Urbanization and Children in China*

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ABSTRACT

China has experienced a fast-paced urbanization during the past three decades. Today more than 50% of Chinese population lives in urban places. Compared to other developing countries, China's urbanization is not driven by high fertility of urban residents but rather by large volumes of internal migrants, now estimated to be as many 200 million. Some of these migrants may choose to stay in urban areas and others may decide to leave after working for a few years. This paper examines the extent to which children affect migrants' intention for long term settlement and even their plan to change hukou status to local urban registration. Using data from the 2012 China Migrant Monitoring Survey, we find strong linkages between children and migrant parents' long-term settlement plan and hukou conversion. Our analysis of regional variations across city and provinces also suggests ways to promote the strategy of "people centered urbanization." The list of policy priorities may include: making it easier for migrant children to access urban public schools, making rental housing more affordable and increasing urban education resources, and creating more opportunities for community-based activities in neighborhoods with high concentration of migrants.

Introduction

Nobel Prize recipient in economics Joseph Stiglitz argues that China's urbanization and technology innovation in the U.S. will be the two most important events in the 21st century (Miles, 2014). Indeed, China's pace of urbanization in recent years has been quite remarkable. Since the late 1970s, China has experienced an unprecedented pace of urbanization. In 1978, only 17.8% of the population resided in urban areas and by 2016 urbanization level reached 57% (see Figure 1). During the same period, the number of cities has increased more than three times, from 193 to 656 (NBS, 2016). Such an impressive pace of urbanization is equally matched by the rapid development of residential and commercial buildings in urban China today as well as state of art infrastructure projects including transformative expansion of highways and high-speed railroads across China. By 2012, China had become the second largest economy in the world, just behind the United States. Though being disputed by the Chinese government, the World Bank already ranked China as the largest economy in the world by 2014, as measured by purchasing power. Despite China's highly acclaimed achievements in urbanization and economic miracle, urban China confronts a set of significant challenges. For example, the integration of more than 200 million migrants in cities, urban housing and education issues, and uneven development in urbanization between western and the coastal regions, to name but a few.

Compared to other developing countries, urbanization in China is not driven by rising fertility of urban residents (Brokehoff, 2000). In fact, fertility in urban China has been below replacement level for years. China's rising urbanization is driven by large volume of internal

migrants (Liang et al., 2008). China is also different from other developing countries because of its unique household registration system (hukou). Thus there are two important processes affecting urbanization in China. One is the plan to settlement long term. Another is the plan to change to local household registration status (hukou). Hukou is a Chinese institution established in the late 1950s with aim of controlling urban population in China (Chan and Zhang, 2004; Liang, 2016). Over time the significance of hukou has clearly declined but remain to be important especially for children's education, access to low income housing, and social welfare support (e.g. unemployment compensation).

The two processes are related but not exactly identical. For example, it is possible that migrants plan to stay for a long period of time, but not receive local hukou. In fact, the main challenge is that it is easier to stay in cities for a long period of time, but much harder to obtain local hukou. Thus we study the two processes simultaneously in this paper.

Much of the current literature on long term settlement tends to focus on adult migrant characteristics and housing market in cities, and institutional constraint of obtaining local hukou status. We argue that another lens to look at settlement and hukou conversion is to bring the story of children back in. In fact, migrants often say that they want to migrate because they want their children to receive better education and jobs in the future and these education resources and future job opportunities are often located urban China (not in rural China). Our key hypothesis is that having children at migrant destination cities will facilitate parents' long term settlement plans in cities. At the same time, we hold the view that children's well-being is best served when they join their parents in urban China.

We build a theoretical rationale to link children with parental decision to settle in urban places and plan for hukou conversion. We argue that children's impact on parental decision for long term settlement is through three mechanisms. Children who accompany parents to cities help expand parents' social connections with local people in residential community and schools, which promotes long term settlement. In addition, children who have access to urban public schools gradually develop a strong urban identity and are better prepared for urban labor market, which affects parents' future orientation toward city destinations. Thirdly, for parents whose children are in urban public schools, parents are motivated to convert to local hukou to enjoy the full benefits of urban public school education, including not paying extra fees (which often happens to migrant children without local hukou).

Besides linkages between children and parental long term settlement and hukou conversation, we also aim to identify how social capital (in migrant destination and origin) as well as education resources (at the city and province level) affect parental long term settlement plans. The discussion of these factors also has strong policy implications.

In next section of the paper, we will provide a literature review drawing on publications in English and Chinese and highlight our contributions. This is followed by our description of data and methodology for the paper. Some critical hypotheses will be tested using a 2012 national representative survey of migrants in China. We end the paper with a summary of our key findings and discussion of policy implications.

Background and hypotheses

This paper focuses on two aspects of migrant adaptation process: long term settlement plan and conversion to urban hukou. Since most studies on immigrant/migrant adaptation focus only on long term settlement (vs. return migration), it is important to make a distinction between long term settlement and urban hukou conversion. To understand the idea of hukou conversation, we must begin with hukou. Hukou is household registration system which was established in the late 1950s, initially with the aim to control rural to urban migration (Chan and Zhang, 1999; Liang, 2016). Compared to rural hukou, for a long period of time, urban hukou has been more desirable because having urban hukou entitles a package of benefits such as urban employment, housing, health care among others. Until late 1970s, hukou was a major device that controlled migration from rural to urban places. People literally cannot migrate to another urban location without obtaining local hukou first. However, China's economic reform started in the late 1970s had broken down the "great wall" of hukou that separates China's urban and rural residents for decades. With the ease of China's hukou system came with millions of migrant workers in urban China today. Although hukou continues to be functional, its level of significance has declined (Liang and Xu, 2018).

Although extant literature has been concerned with both long term settlement of migrants and hukou conversation, certainly more studies on the former than the latter. Geographer Zhu Yu and his colleagues (Zhu and Chen, 2010) are among the first group of researchers who explored the issue of migrants' settlement intension in the context of China. Using

survey data from coastal Fujian province in two time periods (2002 and 2006), they show that migrants' settlement intention has increased from 20% in 2002 to 36% in 2006. They also reveal that key determinants of long term settlement are: household income, non-agriculture hukou, Fujian origin migrants, better housing conditions. They also found that administrative status and population size of the destination city are also important factors. As one of the first studies on this topic, Zhu and Chen's (2010) work suggests that proportion of migrants with plans for long term settlement in urban Fujian province is relatively low which raises question about China's urbanization in the future.

Liu and Li (2014) distinguished different types of migrants and examine how different factors contribute to the long term settlement plans for each group of migrants. They classify migrant into three categories: investor migrants, white color migrants, and blue color migrants. They show that investor migrants are the most enthusiastic for long term settlement, follow by white color and blue color migrants. They also find that the determinants of settlement vary by type of migrants. For example, for blue color migrants, housing ownership and occupation are important factors; whereas for white color migrants, contact with local residents has significant impact on long term settlement. The study seems to imply different strategies for different types of migrants if the government plans to promote settlement and urbanization.

Several other studies show consistent findings about the role of housing ownership and other socioeconomic characteristics on long term settlement though scholars use different measures of housing, some use housing ownership and others use formal housing vs.

informal housing. For example, Huang et al. (2017) steer researchers to pay more attention to what they characterized by "Market mechanisms" (e.g. education, self-employment and housing ownership). Liu et al. (2017) used structural equation method to consider formal housing's impact on settlement intension of rural migrants using 12 city migrant survey. Their methodology allows two-way causal relationship between formal housing and long term settlement. Liu et al. (2017) demonstrate the existence of a "sorting process in which those migrants who are more included to permanent stay in cities strive to see appropriate housing. However, this issue cannot be resolved in cross-sectional research design, it is important to be cautious when we interpret results in these types of models. Liu et al. (2017) did mention that formal housing allows migrants more opportunities to interact with local people and expand local ties which ultimately promote settlement for migrants.

Using data from a 2006 survey of migrant workers in Pearl River Delta region, Cai and Wang (2007) used two measures to gauge at long term settlement, one is for rural migrants to give up land and another is for migrants to covert to local hukou status. Cai and Wang (2007) find that market related factors (such as education and Cantonese language skills) are important predictors for giving up farm land. However, institutional factors (such as unfair treatment by employers and discrimination by local residents) lead migrants to decide to change to local hukou. They also find migrants from Guangdong province are more likely to plan for settlement than non-Guangdong migrants.

Most recent work by Zhu and colleague (Lin and Zhu, 2016) revisited the issue of hukou conversion but this time around they pay more attention to spatial dimension of hukou

conversion. This transition to spatial dimension in their study of urbanization is important because it is one of the first papers to turn our attention beyond individual level factors in studying hukou conversion and long term settlement. Lin and Zhu (2016) reveal that cities in higher administrative status with large population are more attractive for migrants to plan for hukou conversion. In addition, some cities in western China with good transportation networks displays high proportion of migrants who want to convert to local hukou.

Despite large volume of literature on settlement intension and hukou conversion, one important player is often missing: children. To what extent children affect parents' decision to settle in cities or convert to local hukou? So the paper by Wang and Zhang (2017) is the most recent effort in this direction. Using survey data from the 2013 Migrant Dynamic Monitoring Survey in China, they show that children in destination cities have significant impact on parental social integration in cities.

So far, most studies examine either settlement or hukou conversion, very few studies look at both issues. In this paper, we aim to advance the literature in two major aspects. One is to examine systematically linkages between children and parental long term plan in cities. China's "New Urbanization Blueprint" calls for raising urbanization level to 60% by 2020. To reach this goal, it is important to study who wants to stay in urban places among migrants. Our second aim is to combine two aspects of migrant long term plan in our pursuit: long term settlement in cities and plan for conversion to local hukou in migrant destination. We elaborate our theoretical arguments below.

We begin with some discussion of how children affect migrant parents' settlement intension. We argue that this process operates in three ways. First, migrants whose children are already in migrant parents' destination have more roots in local community which promote long term settlement and hukou conversion. This is because households with children are expanding local connections through children's friends and their families in the community and children's friends from schools and child care centers. In other words, children are an indirect way for parents to get involved more in the community. In the U.S. children serve as language brokers that perform important function to link school teachers and parents (Portes and Raumbaut, 2014). Second, children who are being educated in urban schools are more likely to develop an urban identity and better prepared for urban labor market in the future. In fact, in our sample, we have 25% of migrant children who were born in parents' place of destination. These urban educated children have very little knowledge of parents' hometown and thus their future is likely to be in urban China, which promotes parents' long term settlement and hukou conversion. This logic applies to both the case of internal and international migration. In a paper on children and return migration, Dustmann (2013) argues that if the prospects of children's career are perceived to be better in the host economy in the context of international migration, migrant parents are less likely to make return migration and more likely to stay in the host country. His data from longitudinal German Socio-economic Panel data survey support this argument.

The third linkage between children and parental settlement intension is through the urban public schools. For a long time, migrant children had to pay large amount of extra fees to

enroll their children in local public schools. Since 2001, the official government policy is that migrant children should be treated equally like local children, without paying extra fees. However, in reality, implementation of this policy is very uneven. Both Beijing and Shanghai have set up clear criteria for migrant parents before their children are eligible to enroll in local public schools. In other cities, especially along the east coast, the practice of charging additional fees continues (Liang, Yue, and Li, 2017). From migrant parent perspective, one way to get rid of the extra fees is to have hukou conversion. So we expect parents with children in public schools are more likely to express plan for hukou conversion.

With respect to the differences between settlement intension and hukou conversion, we expect migrants with settlement intention are likely to want to have hukou conversion as well. But the two are not identical. Perhaps the most important differences between settlement intension and hukou conversion is that settlement plan is more a subjective plan whereas hukou conversion is subject to institutional constraints. In other words, if migrants have plan to settle, this plan in most cases is realistic. However, for hukou conversion, there are special criteria migrants have to meet before local hukou can be granted. Each city has detailed criteria for migrants to convert to urban hukou. These criteria often include stable job, enrollment in urban social security system, and often education requirement. Often this is a mission impossible for a lot of average migrants. For a very long period of time, hukou conversation is often linked with migrants with "talents" who are often with high educational attainment. Thus we expect education is more important for hukou conversion than settlement plan.

Aside from child related factors, we also highlight the importance of migrants' local social capital in the process of long term settlement and hukou conversion. Coleman (1986) argues that "Social capital is defined by its functions. It is not a single entity but a variety of entities, with two elements in common: they all consist of some aspects of social structures and they facilitate certain actions of actors…. (p. 98)." In the field of migration studies, migration networks are often defined as a form of social capital that facilitates migration process, and settlement in new locations (Massey, 2001). As a form of social capital, migration networks often refer to connections among migrants in origin and destinations and people who share same hometown origins. In current paper, our use of social capital refers to migrants' social connections with local residents in destination cities and migrants' social ties to places of migrant origin. We see this is a kind of social capital because it is capable of affecting migrants' long term settlement in destinations. Social integration into local urban society can lead to opportunities for new jobs, housing, and widened school choices for children, which ultimately helps migrants anchor toward long term settlement. In contrast, stronger ties to migrant origins hinder the process of long term settlement. This is consistent with views from neoclassical economics of migration which view social attachments to destinations as promoting long-term stay to maximize wage earnings potentials and on the contrary social attachment to community of origin as costs that hinder immigrants' pursuit of higher earnings (Constant and Massey, 2002).

Using a 2012 survey data, we study migrant settlement intension and hukou conversion. Our paper advances the current literature on migration settlement and hukou conversion in

following aspects. First, compared to other studies that use local surveys or surveys of multiple cities, we use a national survey of migrants that places in a good position to make generalizations. Second, we bring children back in the discussion of migrant settlement, a direction that is increasingly important as issue of migrant children and left behind children become extremely critical policy debates. Third, we are among the first to explore how city or provincial level factors (such educational resources, housing market, and distance between origin and destination) that influence migrants'' settlement intension. Our use of national survey of migrants is ideal for this type of exercise.

Data and Methods

Data for this study come from the 2012 National Migrant Population Dynamic Monitoring Survey conducted by the former National Population and Family Planning Commission of China[1] in late May and early June in 31 Provinces, Autonomous Regions, or Municipalities in China. Multi-stage stratified PPS Sampling method was adopted. The subjects were migrants aged between 15 and 59 who had stayed at the surveyed place for at least one month leaving the county where his/her *hukou* was in. In the survey, information on individual and household characteristics, brief migration history, and the working and living conditions of migrant households was collected. Information on respondent's children including current location of residence (either in migrant destination or in migrant origin),

[1] In 2013, the former National Population and Family Planning Commission of PRC and the former Ministry of Health were combined into one institution, i.e. the current National Health and Family Planning Commission of China.

type of school enrolled in destination communities and if fees are paid for public school enrollment was also gathered. The survey also contains rich information on migrant education, and household income. To measure local social capital, we use migrant's response to the following question: in your leisure time, do you mainly interact with which group of people? The responses include: (1) townsmen (tongxiang) in migrant destination; (2) townsmen (tongxiang) in migrant origin; (3) local residents in destination; (4) migrants from other places; (5) rarely interact with anyone. We measure local social capital by creating a variable that takes 1 if migrants mainly interact with local people and 0 otherwise. Other variables are self-explanatory. To measure migrant social capital in places of origin, we use a question in the survey asking if migrants went home for the Chinese New Year.

There are some major advantages of using this data set. One is that the data are nationally representative of migrants and their children. More importantly, the data contain information on locations of all of respondents' children (regardless of whether children are at survey locations or other places). Most current studies and survey data on migrant children do not have enough number of schools to implement our research strategy. The 2012 Survey of the Floating Population is very appropriate for our purpose.

We have information if migrants bring any child to live in urban places and if any child was born locally. In the survey, respondent with children were also asked if their children are enrolled in public school, migrant children school, or private school.

In addition to the 2012 survey data, we also include city and provincial level data. Data for city and provincial level variables come from the 2012 China Urban Statistical

Yearbook and the 2012 China Statistics Yearbook (available at official website of National Bureau of Statistics of the People's Republic of China: http://www.stats.gov.cn/tjsj/ndsj/2012/indexch.htm) and the 2012 China Real Estate Statistics Yearbook (available at http://chinayearbook.com/yearbook/item/1/160305.html).

We have two major dependent variables of interest. The first one is whether respondent plans to settle on a long term (for at least 5 years). The question in the survey is "do you plan to settle (stay more than 5 years) in the current destination?" There are three categories of response: (1) yes, (2) no, (3) undecided. The second dependent variable is whether respondent is willing to convert his/her hukou status to local hukou. The question is "if there are no constraints, would you be willing to convert your hukou to local hukou?" Again three categories: (1) yes, (2) no, and (3) undecided. For this paper, we decided to collapse category 3 into category 2, treating "undecided" as "no plan for long term settlement" for our first dependent variable and as "no plan for hukou conversion" for the second dependent variable.

As far as statistical models are concerned, we have the choice of using logistic regression model for each of our dependent variables. However, after initial exploration of the data, we find a strong correlation between the two dependent variables. Thus we decided to use bivariate probit model that allows us to estimate the two models simultaneously while controlling for correlation between the two dependent variables (Stata, 2018).

We select only migrants who reside in urban locations and who are interprovincial migrants. This selection procedure yields a total sample size of 56,735 cases. We focus on

urban sample because we are especially interested in what determines migrants'' long term settlement and hukou conversion in cities. Although hukou conversion in rural areas is possible, it is the hukou conversion in urban locations that is the most important to policy-makers and scholars because this will determine the future of China's urbanization. Our decision to concentrate on interprovincial migrants also reflect our thinking in two aspects. One is more theoretical, that is some provinces (such as provinces along the east coast) are more desirable for migrants to have long term settlement and hukou conversion. Our decision is also driven by the fact that we can more precisely measure this settlement desirability at the province level because data at the province level are readily available, to be included in our statistical models. To the extent possible, we also use some city level predictor variables as well.

For some statistical models, we use a broader geographic unit to capture regional variations. Consistent with the current practice, we define three regions in the following manner. China can be geographically divided into three regions: eastern, central, and western (Baidu Zhidao, 2013). Consequently, Guangxi and Hainan are part of the eastern region. However, their per capita gross domestic products in 2011 (National Bureau of Statistics of China, 2012) are so low that they cannot compare economically with other eastern provinces. Thus we group them with the central region. The eastern region is very fertile, and also enjoys the highest levels of economic development and marketization. The central region also has good conditions for agriculture, but they are far behind the eastern provinces (Baidu Zhidao, 2013). Thus we use Western, Central, and Eastern as categories representing the

social and economic conditions in the rural area of origin. Details of all variables used in the paper are explained in Appendix 1.

To facilitate discussion, we also group our variables into several big categories: demographic variables (age, gender, ethnic minority status), human capital and economic resources (education, monthly income, housing type), migration characteristics (length of residence, having temporary residence card, spouse at designation, rural hukou status), social capital (mainly local social contact, and returned home during Chinese New year), child-level characteristics (having child at destination etc.).

Results

Table 1 provides descriptive statistics for all variables used in the analysis of settlement. Table 2 provides parallel statistics for the analysis of hukou conversion. Results from Table 1 suggests that 62% of our sample plan for settlement in destination cities (at least for next 5 years). This seems to be higher than several earlier studies (28% in Huang et al. (2017) using data from 2008, 36% in Zhu and Chen (2010) using 2006 data. Our results are close to 58.8% settlement rate reported in Liu et al. (2014) using a large sample survey carried out in 2008. One possible reason for the different results from earlier studies could be our survey asks respondents for settlement plan for at least next 5 years, whereas in other survey the wording is more like "permanent settlement."

We compare basic statistics for migrants who do not plan for long term settlement and migrants who plan for long term settlement. We do not find a significant difference in

demographic characteristics (age, minority status) between settlers and non-settlers, although migrant women show a slightly higher percentage for settlement plan than migrant men. Comparison of human capital and economic resources reveal a much larger difference between settlements and non-settlers. For example, among settlers 19% of them are college educated compared to 10% for non-settlers. As previous literature suggests (Liu et al. 2016), formal housing is another variable seems to be important for settlement, with 19% of settlers have formal housing comparing to only 4% among non-settlers. We also observe significant variation between settlers and non-settlers on child level characteristics. For example, 56% of settlers have child/children at destination cites and 34% for non-settlers. This sizable difference gives us initial support for paying attention to the relationship between children and urbanization.

Let us now turn to Table 2. Perhaps the biggest difference between Table 1 and Table 2 is that the much lower percent of respondents (54%) are planning for hukou conversion than long term settlement (62%). This is not surprising, given that hukou conversion is much more difficult than long term settlement. We see similar findings for other variables. In Table 3, we compare settlers and non-settlers on city level characteristics especially focusing on housing and education. It is very striking that cities that migrants choose to settle tend to have better education resources as measured by number of primary schools and secondary schools. To see the association between settlement intension and hukou conversion, we cross-tabulated settlement intention by hukou conversion in Table 4. The two variables are clearly correlated with each other. For example, among people who plan for hukou

conversion, 87% of them also want to plan for long term settlement. This association provides the basis for our decision to utilize bivariate probit model.

We now turn to results from our bivariate probit models of settlement and hukou conversion. Due to some correlation between city level variables of education resources and housing market related variables, we try to model the impact of city level variables in two steps. In Table 5, we use city level variables related to housing market along with other individual and household level variables; and in Table 6, we use city level variables about education resources. For Table 5, we see that all human capital variable and economic resources are in expected direction. Higher level of education and income lead to increased probability of settlement and hukou conversion. Likewise, migrants who live in formal housing are more likely to settle and convert to local hukou in cities.

As we expected, duration of residence in cities and spouse in destination are important factors for settlement and hukou conversion. Even after controlling for all human capital and economic resources, migrants with rural hukou have a significantly lower probability of settlement and hukou conversion. For some members of rural hukou holders whose hometowns are close to big cities or commercial areas, this may reflect their reluctance to give up their land back home because of possible rise in the land value in a foreseeable future (Li and Smart, 2012). For majority members of rural hukou holders, the most likely story is that they face extra barriers for their lives in urban areas: job instability, lack of upward job mobility, and discrimination with their children's access to local public schools.

We also reveal that social capital is another important factor. Recall that we measure social capital in two ways: local social capital and social capital in migrant origins. Local social capital measures if migrants mainly interact with local urban residents. Social capital in migrant origin is measured by if migrants went back to their hometown during Chinese New Year in the year of survey. Both variables operate in our predicted direction, migrants who have more local social capital are more likely to settle and plan for hukou conversion. On the other hand, migrants with more social capital in migrant origin are less likely to plan for long term settlement and hukou conversion. Table 5 also shows that regional variation is also very striking, migrants are more likely to plan to settle and plan for hukou conversion in Eastern China than western China. Of course, eastern China is the most economically dynamic region in China and has been desirable destination for migrants since the late 1970s!

Turning to the focus of our research interest on children, if migrants have a child at migrant destination, they are more likely to plan for settlement and hukou conversion. Thus children and urbanization are clearly linked together. If we look at city level housing market variables, we see that average rent in a city has a significant negative impact on migrants' plan to settle and hukou conversion. Given most migrants depend on housing rental market, making housing more affordable will certainly facilitate long term settlement. Another housing variable (ratio of house price over income) is also negatively associated with settlement and hukou conversion plan. Note that we are only able to get housing data for 34 cities, our model 2 using housing price variable only contains migrants only for 34 cities, we should interpret our results with caution (but model 1 contains migrants in 326 cities).

So far we have had some broad discussion of how individual, household, and city level variables affect settlement and hukou conversion. All independent variables seem to operate in the same direction affecting the two dependent variables of our interest. If we carefully evaluate possible differences between settlement and hukou conversion process, following findings are supported. Education has more important impact for hukou conversion than for settlement. For settlement in models 1 and 2, only one education variable (university education) is statistically significant. In contrast, for hukou conversion, two education variables (high school and university) are statistically significant. Even for university education variable, the size of the coefficient for hukou conversion model is larger than that for settlement. Note that in column 3 and column 6, we perform significance test the coefficient for university education is significantly larger for hukou conversion than for settlement. The symbol Δ in Tables 5 and 6 is difference between coefficients for the same variable in each equation (for settlement and hukou conversion), and its corresponding hypothesis testing statistics is calculated by using the formula Δ/s.e., where s.e. is the joint standard error for both coefficients. These results are obtained automatically using *lincom*, a postestimation command in Stata. As we argued earlier, settlement does not necessarily require minimum level of education, but hukou conversion very often requires certain threshold for educational attainment of applicants.

In Table 6, we estimated additional bivariate probit models of settlement and hukou conversion. We use refined categories of children in destination by age of children. Overall, we find that children of any age who live with their parents in destination will increase

probability of parental long term settlement. In Table 6, we also introduce city level education resources-related variables: teacher-student ratio (primary school), number of primary schools, teacher-student ratio (secondary school), and number of secondary schools in each city.

Results from Table 6 show similar findings for most of our variables such as demographic, human capital and economic resources, and migration variables. We use a series of dummy variables of migrant children's age to explore if having children of any specific age group are more important than other age groups. The results show the effect of children in destination operates uniformly across all age groups. We also have another important variable: having children enrolled in public school. Very interestingly, having child/children in public school has a very strong impact on hukou conversion but not on settlement. If migrants (without local hukou) enroll their children in local public schools, chances are they will have to pay some extra fees. These fees can be quite substantial in some cases from our fieldwork in different parts of China. In Guangdong province, for example, it can cost as much as 30,000 yuan ($1=6.6 yuan in 2018). However, if migrants are able to obtain local hukou, they will no longer need to pay the extra fees. Therefore, for migrant parents whose children are in public school, it is in their best interest to change to local hukou if possible.

In Table 7, we include both individual/household and provincial level variables. In particular, we created three province level variables. Interprovincial distance is measured by

distance between capital city of each province. House price ratio is the ratio between mean housing purchasing price of destination over the mean housing purchasing price of migrant origin province. Education investment/budget ratio is ratio between education investment of destination province over education investment of origin province. In models 5 and 6, we enter provincial level education variables. In both models 5 and 6, higher education investment/budget ratio between destination and origin province promote migrant settlement and hukou conversion. We also tried some interaction terms. It turns out that migrants with younger children (younger than 18) are more likely to convert to local hukou if destination provinces have higher level of education investment ratio (see results in Model 5). Likewise, migrants with children in public schools are more likely to have hukou conversion if education investment ratio between destination and origin is high. Findings from these models are consistent with our results from Tables 5 and 6 using city level education variables. Surprisingly, distance between province of origin and province of destination is not statistically significant. This suggests that given China's dramatic improvement in transportation infrastructure in the past three decades, geographic distance is no longer a big hurdle for migrants.

Summary and conclusion

Migration and urbanization have changed China's landscape and led to high economic development. In many ways, China's economic miracle in the past four decades is made in urban China! Policy makers continue to see China's urbanization could be a driver for future

economic growth. They see sustained urbanization as a way to generate a consumer based economy, as compared to export based economy. China's "New Urbanization Blueprint (2014-2020)" strongly advocates for a rise of urbanization to a new level (60%) by 2020. To achieve this goal, the "Blueprint" plans to give 100 million migrants urban hukou and allow them to become full fledge urban citizens that enjoy the rights and benefits of other urban citizens. In this paper, we use a recent national survey of migrants to explore major determinants that affect migrants' long term settlement and hukou conversion plan in cities. In particular, we highlight the importance of children's characteristics on migrants' long term plan. Our basic argument is that if migrants think their children have promising prospects of education and work in cities, they are likely to stay and some even try to obtain local urban hukou (of course this can be very difficult especially in major big cities). Our results are very consistent with the idea that children matter in migrants' long term settlement and hukou conversion.

Consistent with international literature on long term settlement, migrants with more human capital and economic resources are more likely to settle and convert to local hukou. In addition, social capital in migrant destination and origin play especially important role in promoting settlement and hukou conversion. Beyond these findings that are consistent with international literature, we especially want to highlight some new findings from this study. China's eastern region continues to be the most attractive place for migrants' long term plan and hukou conversion. If China wants to urbanize western China, something more have to be done. We also show that education resources (measured by teacher/student ratio in

destinations and education investment ratio between province of destination and province of destination) are very important factors for migrants' future plan to be in cities. Likewise, given most migrants continue to rent apartment, it is important to pay attention to urban housing rental market.

Our findings in this paper have strong policy implications. We have seen many studies addressed issues of migrant children and left behind children, the current scholarly efforts often concentrate on children's education and health per se (Feng et al., 2017; Huang et al., 2016; Liang and Chen, 2007). Although it is important to study migrant children's education and health outcomes, the linkage to China's future urbanization is another important perspective that gives current study on urbanization a heightened level of significance. Strategic plan for next stage of urbanization must have migrant children in mind because these children in many ways will determine if China's urbanization can be sustainable. In other words, if children cannot have access to urban education resources, they will return home and so will their parents. From policy perspective, this means we need to make Chinese cities more migrant children friendly, as reflected in more programs for early education of migrant children and easier access to public schools for migrant children. Along the same line, making housing more assessable (especially for rental market) will too facilitate migrant adaptation in cities. This is very much in line with "people centered urbanization" advocated by the Chinese government (Li, 2014).

Besides urban education policies that give migrant children equal access to education resources, it is also critical to pay attention to communities which host large numbers of

migrants. Our paper reveals that migrants who have more local social capital are more likely to promote integration and long term settlement for migrants. Community based activities will provide more opportunities for migrants to get to know their neighbors and foster ties between migrants and their neighbors, which ultimately will facilitate long term settlement and adaptation in urban life.

Another striking finding emerges from this study is that rural hukou migrants are reluctant to express hope for hukou conversion (even though they plan to have long term settlement). The finding underscores the urgency of next steps of hukou reform. If one looks at current hukou conversion policies across Chinese cities, there is a priority for migrants with higher education and skills, sometimes longer duration of residence and tax paying record. Either by design or accident, these policies clearly exclude majority of rural hukou migrants. To increase China's urbanization and increase the chances for upward mobility of migrant children, future hukou reforms must consider rural hukou migrants as well. China's urbanization needs both highly skilled migrants and low skilled migrants as well (Lu, 2016).

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Table 1 Descriptive Statistics, by Settlement Intention

	Total		Non-Settlement		Settlement	
Variables	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Settlement intention (1 = Yes)	62.04					
Demographic variables						
Age[a]	33.50	9.097	32.25	9.517	34.27	8.743
Gender (1 = Female)	46.92		44.58		48.36	
Ethnic minority (1 = Yes)	4.45		4.88			4.19
Human capital and economic resources						
Education (ref: Primary or lower)						
Middle school	49.92		53.9		45.63	
High school	26.15		26.13		26.93	
University or higher	14.37		9.88		18.89	
Monthly income (log)[a]	7.42	0.834	7.35	0.856	7.47	0.818
Housing type (ref: Informal)						
Formal	13.14		4.02		18.72	
Dorms	20.71		26.72		17.03	
Migration characteristics						
Length of residence (years)[a]	4.86	4.886	3.28	3.702	5.83	5.256
Having temp residence permit (1 = Yes)	73.63		66.77		77.82	
Spouse at destination (1 = Yes)	68.36		56.80		75.43	
Hukou (1 = Rural)	79.83		84.55		76.94	
Local social capital						
Mainly local contact (1 = Yes)	23.73		18.62			26.85
Back during Spring Festival (1 = Yes)	64.70		69.36		61.86	
Region of destination (ref: Western)						
Central	9.12		11.47		7.68	
Eastern	60.33		52.02		65.41	
Child level characteristics						
Having child at destination (1 = Yes)	47.52		34.36		55.57	
Having child <18 at destination (1 = Yes)	41.42		30.02		48.39	
Having child 6/12 at destination (1 = Yes)	17.75		11.92		21.32	
Having child 13/15 at destination (1 = Yes)	5.40		3.45		6.59	
Having child ⩽5 at destination (1 = Yes)	21.37		16.19		24.55	
Having child in local public school (1 = Yes)	25.30		19.13		29.07	
N	56,735		21,534		35,201	

Notes: a. All numbers in the cell except those for age, monthly income, and length of residence are percentages.

Source: National Migrant Population Dynamic Monitoring Survey 2012.

Table 2 Descriptive Statistics, by *Hukou* Conversion Intention

	Total		Non-Conversion		Conversion	
Variables	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Hukou conversion intention (1 = Yes)	53.91					
Demographic variables						
Age[a]	33.50	9.097	33.14	9.432	33.82	8.789
Gender (1 = Female)	46.92		44.23		49.23	
Ethnic minority (1 = Yes)	4.45		4.78		4.18	
Human capital and economic resources						
Education (ref: Primary or lower)						
Middle school	49.92		54.94		45.63	
High school	26.15		25.24		26.93	
University or higher	14.37		9.08		18.89	
Monthly income (log)[a]	7.42	0.834	7.35	0.829	7.49	0.833
Housing type (ref: Informal)						
Formal	13.14		7.42		18.02	
Dorms	20.71		24.04		17.85	
Migration characteristics						
Length of residence (years)[a]	4.86	4.886	3.82	4.171	5.74	5.264
Having temp residence permit (1 = Yes)	73.63		65.77		80.34	
Spouse at destination (1 = Yes)	68.36		62.90		73.02	
Hukou (1 = Rural)	79.83		84.97		75.43	
Local social capital						
Mainly local contact (1 = Yes)	23.73		21.36		25.75	
Back during Spring Festival (1 = Yes)	64.70		67.45		62.36	
Region of destination (ref: Western)						
Central	9.12		13.16		5.66	
Eastern	60.33		47.34		71.43	
Child level characteristics						
Having child at destination (1 = Yes)	47.52		40.32		53.67	
Having child <18 at destination (1 = Yes)	41.42		35.16		46.76	
Having child 6/12 at destination (1 = Yes)	17.75		14.46		20.56	
Having child 13/15 at destination (1 = Yes)	5.40		4.36		6.29	
Having child ⩽5 at destination (1 = Yes)	21.37		18.43		23.90	
Having child in local public school (1 = Yes)	25.30		22.30		27.86	
N	56,735		26,149		30,586	

Notes: a. All numbers in the cell except those for age, monthly income, and length of residence are percentages.

Source: National Migrant Population Dynamic Monitoring Survey 2012.

Table 3 Descriptive Statistics of Urban Housing Market and Education Resources by Settlement and Hukou Conversion

	Total	Settlement	Non-Settlement	Conversion	Non-Conversion
Variables	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**
Average rent (in 100s)	7.49 (3.157)	7.97 (3.195)	6.72 (2.933)	8.37 (3.207)	6.47 (2.766)
House rent-income ratio	0.13 (0.036)	0.13 (0.034)	0.12 (0.038)	0.13 (0.032)	0.12 (0.038)
N	56,735	35,201	21,534	30,586	26,149
Average house price (in 1000s)	11.31 (4.999)	11.76 (4.748)	10.34 (5.384)	12.32 (4.525)	9.47 (5.292)
House price-income ratio	1.73 (0.545)	1.74 (0.493)	1.69 (0.642)	1.80 (0.468)	1.60 (0.643)
N	32,294	22,175	10,119	20,902	11,392
Number of primary school	435.66 (347.903)	486.75 (347.415)	349.17 (331.237)	519.9 (334.824)	330.67 (335.119)
Teacher-student ratio (primary)	0.06 (0.01)	0.06 (0.01)	0.06 (0.011)	0.06 (0.009)	0.06 (0.011)
Number of secondary school	304.34 (265.533)	355.68 (275.818)	217.41 (221.505)	392.02 (274.271)	195.06 (207.621)
Teacher-student ratio (secondary)	0.08 (0.022)	0.08 (0.02)	0.08 (0.025)	0.09 (0.019)	0.08 (0.026)
N	48,812	30,687	18,125	27,082	21,730

Source: China City Statistical Yearbook 2012; China Real Estate Statistics Yearbook 2012.

Table 4 Cross-tabulation of Settlement Intention and Hukou Conversion Intention

		Hukou conversion intention	
		No	Yes
Settlement intention	No	17,460 (66.77)	4,074 (13.32)
	Yes	8,689 (33.23)	26,512 (86.68)
		26,149 (100)	30,586 (100)

Notes: Percentage in parentheses.
Source: National Migrant Population Dynamic Monitoring Survey 2012.

Table 5 Bivariate Probit Models of Settlement and Hukou Conversion: Individual and Household Level Factors, and City Level Housing Market

	Model 1			Model 2		
Variables	**Settlement**	**Hukou Conversion**	**Δ**	**Settlement**	**Hukou Conversion**	**Δ**
Demographic variables						
Age	0.05**	0.04**	0.02*	0.07**	0.05**	0.02*
Age^2	-0.00**	-0.00**	-0.00*	-0.00**	-0.00**	-0.00+
Female	-0.02	-0.00	-.01	-0.06**	-0.02	-0.04*
Ethnic minority	-0.05	-0.10	0.05	-0.03	-0.09	0.06
Human capital and economic resources						
Education (ref: Primary or lower)						
Middle school	-0.01	0.04	-0.04	0.05	0.09	-0.04
High school	0.06	0.18**	-0.13**	0.13+	0.24**	-0.11+
University or higher	0.18**	0.32**	-0.15**	0.24**	0.33**	-0.10
Monthly income (log)	0.08**	0.04**	0.04**	0.11**	0.06**	0.05**
Housing type (ref: Informal)						
Formal	0.61**	0.37**	0.24**	0.57**	0.40**	0.17**
Dorms	-0.08*	-0.09*	0.01	-0.09*	-0.11**	0.02
Migration characteristics						
Length of residence	0.08**	0.05**	0.04**	0.08**	0.04**	0.04**
Length of residence^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00	-0.00**
Having temp residence permit	0.21**	0.23**	-0.02	0.23**	0.26**	-0.04
Spouse at destination	0.15**	0.06*	0.09**	0.15**	0.08**	0.08**
Rural hukou	-0.09**	-0.12**	0.03	-0.09**	-0.15**	0.05
Local social capital						
Mainly local contact	0.26**	0.14**	0.12**	0.20**	0.12**	0.08*
Back during Spring Festival	-0.09**	-0.05+	-0.04+	-0.10**	-0.03	-0.07*
Region of destination (ref: Western)						
Central	-0.06	-0.14*	0.08	0.08	0.14	-0.06
Eastern	0.02	0.20**	-0.18**	0.56**	0.78**	-0.22**

(continued)

Table 5 *(continued)*

	Model 1			Model 2		
	Settlement	**Hukou Conversion**	**Δ**	**Settlement**	**Hukou Conversion**	**Δ**
Child level characteristics						
Child at destination	0.28**	0.23**	0.05*	0.25**	0.13+	0.12**
City level variables						
Average rent (in 100s)	0.07**	0.12**	-0.05**			
House rent-income ratio	-2.52	-2.48	-0.04			
Average house price (in 1000s)				0.07**	0.13**	-0.05**
House price-income ratio				-0.90**	-1.17**	0.28**
Interactions						
Child at destination * House price-income ratio				0.01	0.05+	-0.05**
Constant	-2.14**	-2.07**		-1.81**	-1.38**	
Athrho[a]	0.83**			0.83**		
Log pseudolikelihood	-67166.83			-39933.936		
N	56,735			32,294		
Number of cities	326			34		

*Notes: Robust standard errors in parentheses. ** p<0.01, * p<0.05, + p<0.1.*

*a. Athrho = (1/2)*ln((1+rho)/(1-rho)). Rho measures the correlation of the residuals from the two simultaneous equations in the model.*

Source: The 2012 China National Migrant Population Dynamic Monitoring Survey; The 2012 China Urban Statistical Yearbook; the 2012 China Real Estate Statistics Yearbook.

Table 6 Bivariate Probit Model of Settlement and Hukou-conversion: Individual and Household Factors and City Level Education Resources

Variables	Model 3			Model 4		
	Settlement	Hukou Conversion	Δ	Settlement	Hukou Conversion	Δ
Demographic variables						
Age	0.04**	0.03*	0.02*	0.05**	0.03**	0.02*
Age^2	-0.00**	-0.00*	-0.00*	-0.00**	-0.00**	-0.00+
Female	-0.01	0.00	-0.02	-0.02	-0.01	-0.01
Ethnic minority	-0.03	-0.10	0.07	-0.03	-0.08	0.06
Human capital and economic resources						
Education (ref: Primary or lower)						
Middle school	-0.00	0.08*	-0.08**	-0.01	0.06	-0.08*
High school	0.06	0.24**	-0.19**	0.04	0.22**	-0.17**
University or higher	0.18**	0.41**	-0.23**	0.15**	0.35**	-0.20**
Monthly income (log)	0.10**	0.07**	0.03*	0.09**	0.06**	0.03**
Housing type (ref: Informal)						
Formal	0.58**	0.32**	0.26**	0.59**	0.33**	0.26**
Dorms	-0.12**	-0.13**	0.01	-0.10**	-0.11**	0.00
Migration characteristics						
Length of residence	0.08**	0.05**	0.04**	0.08**	0.04**	0.04**
Length of $residence^2$	-0.00**	-0.00*	-0.00**	-0.00**	-0.00**	-0.00**
Having temp residence permit	0.23**	0.26**	-0.02	0.20**	0.20**	-0.01
Spouse at destination	0.19**	0.12**	0.07**	0.20**	0.13**	-0.07**
Rural hukou	-0.09**	-0.14**	0.04	-0.09**	-0.11**	0.03
Local social capital						

Mainly local contact	0.22**	0.09*	0.13**	0.24**	0.12**	0.12**
Back during Spring Festival	-0.11**	-0.06*	-0.05+	-0.11**	-0.06*	-0.05+
Region of destination (ref: Western)						
Central	0.05	0.10	-0.06	-0.00	0.02	-0.02
Eastern	0.18+	0.54**	-0.35**	0.07	0.34**	-0.27**

(continued)

Table 6 *(continued)*

	Model 3			**Model 4**		
	Settlement	**Hukou Conversion**	**Δ**	**Settlement**	**Hukou Conversion**	**Δ**
Child level characteristics						
Having child 6/12 at destination (1 = Yes)	0.26**	0.19**	0.07*	0.27**	0.21**	0.06*
Having child 13/15 at destination (1 = Yes)	0.26**	0.14+	0.12*	0.27**	0.16*	0.11+
Having child ⩽5 at destination (1 = Yes)	0.23**	0.17**	0.06	0.23**	0.17**	0.06
Having child in local public school (1 = Yes)	-0.01	0.08*	-0.09**	-0.01	0.08**	-0.09**
City level variables						
Teacher-student ratio (primary)	11.45**	10.47**	0.98			
Number of primary schools	0.00**	0.00**	-0.00**			
Teacher-student ratio (secondary)				5.00**	5.50**	-0.50
Number of secondary schools				0.00**	0.00**	-0.00**
Constant	-2.89**	-2.76**		-2.55**	-2.48**	
Athrho[a]	0.82**			0.82**		
Log pseudolikelihood	-63686.553			-63189.815		
N	48,812			48,812		

Number of cities	257	257

*Notes: Robust standard errors in parentheses. ** p<0.01, * p<0.05, + p<0.1*

*a. Athrho = (1/2)*ln((1+rho)/(1-rho)). Rho measures the correlation of the residuals from the two simultaneous equations in the model.*

Source: National Migrant Population Dynamic Monitoring Survey 2012; China City Statistical Yearbook 2012; China Real Estate Statistics Yearbook 2012.

Table 7. Bivariate Probit Model of Settlement and Hukou-conversion: Individual, Household, and Provincial Level Variables

	Model 5		Model 6		Model 7	
Variables	**Settlement**	**Hukou Conversion**	**Settlement**	**Hukou Conversion**	**Settlement**	**Hukou Conversion**
Demographic variables						
Age	0.04**	0.03**	0.04**	0.03**	0.06**	0.04**
Age^2	-0.00**	-0.00*	-0.00**	-0.00*	-0.00**	-0.00**
Female	-0.01	0.01	-0.01	0.01	-0.02	0.00
Ethnic minority	-0.04	-0.10+	-0.04	-0.10+	-0.09+	-0.18**
Human capital and economic resources						
Education (ref: Primary or lower)						
Middle school	0.01	0.09*	0.01	0.09*	0.01	0.08*
High school	0.10*	0.28**	0.10*	0.28**	0.09*	0.26**
University or higher	0.24**	0.47**	0.24**	0.47**	0.22**	0.44**
Monthly income (log)	0.10**	0.07**	0.10**	0.07**	0.10**	0.07**
Housing type (ref: Informal)						
Formal	0.61**	0.36**	0.61**	0.36**	0.63**	0.38**
Dorms	-0.11**	-0.13**	-0.11**	-0.13**	-0.10**	-0.12**
Migration characteristics						
Length of residence	0.08**	0.05**	0.08**	0.05**	0.09**	0.05**
Length of $residence^2$	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**

Having temp residence permit	0.19**	0.19**	0.19**	0.19**	0.21**	0.21**
Spouse at destination	0.18**	0.10**	0.18**	0.10**	0.17**	0.09**
Rural hukou	-0.12**	-0.18**	-0.12**	-0.18**	-0.11**	-0.16**
Local social capital						
Mainly local contact	0.24**	0.11**	0.24**	0.11**	0.24**	0.13**
Back during Spring Festival	-0.10**	-0.05*	-0.10**	-0.05*	-0.10**	-0.04+
Region of destination (ref: Western)						
Central	0.00	0.02	0.00	0.02	-0.09*	-0.12*
Eastern	0.01	0.27**	0.01	0.26**	-0.09+	0.09+

(continued)

Table 7 *(continued)*

	Model 5		**Model 6**		**Model 7**	
	Settlement	**Hukou Conversion**	**Settlement**	**Hukou Conversion**	**Settlement**	**Hukou Conversion**
Child level characteristics						
Child at destination					0.21**	0.14**
Having child <18 at destination	0.16*	0.07	0.28**	0.20**		
Child at local public school	0.02	0.09**	-0.01	-0.12		
Inter-provincial divergences						
Edu investment per capita ratio[a]	0.28**	0.41**	0.30**	0.42**		
House price ratio[a]					0.15**	0.25**
Inter-provincial distance (in 100kms)[b]	-0.01+	0.00	-0.01+	0.00	-0.01*	-0.00
Interactions						
Having child <18 at destination * Edu investment per capita ratio	0.07+	0.09**				
Child at local public school * Edu investment per capita ratio			0.02	0.14**		
Child at destination * House price ratio					0.04*	0.05*
Constant	-2.34**	-2.35**	-2.39**	-2.36**	-2.26**	-2.23**
Athrho[c]	0.83*		0.83*		0.83*	
Log pseudolikelihood	-67273.006		-67267.753		-67306.614	

N	54,301	54,301	54,301
Number of province dyads	833	833	833

*Notes: Robust standard errors in parentheses. ** p<0.01, * p<0.05, + p<0.1.*

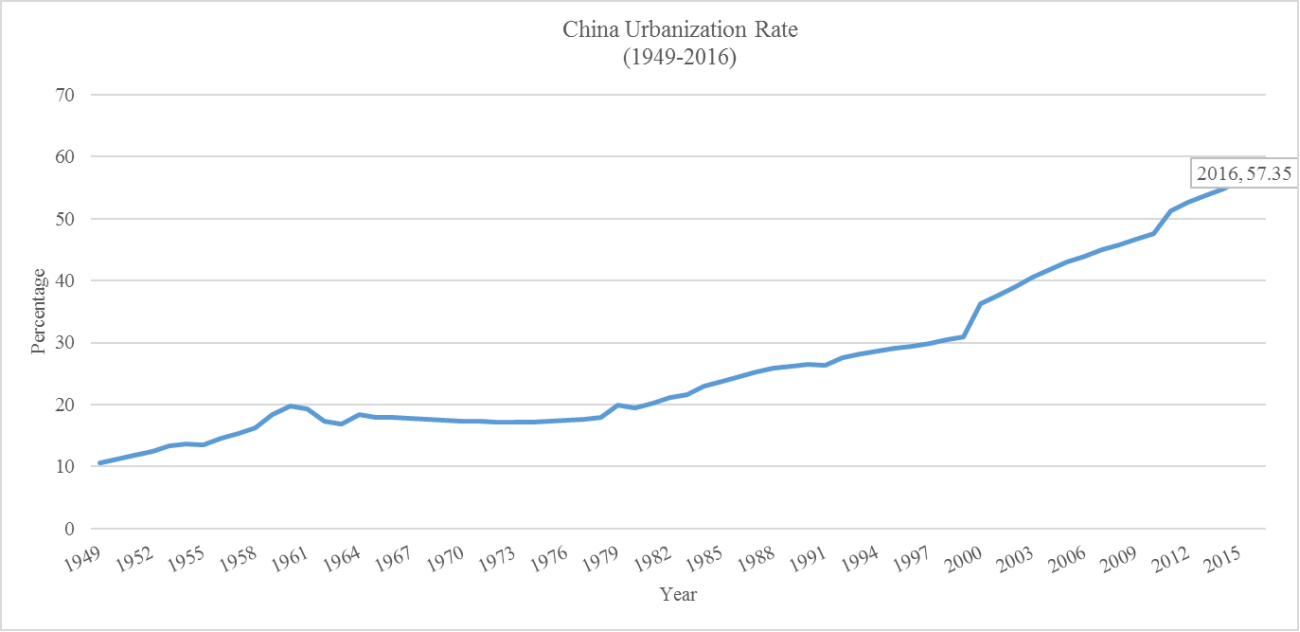
a. These are the ratio of measures of destination provinces to measures of origin provinces.

b. Distances between the capital cities of provinces.

*c. Athrho = (1/2)*ln((1+rho)/(1-rho)). Rho measures the correlation of the residuals from the two simultaneous equations in the model.*

Source: National Migrant Population Dynamic Monitoring Survey 2012; China Statistical Yearbook 2012.

Figure 1 Urbanization in China: 1949-2016



Data source: National Bureau of Statistics of China

Appendix 1 Variables Included in the Analysis

Variables	Description
Dependent Variables	
Settlement intention	Intent to reside at destination for 5 years or longer = 1; otherwise 0
Hukou conversion intention	Intent to change hukou to the destination city = 1; otherwise 0
Demographic variables	
Age	Years, ranging from 15 to 59
Female	Female = 1; male 0
Ethnic minority	Self-identified as a non-Han nationality = 1; otherwise 0
Human capital and economic resources	
Education	Highest degree obtained: Primary or lower (reference category); Middle school; High school; College or higher
Monthly income	Average monthly household income at destination, logarithmic transformed
Housing type	Formal: Self-bought house or low rent house provided government; Dorms: Dormitories provided by employers; Informal (reference category): others
Migration characteristics	
Length of residence	Years staying at destination since first-time entry, ranging from 0 to 41
Having temp residence permit	Having local temporary residence permit = 1; otherwise 0
Spouse at destination	Having spouse live together at destination = 1; otherwise 0
Rural hukou	Rural household registration = 1; otherwise 0
Local social capital	
Mainly local contact	The most frequent contact is with residents with a local hukou in spare time = 1; otherwise 0
Back during Spring Festival	Going back to hometown during 2012 Spring Festival = 1; otherwise 0
Region of destination	Region of the destination province: Western (reference category); Central; Eastern
Child level characteristics	
Having child at destination	Having at least one child at destination = 1; otherwise 0
Having child 6/12 at destination	Having a child between 6 and 12 years old at destination = 1; otherwise 0
Having child 13/15 at destination	Having a child between 13 and 15 years old at destination = 1; otherwise 0
Having child≤5 at destination	Having a child no more than 5 years old at destination = 1; otherwise 0
Child at local public school	Having a child attending local public school = 1; otherwise 0
City level variables	
Average rent	Average monthly rent, in 100s.
House rent-income ratio	Average rent divided by average household income
Average house price	Average residential house price per m^2, in 1,000s
House price-income ratio	Average house price divided by average household income
Number of primary schools	The number of primary schools in destination cities, ranging from 7 to 1,521
Teacher-student ratio (primary)	The number of teachers divided by the number of students at primary school
Number of secondary schools	The number of secondary schools in destination cities, ranging from 7 to 716
Teacher-student ratio (secondary)	The number of teachers divided by the number of students at secondary school

Source: National Migrant Population Dynamic Monitoring Survey 2012; China City Statistical Yearbook 2012; China Real Estate Statistics Yearbook 2012.