	3.416***	0.779	2.982***	0.700	4.612***	1.404
Social identity (ref: migrant workers)								
Citizen	1.707***	0.106	1.456***	0.132	1.627***	0.176	2.091***	0.339
Social integration score	1.161***	0.028	1.157***	0.043	1.121**	0.047	1.105	0.076
Social insurance	0.968	0.017	0.976	0.049	0.994	0.030	1.013	0.048
Household strategies (ref: family)								
Single	0.553***	0.077	0.575*	0.143	0.485**	0.099	0.644	0.287
Split	0.691***	0.054	0.910	0.130	0.586**	0.092	1.109	0.402
Migration distance (ref: intra-provincial migration)								
Inter-province migration	0.751***	0.062	0.532***	0.061	0.877	0.093	0.731*	0.109
Duration of migration	1.086***	0.009	1.085***	0.015	1.088***	0.019	1.105***	0.031
Age	1.0009	0.009	1.018	0.014	1.006	0.016	1.018	0.022
Gender (ref: male)								
Female	0.936	0.052	0.907	0.075	1.211*	0.121	1.430	0.207
Household registration (ref: agriculture)								
Non agriculture	0.914	0.139	1.533	0.474	0.889	0.283	-	-
Education level (ref: primary school or less)								
Middle school	1.026	0.124	1.220	0.321	1.079	0.257	1.228	0.416
College or above	1.229	0.197	1.611	0.480	1.638	0.480	1.901	0.921
Marital status (ref: single)								
Married Together	1.474***	0.118	1.270*	0.154	1.374*	0.199	0.882	0.187
Constant	0.070***	0.022	0.070**	0.036	0.104***	0.058	0.125*	0.106

Table 8 (continued)

	Eastern China		Central China		Western China		Northeast China	
	Odds ratio	Std. err.	Odds ratio	Std. err.	Odds ratio	Std. err.	Odds ratio	Std. err.
F	700.26		231.53		184.91		169.75	
Prob > F	0.000		0.000		0.000		0.000	
Log likelihood	- 3979.5165		- 1700.7881		- 1254.5142		- 591.5859	

[†]P<0.1, *P<0.05, **P<0.01, ***P<0.001

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