



HHS Public Access

Author manuscript

Eurasian Geogr Econ. Author manuscript; available in PMC 2016 March 14.

Published in final edited form as:

Eurasian Geogr Econ. 2014 ; 55(4): 313–332. doi:10.1080/15387216.2014.1001762.

Residential Mobility within Guangzhou City, China, 1990–2010: Local Residents Versus Migrants

Si-Ming Lu^a and Yushu Zhu^{b,*}

^aDepartment of Geography, Hong Kong Baptist University, Kowloon Tong, Hong Kong

^bPopulation Studies and Training Center, Brown University, Providence, RI, USA

Abstract

Drawing on residential history data from two household surveys conducted in Guangzhou in 2005 and 2010, this paper compares the pattern of intra-city residential moves of local residents and that of migrants. The findings show different trajectories of residential moves for the two groups. While migrants showed increasing mobility over time, residential moves of locals first rose until the early 2000s, then declined steadily afterward. Moreover, the determinants of residential moves of migrants differ from those of the local population. Also, whereas residential moves for the local population are subject to changing factors over time, drivers of relocation for migrants remain more or less stable.

Keywords

residential mobility; rural migrants; longitudinal analysis; urban China

Introduction

Residential mobility within a city constitutes a major component of urban spatial dynamics and is instrumental to the continuity and change of urban neighborhoods. At the personal level, prolonged residence in the same dwelling or neighborhood is a key to developing deep affection to a place. But the inability to relocate could also mean the difficulty in adjusting to changing circumstances such as neighborhood decline and *en masse* relocation of job opportunities in the urban area, hence the spatial mismatch hypothesis (Kain 1968, 1992). For socially deprived groups, the inability to move out of segregated neighborhoods despite their frequent moves is symptomatic of and feeds upon the culture of poverty (Rosenbaum, Reynolds, and Deluca 2002; Wilson 1987).

China's market-oriented reforms over the past decades has major implications for the way urban housing is supplied and consumed and hence, the distribution and redistribution of population over the urban space. The process of inter-city migration and the underlying mechanisms pertaining to household registration (*hukou*) system have been well documented (e.g., Chan, Liu, and Yang 1999; Chan and Zhang 1999); the literature,

*Corresponding author: yushu.ivy.zhu@gmail.com.

however, has paid much less attention to the more local process of intra-city migration. Indeed, only a few authors have analyzed the patterns of and factors underlying housing decisions and residential mobility of China's urbanites (see for example, Huang and Deng 2006; S.-M. Li 2004, 2005; S.-M. Li and Siu 2001; S.-M. Li, Wang, and Law. 2005; Logan, Y. Bian, and F. Bian 1999; F. Wu 2004). The focus of this literature is on people with the proper residential status, or local *hukou*, in the city. Much less is known about the extent to which the hundreds of millions of non-*hukou* migrants¹ (Chan, Liu, and Yang 1999) from China's vast rural hinterlands change residence and under what conditions they relocate after having arrived in a major city. Do migrants move in response to the realignment of job and housing opportunities in the city under an increasingly neoliberal labor and housing market regime (He and Wu 2009)? Or, are the majority forced to move due to eviction by landlords, exorbitant rents, and redevelopment of low-cost inner-city neighborhoods and of villages-in-the-city where migrants congregate?

Studies conducted in the West reveal that immigrants tend to have relatively high mobility rates when they first settle in the place of destination, but the propensity to move decreases subsequently and finally approaches the level prevailing in the host society (Owusu 1999; Renaud and Bégin 2006). The theory of residential assimilation further postulates that in due course, maybe over one or two generations, migrants and their descendants will move out of segregated ethnic communities to join the ranks of the host society (Alba and Nee 1997). However, the migration models pertaining to market economies in the West may have limited applicability in China due to different socio-political contexts (Chan, Liu, and Yang 1999). More specifically, the household registration (*hukou*) system with its attendant social policies has been deployed by the state to constrain rural-to-urban migration (Cai and Chan 2009), and thus has served as a persistent institutional barrier for migrants' residential assimilation. As such, residential behavior and outcomes may show rather different patterns between migrants and local residents.

We make use of retrospective residential history data gathered from two large-scale surveys conducted in the City of Guangzhou in 2005 and 2010 to reveal the patterns of intra-city moves over the period 1990 to 2010, juxtaposing the moves of migrants against permanent residents (also referred to as local population in the study). Guiding the analysis is the event-history approach, which arguably provides a better account of the triggers behind residential moves than analyzing cross-section snapshots (Clark and Dieleman 1996). Below we first provide a brief review of China's urban housing reform. This helps to delineate the context under which housing consumption and residential relocation were undertaken in different phases of the reform. Then, we present the conceptual framework, drawing on the existing literature on residential behavior. This helps identify the variables used in the discrete-time logit analysis – the modelling approach adopted for this study. Next, we describe the dataset and provide descriptive statistics of the variables employed. The main corpus of analytical findings is given in two sections. The first section charts the change in residential mobility

¹Migrants in this paper refer to non-local migrants moving from one city to another without changing *hukou* status. Chan, Liu, and Yang (1999) have illustrated the importance of distinguishing this group from *hukou* migrants and non-migrants in terms of socioeconomic characteristics and migratory patterns.

rates over the study period for migrants and local population of the city. The second section reports the results of the statistical analysis on the determinants of residential mobility.

The research context

Housing reform in urban China

While a number of reform experiments were undertaken in the early 1980s, until the early 1990s housing in urban China was mainly distributed through state work units (*danwei*) as remuneration in kind; the private housing market barely existed. Nonetheless, professional developing companies had already replaced the individual work units as the main agents in new housing provision (Y. P. Wang and Murie 1996; F. Wu 1996).

The system of socialist provision of urban housing was gradually dismantled in the 1990s. The “*Decision on Deepening the Urban Housing Reform*” promulgated in 1994 called for the establishment of a two-tier housing provision system: affordable housing (*jingji shiyong fang*) for low- and middle-income households and commodity housing (*shangpin fang*) for higher-income groups. A mandatory Housing Provident Fund (HPF) was instituted that first applied to workers of state work units and then also to private and foreign enterprises. At the same time, state-owned commercial banks were authorized to extend mortgage loans to assist home purchases (S.-M. Li and Yi 2007). A functioning commodity housing market began to take shape.

The welfare provision of housing formally came to an end with the issuing of “*On Deepening Urban Housing System Reform and Quickening Housing Construction*” by the State Council in 1998. The turn of the twenty-first century saw wholesale transfer of work-unit housing to their workers through heavily discounted sales, which served to perpetuate housing inequalities inherent in the former housing allocation system. Conferment of full property rights and hence windfall financial gains were given to owners of privatized work-unit housing, variously known as reformed housing, in the late 1990s and early 2000s.

The past decade witnessed heated housing speculation, housing price inflation, and massive commodity housing developments (Hui and Yue 2006). Municipal governments’ monopoly over the primary land market; i.e., having the sole authority given to them by the central government to requisition land from rural villages and convert the land to urban usage, has enabled them to reap huge rent gaps or the differences between the value of the land under agricultural and urban use. Land has become the single-most important source of revenue for municipal governments through property-led urban development (Fu and Lin 2013; He and Wu 2007; J. Zhu 1999).

Rising home prices have caused widespread discontent. Unlike their parents who were able to achieve ownership through the purchase of rental public housing at huge discounts, the younger generations today find homeownership an increasingly difficult proposition without parental support (S.-M. Li 2010; S.-M. Li and Yi 2007). Also, rampant property speculation presents a real risk of a property bubble burst and the implied devastating consequences to the national economy. In recent years the central government has taken repeated measures to dampen housing property speculations, such as higher mortgage interest rates charged to

buyers of second and subsequent homes and restricting home sales only to individuals with the local *hukou* (S.-M. Li and Du 2014). Furthermore, after decades of market rhetoric the central government is once again stressing the need for social or public housing. Extensive financial incentives have been given to local governments to construct low-rent housing (*lian zu fang*) and expand the affordable housing programs (Y. P. Wang and Murie 2011). However, these policies primarily apply to residents with the local *hukou*.

Housing for Migrants in Chinese Cities

Growing rural-urban and inland-coastal disparities have caused hundreds of millions of peasants in China's vast rural hinterlands in lagging regions to migrate to the coastal metropolises in search of jobs and better futures. It is estimated that the number of migrant workers with the rural *hukou* jumped from 104 million in 2002 (Cai and Chan 2009) to 150 million in 2010 (National Bureau of Statistics of China 2010). By the early 2000s, rural migrants already accounted for 30% of the total urban labor force (Cai and Chan 2009). It is well documented that migrants, rural migrants in particular, have encountered major difficulties in accessing housing in cities (Solinger 1993; Y. P. Wang and Murie 2000; W. Wu 2006). In the past, the lack of the local *hukou* excluded them from socialist welfare housing (Y. P. Wang and Murie 2000; W. Wu 2006). Today, in theory migrants could rent or purchase commodity housing; however, meager incomes and precarious employment largely preclude them from accessing decent housing in the market (Y. Zhu 2014; Y. Zhu, Fu, and Ren 2014). A substantial proportion of migrant workers live in factory dormitories and make-shift structures in construction sites (F. Wang and Zuo 1999; Y. P. Wang 2000). Others seek informal housing in villages-in-the-city (VICs)². VICs first appeared in the late 1980s and early 1990s on the peripheries of fast-growing metropolises such as Beijing and Guangzhou. Housing in VICs is usually of sub-standard quality and subject to fire hazards and poor hygiene conditions. Yet they have become the single-most important housing source for rural in-migrants (Y. P. Wang, Du, and S.-M. Li 2014). The development of VICs reached its peak in the late 1990s. By 2000, in Guangzhou there were 277 VICs accommodating some one million dwellers, the great majority being rural in-migrants. In Shenzhen, the corresponding figures were 241 VICs and over 2 million inhabitants (Song, Denou, and Ding 2008).

In recent years massive (re)development in conjunction with place-making efforts and real estate speculation have eradicated large numbers of VICs in the city centre (He and Wu 2007). For example, in Beijing 171 VICs within the Fourth Ring Road and those adjacent to Olympics stadium sites were torn down to make way for the 2008 Olympics, and another 61 VICs were to be cleared in the next two years. In Guangzhou, the municipal government issued a VIC Redevelopment Plan in 2009, which identified 52 VICs to be redeveloped within the next three to five years. Large-scale disappearance of VICs in China's

²Village-in-the-city (VIC) in China refers specifically to migrant enclaves located in the city center or urban fringe, which provide informal housing for low-income populations, in particular migrants in the city. It is a unique urban phenomenon in China resulting from rapid urbanization, the rural-urban dual land system, and massive rural-to-urban migration. It differs substantially from the New Urbanism-guided village-like communities in the U.K. or ethnic enclaves in the U.S. Some literature also refers to a VIC as an "urban village," "*cheng zhong cun*," or "urbanized village". See more discussion in Y. P. Wang, Y. Wang, and Wu (2010) and Zhu (2014).

metropolises will certainly intensify the housing problem for migrants, especially those from rural areas (Y. Zhu 2014).

Literature review and the conceptual framework

Determinants of intra-city residential moves

Ever since the publication of Rossi's (1955) seminal piece, *Why Families Move*, residential mobility has been primarily seen as a spatial adjustment process through which individual households change residence in order to meet changing housing needs and preferences. Scholarly discussion of the determinants of intra-city residential moves has focused on two themes: life cycle and economic rationality. Life-cycle or life-course events such as marriage, arrival and departure of children in the family, retirement, and age-related health matters have been identified as major causes behind residential moves. Age is reported to have a curvilinear relationship with mobility. Effects of the current marital status are ambiguous, although change in marital status increases household mobility. Household size does not show clear effects on mobility, but having school-aged children tends to decrease the propensity to move.

The model of economic rationality regards residential moves as an attempt to restore housing consumption equilibrium, juxtaposing between moving costs and benefits. Household characteristics correlated with this model usually include socioeconomic status (income and education) and employment status (occupation, job change, promotion). Income growth in association with advancement along the career path, job change, and the availability of the private car also affect residential and locational preferences and result in a house move. Housing tenure is closely related to the propensity to move, as the cost of moving under rental occupation is much lower than under ownership. Young adults with unstable jobs or having unstable partnership tend to choose renting in anticipation of frequent moves; on the other hand, family households with children in school are more inclined to owner occupation and staying in the same house in a suburban neighborhood for an extended period of time.

Residential mobility or the lack of it not only reflects individual choice outcomes, but is also indicative of the interplay of more macro structural and institutional forces. Examples include the pervasive and persistent racial discrimination in the United States, the prevalence of social housing in many European countries, the residualization of Council Housing in the United Kingdom under the "Right-to-Buy" policy, and the neoliberal reforms, which have tremendously heightened job insecurity as well as social and spatial inequality in most market economies since the 1980s. In China, given its entrenched socialist planned economy legacies, structural and institutional forces continue to play an important part in delineating residential choices and relocation possibilities. These include, *inter alia*, segmented housing markets, the dual household registration system, and dual labor markets, which would distort the demand-oriented predictions of relocation patterns for Chinese households. For instance, contrasting the norm in more mature market economies, Huang and Deng (2006) reveal that owners were more mobile than renters in the early reform period, as most urban residents stayed in rental housing provided by the work units, which would discourage residential mobility. Also, S.-M. Li (2004) and S.-M. Li, Wang, and Law(2005) reported that affiliation

to state organizations and state-owned enterprises, and membership in the Chinese Communist Party (CCP), which facilitated moving up the housing ladder, were associated with higher mobility rate. With market forces assuming increasing importance, life-cycle factors as well as income and wealth are now playing an increasing role in the residential behavior of Chinese urbanites (Huang and Deng 2006; S.-M. Li 2004)

For (rural) migrants, the institutional barriers embedded in the dual *hukou* system are even more formidable (W. Wu 2004). Former municipal or work-unit housing could only be acquired by sitting tenants who had work-unit affiliations and were local urban residents; likewise, economic or affordable housing is reserved for those with the local *hukou*. The segmented housing market and institutional marginalization with respect to housing access as previously reviewed would consequently affect the relocation behavior of migrants. Whereas in more recent years, residents with the local or urban *hukou* have been observed to move in response to housing demands, migrants tend to remain passive agents in the urban housing market. W. Wu (2006) observed that migrants do not move to pursue homeownership or housing preferences; socioeconomic factors could only account for a small fraction of their intra-city moves. For them, proximity to job or work-related events are found to be the strongest driving forces behind residential moves. Due to their transitory position in the city, lack of ownership, and unstable employment status, migrants are expected to move more frequently than permanent residents; yet, at the same time they tend to be spatially trapped in run-down neighborhoods, VICs, shanty towns (*penghuqu*), and dilapidated former work-unit compounds (F. Wang and Zuo 1999; W. Wu 2004).

The Conceptual Framework

Given the historical context of housing reform and the dual *hukou* system, we approach internal residential mobility in Chinese cities from two dimensions. First is a temporal dimension. We argue that intra-city migratory patterns for urban residents are subject to period effects. That is, we expect to find temporal changes in the patterns and determining factors of residential moves for the general population over different stages of the housing reform; more specifically, market-related factors would become more visible in more recent years, especially for local residents. Second is a comparative dimension. We believe that housing disparities between locals and migrants would lead to quite distinct rationales behind moving decisions. In particular, for local residents both institutional affiliation (e.g., work unit) and housing needs and preferences would assume importance; for migrants housing preferences or needs would have minimal effects on the decision to move.

Data

This study mainly draws on data from two household surveys conducted in Guangzhou in 2005 and 2010. Both surveys adopted essentially the same multi-level probability-proportional-to-size (PPS) sampling strategy to ensure the spatial representativeness of the data. The 2005 survey covered the original eight urban districts of Guangzhou plus the northern part of Panyu District; whereas the 2010 survey extended the geographical coverage to Qiaonan Sub-District in south Panyu in line with urban expansion.

The two surveys employed broadly the same questionnaire, thus enabling the pooling of data from the two datasets. Among the data collected was retrospective information on residential and employment histories of the household head. In the 2005 survey the recalls dated back to 1980; in the 2010 survey they dated back to 1990. A caveat has to be noted in the use of retrospective data – in addition to recall errors, retrospective data are subject to cohort effects, as cohorts of earlier years might have left the city or died and were therefore not included in the sample (S.-M. Li 2004). As such, estimates of residential mobility rate based on retrospective life-history data tend to be biased downward. Recall errors may be less serious in the study of residential history in China because of the low residential mobility rates before the late 1990s (Huang and Deng 2006; S.-M. Li 2004). To minimize recall errors, in the subsequent analysis we only examine intra-city residential moves after 1990 and for a maximum of three moves.

Based on the location of *hukou* registration, the survey respondents can be divided into *locals* and *migrants*. A *local* refers to one with the Guangzhou *hukou* and a *migrant* refers to one without it. Note that both samples are targeted at people residing in permanent residences and therefore exclude migrants residing in dormitories and construction sites who are probably more mobile than others.

The 2005 survey comprises 1,203 households. Local *hukou* accounts for 90.2%, whereas non-local *hukou* 9.8%. Within the latter category 73.5% are migrants with the agricultural *hukou*. For the 2010 sample, of the 1,250 households the share of local *hukou* and non-local *hukou* are 64.7% and 35.3%, respectively (Table 1). Among the latter approximately one-third are urban migrants and two-third are rural migrants (Table 2). Recall that migrants living in factory dormitories are excluded in both surveys. Perhaps indicative of migrants' increasing reluctance to reside in factory dormitories as well as employers' concerns about managing the dormitories, the 2010 sample is more in line with the share of migrants (36%) in the total city population (Guangzhou Statistical Bureau 2011). To address the problem of possible under-representation of migrants in the surveys employing official records of distribution of households over geographical districts as the sampling frame, in 2005 and 2010 surveys a supplementary sample of 300 migrant households was drawn from 12 VICs, where migrants were concentrated.

All respondents in the surveys are adults over 19 years old (students constitute less than 0.2 percent in both instances). Tabulations based on the 2005 and 2010 main samples (Table 2) show that migrants from both urban and rural areas are much younger (more than 70% below 40 years old in both samples) than are locals (about 40% in the 2005 sample and 60% in the 2010 sample are older than 40 years of age). Also, whereas more than 80% of locals own a home in both samples, the rates of homeownership for urban migrants as given by the 2005 and 2010 samples are 41.9% and 30.2%, and that for rural migrants are 17.4% and 13.4%, respectively. Between the two, the higher homeownership rate for urban migrants can be attributed to their much higher levels of educational attainment, as compared with those of rural migrants. In fact, in terms of educational attainment, urban migrants are quite similar to locals, if not higher than the latter. In the 2010 sample, 41.6% of urban migrants received post-secondary or above education; the corresponding figure for locals is 37%. Yet, urban migrants' homeownership rate remains some 50 percentage points lower than that of

locals. Apparently, socioeconomic status alone cannot explain the bulk of variations in the homeownership rate, the latter being a major covariate of residential mobility. *Hukou* continues to be of major importance.

The age, education, and homeownership distributions of urban and rural migrants in the supplementary or VIC samples (Table 3) are broadly in line with those in the main samples: both urban and rural migrants are relatively young; homeownership is rare for both groups – in fact in the VIC samples the homeownership rate for either group is practically nil; and urban migrants are much better educated than rural migrants, although the percentages of post-secondary or higher education attainment for urban migrants in the supplementary samples for both 2005 and 2010 are more than 10 percentage points lower than those reported in the main samples. Living in VICs is apparently not a preferred choice for the better educated urban migrants.

Given the local-migrant divide in terms of housing achievements and socioeconomic backgrounds as well as and the small sample size of rural locals and urban migrants, we combine urban locals and rural locals into the category “locals,” and group urban and rural migrants into the category “migrants” for subsequent analysis.

Changing patterns of residential mobility, Guangzhou 1990–2010

Residential Mobility Rates

We first compute the mobility rate over the period from 1990 to 2010 by pooling the data from both 2005 and 2010 surveys. Here only residential moves that took place *within* the city of Guangzhou were considered, excluding inter-urban or rural-urban migration which is beyond the scope of this research. To take account of the slightly larger size of the 2010 sample, a weight of 0.49 is applied to the 2005 survey data and 0.51 to the 2010 survey data³. We subdivide the entire study period into 10.4 two-year periods, in view of the fact that the 2010 survey was undertaken in the last quarter of that year and hence covered only approximately 0.8 year for the period 2010–2011. The use of two-year rather than one-year periods helps reduce errors arising from random fluctuations. The annual mobility rate is given by the number of moves over a two-year period divided by the number of moving candidates (defined as those over 18 years old who reside in the city in a given period and include both intra-city movers and non-movers), and then further divided by 2 except for the period 2010–2011, which is divided by 0.8. Figure 1 plots the trend of the mobility rate for migrants and locals in the main sample and also the trend of migrants in VICs.

A few observations are evident from these charts. First, for the local population, the residential mobility rate increased steadily from slightly less than 4% per annum in 1990–1991 to over 8% per annum in 2000–2001, when the disposal of work-unit housing through heavily discounted sale was at its height. However, full-scale housing commodification with the ending of the welfare allocation of housing under the 1998 housing reform did not bring further increase in the mobility rate. Instead, beginning from the turn of the century the

³We use a pooled approach (see O’Muircheartaigh and Pedlow 2002) to combine the two independent samples. The weights are computed in proportion to the relative effective sample size of each survey. The smaller weight for 2005 indicates the smaller sample size in the 2005 survey and a smaller population of Guangzhou in 2005.

mobility rate exhibited steady declines, and by the end of the 2000s it fell back to the level prevailing in the early 1990s. One explanation for the decline in the mobility rate after 2000 is that after attaining homeownership through purchasing reformed housing in the late 1990s and early 2000s, moving became a more difficult proposition in view of the heavier moving costs under homeownership. Moreover, housing price in Chinese cities, Guangzhou included, increased drastically since the mid-2000s (Hui and Yue 2006) and rendered moving up the housing ladder prohibitively expensive, hence the rather precipitous drop in the mobility rate after 2006–2007.

Second, the trends for migrants depicted by the main sample and by the VIC supplementary sample are quite similar, although in some periods the mobility rate of the former is higher than the latter, and in some other years it was the reverse. Both samples show a steady rising trend from the beginning to the end of the study period, with the mobility rate increasing from below 4% in 1990–1991 to over 10% in 2008–2009. Neither graph contains a turning point, unlike the trend of locals.

Apparently, migrants in VICs and those elsewhere in the city are confronted with quite similar constraints in making residential decisions. To most non-local households, particularly rural migrants, renting has continued to be the only tenure mode after the full implementation of the 1998 housing reform, under which people with the local *hukou* were busy buying reformed housing. Subsequent conferment of full property rights to owners of reformed housing means that those who have moved up the housing ladder are now able to put up the vacated units in the rental market. Because of this, housing opportunities available to migrants, whether in terms of number or geographical coverage, have been enlarged. This could be a reason behind the continuing rising mobility rates for rural migrants throughout the 2000s. Of course, an equally plausible explanation has to do with the rapid rise in housing rent in recent years, which renders rural migrants with meager means in a permanent state of moving and searching for affordable housing. Moreover, large-scale redevelopment of inner-city neighborhoods and former work-unit compounds as well as of VICs where low-rent housing is concentrated also contributes to the continuing rising mobility rate for this group.

The above conjecture is confirmed by analyzing the change in living space upon residential moves. It can be seen from Table 4 that moving for urban locals was more likely to be associated with an increase in living space in both the 1990s and 2000s than otherwise; however, for rural as well as urban migrants a move accompanied by reduction in living space was much more likely than otherwise. To migrants, a higher mobility rate does not imply the availability of affordable housing opportunities, whereby they can adjust to changing housing needs by a residential move. Irrespective of the ending of the welfare allocation of housing at the turn of the century, continuing discrimination in the job and housing markets still places severe limits on migrants' housing choice set. In general, they move not in search of a better residence; instead they move because they are forced to do so.

Determinants of residential moves

In the above we presented estimates of residential mobility rates over the entire study period of 1990–2010. In this section we analyze the factors that might affect residential moves and how their effects differ between locals and migrants and vary over time. The retrospective residential and employment histories reported in the surveys enable us to construct a longitudinal data file for every respondent. We divide the whole study period into three main periods; specifically, 1990–1995, 1996–2001, and 2002–2010, with reference to the progress of the housing reform. The first period may be termed early reform; the second reform deepening or housing privatization, with the massive disposal of work-unit housing in association with the 1998 housing reform; and the third post-reform, commodification, when housing was primarily obtained in the market. Discrete-time logit regression is a common modeling approach to analyze time-varying events such as residential moves using longitudinal data files (Allison 1985). We perform six discrete-time logistic regressions – with one regression for households with the local *hukou* in the main sample, and one for migrants by combining the main sample and the supplementary sample – for each of the three time periods. For the migrant models, a dummy variable differentiating the two samples is introduced. Again we pool the data from both the 2005 and 2010 surveys. For the years from 1990 through 2005, observations from the 2005 survey carry a weight of 0.49 and those from the 2010 survey a weight of 0.51. For the years after 2005, the observations are unweighted, except that observations in the period of 2010 are weighted by a factor of 0.8.

In the regression models, the dependent variable is presence or absence of intra-city residential moves in a given two-year period (yes=1, no=0). In the independent variables list, a series of time dummies is included to gauge the time trend of the move propensity. According to the graphical analysis given above, for locals the time trend was an increasing one up until the turn of the century; thereafter the propensity to move declined progressively; for migrants the rate of intra-city mobility has shown a generally rising trend since 1990. The other independent variables belong to two main types. The first refers to the socio-demographic attributes of the household head. Specifically, the variables are as follows:

Age (at the beginning of the two-year period). Young people are generally more mobile, and hence a negative sign is expected. We have tried to include age squared to take account of possible reversion of effect in association with retirement, but finally decided to drop the quadratic term as it proves to be non-significant.

Gender (1=female; 0=male). Female-headed households tend to be underprivileged and subject to greater constraints in the choice of housing. But the effect of gender is less clear after controlling for socioeconomic attributes.

Income (personal monthly income). In a redistributive society, which still very much characterized China in early reform times, income *per se* is unlikely to have much influence on housing outcomes. But when housing is primarily accessed in the market, as was the Chinese case in the mid- and late-2000s, income or

affordability would be of major importance in defining housing opportunities and hence the move up on the housing ladder. Thus, a positive sign is expected for regressions pertaining to later periods. To facilitate inter-temporal comparisons, relative rather than absolute income is employed. The sample income distribution for each two-year period is divided into 12 levels, and the income level is treated as an interval scale.

Educational attainment. It is measured by eight levels (1=illiterate; 2=semiliterate; 3=primary school; 4=junior high; 5=senior high or equivalent; 6=tertiary education; 7=college; 8=above college), and is treated as an interval scale. Education is intimately tied to the possession of redistributive powers in socialist planned economies and hence access to housing opportunities. In market economies this main ingredient of human capital largely determines a person's position in the job market and hence income. Although through its influence on preference formation education might continue to exert independent impacts on housing decisions, much of its effects would have been captured by the income variable. The above considerations suggest that the effect of educational attainment on mobility propensity given by the regression models is likely to be higher for the early reform period and smaller in later periods.

Marital status (at the beginning of the two-year period). This is given by: 1=married and 0 = otherwise. In general, being married tends to inhibit residential mobility, as the move decision involves more than one person. However, marital status correlates with age, and its effect on move propensity may be captured by the latter variable.

Change in marital status (during the two-year period). This is given by 1=yes and 0=no. Getting married or experiencing a divorce is an important life event and is likely to trigger a residential move, regardless of the way housing is provided. As such, the variable is expected to have significant positive effects in all time periods analyzed.

Change in job (during the period; 1=yes; 0=no). A change in job is a major life-course event that could trigger a move. It is plausible to expect that this variable would assume less importance than change in marital status. However, migrants may respond to the two life-event triggers differently as compared to locals because the former tend to occupy more temporary jobs and would live close to the workplace to economize on commuting cost. As such, for migrants a change in job could exert stronger effects than a change in marital status. Moreover, given the enlarged opportunity set for individuals to reside near the workplace in a more marketized setting, as it was the case of Guangzhou in the 2002–2010 period, it may be hypothesized that the effect of job change on residential location in this period was larger than in the earlier periods.

Pre-move living space per capita (at the beginning of the two-year period) is a continuous variable to measure crowdedness before a residential move. As housing consumption has emerged as a driving force of intra-city migration in contemporary China, it is expected that crowding would become an important

trigger for relocation. Such effect may be more salient in the post-reform era (after 2002) than in the early-reform (before early 1990s) and the reform deepening periods (before early 2000s). However, residential moves in response to crowding may be less visible for migrants than the local population.

Ownership (at the beginning of the two-year period). Again this is a dummy variable, with 1=owner and 0=renter. As was pointed out above, in market economies homeownership is negatively associated with residential mobility. But the situation of China in pre-reform and early reform times when work-unit rental housing dominated the housing provision scene would be quite different. Life-long tenure and nominal rent were the norm, and low mobility rates prevailed in the public rental sector.

The second set comprises institutional variables:

Urban hukou. This is a dummy variable used to control for the rural-urban divide in the housing sector, with agricultural or rural *hukou* being the reference category as opposed to non-agricultural or urban *hukou*. Many housing benefits, such as low-rent housing or affordable housing, are tailored to those with the local or urban *hukou* (Y. P. Wang, Y. Wang, and Wu 2010). In addition, households with the rural *hukou* are more subject to involuntary move due to, for example, insecure employment and redevelopment of informal housing. Hence, those with the rural *hukou* are expected to be more mobile than the urban counterpart.

Economic sector of employment (at the beginning of the period). This variable consists of three dummies pertaining respectively to state-owned enterprise, collective enterprise, and the private sector, with government being the reference category. Access to resource in urban China, housing resource in particular, used to depend on the nature of the employment organization. Yet on *a priori* ground it is difficult to postulate how this variable would affect residential mobility. The private sector was almost non-existent in the early reform times. Workers of urban collectives were mainly residents of nationalized tenement houses in the inner-city core managed by the municipal housing bureau (Huang 2005); as such, like those in SOEs and government sectors, they also resided in public-sector housing and subject to similar mobility constraints. Accelerated redevelopment of inner-city neighborhoods could result in heightened mobility for workers in urban collectives in more recent times.

Party membership (1=Chinese Communist Party member; 0=otherwise). This variable is included to gauge the extent to which membership in the CCP affects access to housing opportunities and hence residential mobility, after controlling for socioeconomic and employment status.

We first examine the results for the local population, which are given in Models 1–3 (Table 5). The results generally concur with the hypothesized directions of influence as well as time trends highlighted above. The trends of the move propensity given by the time dummies estimates are broadly in line with the picture given by the bivariate analysis. Major life course events including change in marital status and change in job were significant triggers

of residential moves in all three periods. In the case of job change, the effect was larger in 2002–2010 than in earlier periods. Aging is a more gradual event and is correlated with marital status or the family life cycle, arguably the most important factor underlying residential decisions and moves in market economies in the West (Clark 1982). The regression models indicate that the mobility propensity significantly declined with age in the periods 1996–2001 and 2002–2010, with the coefficient estimate of the latter period having a larger magnitude, a result consistent with market deepening. Being married showed significant and positive effects in 1990–1995 when housing was primarily treated as a welfare item, and in 1996–2001 when work units were busy disposing of their housing stock. Educational attainment and income are both indices of socioeconomic status. As hypothesized, the former had a significant positive effect on move propensity in 1990–1995 but its effect diminished in later periods in both magnitude and significance. On the other hand, income was non-significant for 1990–1995, but became highly significant and positive in 1996–2001 and 2002–2010, during which affordability became an increasingly important constraint prohibiting the move up on the housing ladder. Crowding, indicated by pre-move living space *per capita*, was non-significant in the early-reform era (1990–1995) and became significant and negative, albeit exhibiting only a small effect, in the reform-deepening period (1996–2001). Its effect, however, turned positive and highly significant in the post-reform era. This result should be interpreted in the context of urban China. In the first decade of the twenty-first century, this indicator of crowding probably also measures the size of the windfall gain resulted from discounted home sales. More specifically, people who were able to secure better housing previously enjoyed larger windfall gains from the discounted sale of reformed housing at the end of the 1990s and early 2000s. As such they were more able to move up the housing ladder in the 2000s. Homeownership only exhibits significant negative effect on moving propensity in 2002–2010, when housing commodification was greatly strengthened.

Regarding the institutional variables, the economic sector of employment only appears to be of importance in the period 1996–2001. That workers in government and related sectors had significantly higher move propensities than those in other economic sectors in this period suggested that they were likely the ones to benefit most in the rush of purchasing discounted reformed housing under the 1998 housing reform. The *hukou* dummy and membership in the CCP are non-significant in all three periods. Their effects may have been captured by other socio-economic factors, such as work sector, education, and income.

Unlike the regressions for the local population, the migrant models (Models 4–6, Table 5) yield few significant variables for all three periods. Income only started to take effect in the more recent period of 2002–2010 – those with higher income were slightly less likely to move probably because they could afford the increased rent demanded by the landlord. Change in marital status exerts smaller influence on a residential move for migrants as compared to the effect of job change, in line with our prediction. The former is only significant for the 2002–2010 period – this may be because migrants were disposed to moving frequently regardless. In contrast, job change appears to be consistently significant, and the size of its effect is larger than that for the local population. Notably, in all periods residential moves did not respond to pre-move living space *per capita*. In other words,

crowding is not an important motivation for migrants' intra-city moves. Other socio-demographic indicators (e.g. age, gender, and marital status), which showed significant impacts on the local population's moving propensity, were non-significant for migrants, either. In terms of institutional factors, only Communist Party membership is associated with higher residential motility for migrants in the later periods. No significant differences are found between urban and rural migrants. Additionally, migrants in the VIC sample tend to move more frequently than those in the main sample in the post-reform era (2002–2010), which could be indicative of the heightened redevelopment of VICs in Guangzhou in this period. These results clearly suggest that migrants are subject to forces that are quite different from those of locals in exercising residential decisions and contemplating move. This finding echoes Chan's (1999) observation at the macro level that employment is the major forces behind inter-provincial migrations of non-*hukou* migrants.

Conclusion and discussion

Drawing on residential history data from two surveys conducted in 2005 and 2010, this paper analyzes the trends of residential mobility of Guangzhou residents over the period 1990–2010. In light of the large share of migrants in the population, especially those with the agricultural *hukou* who are subject to discrimination of all kinds, comparison is made between migrants and local residents. The residential mobility rate for Guangzhou local residents increased steadily in the 1990s, but the increasing trend was reversed after the turn of the century with the massive disposal of work-unit and other public-sector housing to sitting tenants upon the end the welfare allocation of housing in 1998. For migrants in both VICs and elsewhere in the city, however, the mobility rate continued to increase in the 2000s. Large-scale redevelopment in the 2000s of VICs as well as inner-city neighborhoods and old work-unit compounds where most cheap rental housing was located likely contributed to the continuing rising mobility trend.

Discrete-time logit analysis employing retrospective longitudinal data of residential and employment histories confirms that major life-course events such as change in marital status and job change are important triggers for residential moves for the local population. Aging is associated with lower mobility propensity, especially in more recent periods. The results also point toward increasing effects of income (positive) and homeownership (negative), and reduced effects of government agency affiliation (change from negative and significant to non-significant) on the mobility propensity over time. In a sense, the results indicate that the causes behind residential moves in Guangzhou increasingly resemble those in market economies in the West.

However, the regressions pertaining to migrants yield quite different results. While for urban locals a large proportion of moves is for searching for a better residence – either in respect to ownership attainment or increase in living space, for migrants job change appears to be the single-most important trigger of moves. For the latter, most socio-demographic variables, including marital status, show little influence. Income has exerted only marginal effects in recent years. Urban and rural migrants do not show substantial differences in terms of the propensity to move. Despite the neoliberal rhetoric of privatization, commodification, and marketization and the implied more-levelled playing fields, the results confirm once again

the disadvantageous positions of the “floating” population in the urban housing market. Institutional barriers confronting migrants are formidable. It is especially true for rural migrants who have been deprived of citizenship rights in their current place of domicile, restricting them to marginal and precarious jobs and largely substandard housing in dilapidated inner-city tenements and VICs. Most migrants remain passive agents in the urban housing market. They may move quite frequently, but this is likely to be a result of unstable employment, eviction by landlord, or redevelopment, as well as sudden adverse change in health and financial conditions (F. Wu 2004). For the great majority of migrant workers in China’s leading metropolises, the costs and requirements stipulated by the municipal government for attaining local *hukou* status are beyond reach (L. Li, S.M. Li and Chen 2010). Thus, for them residential mobility may better be described as being imposed than a choice.

References

- Alba, Richard D.; Nee, Victor. Rethinking Assimilation Theory for a New Era of Immigration. *International Migration Review*. 1997; 31:826–874. [PubMed: 12293207]
- Allison, Paul D. *Event History Analysis: Regression for Longitudinal Data*. California: Sage; 1985.
- Cai, Fang; Chan, Kam Wing. The Global Economic Crisis and Unemployment in China. *Eurasian Geography and Economics*. 2009; 50:513–531.
- Chan, Kam Wing. Internal Migration in China: A Dualistic Approach. In: Pieke, F.; Mallee, H., editors. *Internal and International Migration: Chinese Perspectives*. Richmond, Surrey: Curzon Press; 1999. p. 49-71.
- Chan, Kam Wing; Liu, Ta; Yang, Yunyan. Hukou and Non-hukou Migrations in China: Comparisons and Contrasts. *International Journal of Population Geography*. 1999; 5:425–448.
- Chan, Kam Wing; Zhang, Li. The Hukou System and Rural-Urban Migration in China: Processes and Changes. *China Quarterly*. 1999; 160:818–855. [PubMed: 20101805]
- Clark, William AV. Recent Research on Migration and Mobility - A Review and Interpretation. *Progress in Planning*. 1982; 18:5–56.
- Clark, William AV.; Dieleman, Frans M. *Households and Housing Choice and Outcomes in the Housing Market*. New Brunswick, NJ: Center for Urban Policy Analysis, Rutgers University; 1996.
- Fu, Qiang; Lin, Nan. Local State Marketism: An Institutional Analysis of China’s Urban Housing and Land Market. *Chinese Sociological Review*. 2013; 46:3–24.
- Guangzhou Statistical Bureau. *Guangzhoushi 2010 diliuci quanguo renkou pucha zhuyao shuju gongbao (2010 Guangzhou census bulletin)*. 2011.
- Guangzhou Statistical Bureau. *Guangzhou tongji xinxi shouce 2013 (Manual of Guangzhou Statistics Information 2013)*. 2013.
- He, Shenjing; Wu, Fulong. Socio-Spatial Impacts of Property-Led Redevelopment on China’s Urban Neighborhoods. *Cities*. 2007; 24:194–208.
- He, Shenjing; Wu, Fulong. China’s Emerging Neoliberal Urbanism: Perspectives from Urban Redevelopment. *Antipode*. 2009; 41:282–304.
- Huang, Youqin. From Work-unit Compounds to Gated Communities: Housing Inequality and Residential Segregation in Transitional Beijing. In: Ma, Laurence JC.; Wu, Fulong, editors. *Restructuring the Chinese Cities: Changing Society, Economy and Space*. London and New York: Routledge; 2005. p. 192-221.
- Huang, Youqin; Frederic Deng, F. Residential Mobility in Chinese Cities: A Longitudinal Analysis. *Housing Studies*. 2006; 21:625–652.
- Hui, Eddie Chi Mun; Yue, Shen. Housing Price Bubbles in Hong Kong, Beijing and Shanghai: A Comparative Study. *Journal of Real Estate Finance and Economics*. 2006; 33:299–327.
- Kain, John F. Housing Segregation, Negro Employment, and Metropolitan Decentralization. *Quarterly Journal of Economics*. 1968; 82:175–197.

- Kain, John F. The Spatial Mismatch Hypothesis: Three Decades Later. *Housing Policy Debate*. 1992; 3:371–462.
- Li, Limei; Li, Si-Ming; Chen, Yingfang. Better City, Better Life, but for Whom? The Hukou and Resident Card System and the Consequential Citizenship Stratification in Shanghai. *City, Culture and Society*. 2010; 1:145–154.
- Li, Si-Ming. Life Course and Residential Mobility in Beijing, China. *Environment and Planning A*. 2004; 36:27–43.
- Li, Si-Ming. Residential Mobility and Urban Change in China. In: Ma, Laurence JC.; Wu, Fulong, editors. *Restructuring the Chinese City: Changing Society, Economy and Space*. London and New York: Routledge; 2005. p. 157-171.
- Li, Si-Ming. Mortgage Loans as a Means of Home Finance in China: A Comparative Study of Guangzhou and Shanghai. *Housing Studies*. 2010; 25:857–876.
- Li, Si-Ming; Du, Huiming. Residential Change and Housing Inequality in Urban China in the Early Twenty-First Century. In: Youqin, Huang; Si-Ming, Li, editors. *Housing Inequality in Chinese Cities*. Oxon and New York: Routledge; 2014. p. 18-36.
- Li, Si-Ming; Siu, Yat-Ming. Residential Mobility and Urban Restructuring under Market Transition-A Study of Guangzhou, China. *The Professional Geographer*. 2001; 53:219–229.
- Li, Si-Ming; Wang, Donggen; Law, Fion Yuk-ting. Residential Mobility in a Changing Housing System: Guangzhou, China, 1980–2001. *Urban Geography*. 2005; 26:627–639.
- Li, Si-Ming; Yi, Zheng. The Road to Homeownership Under Market Transition Beijing 1980–2001. *Urban Affairs Review*. 2007; 42:342–368.
- Logan, R Logan; Bian, Yanjie; Bian, Fuqin. Housing Inequality in Urban China in the 1990s. *International Journal of Urban and Regional Research*. 1999; 23:7–25.
- National Bureau of Statistics of China. 2010 nian quanguo nongmingong jiance diaocha baogao (Survey report on nation-wide rural-migrant workers 2010). 2010.
- O’Muirheartaigh, Colm; Pedlow, Steven. Combining Samples vs. Cumulating Cases: A Comparison of Two Weighting Strategies in NLSY97. *ASA Proceedings of the Joint Statistical Meetings*. 2002:2557–2562.
- Owusu, Thomas Y. Residential Patterns and Housing Choices of Ghanaian Immigrants in Toronto, Canada. *Housing Studies*. 1999; 14:77–97.
- Renaud, Jean; Bégin, Karine. The Residential Mobility of Newcomers to Canada: The First Months. *Canadian Journal of Urban Research*. 2006; 15:67–81.
- Rosenbaum, James E.; Reynolds, Lisa; Deluca, Stefanie. How do Places Matter? The Geography of Opportunity, Self-Efficacy and a Look inside the Black Box of Residential Mobility. *Housing Studies*. 2002; 17:71–82.
- Rossi, Peter H. *Why Families Move: A Study in the Social Psychology of Urban Residential Mobility*. Glencoe, IL: Free Press; 1955.
- Solinger, Dorothy J. China Transients and the State - A Form of Civil Society. *Politics & Society*. 1993; 21:91–122.
- Song, Yan; Zenou, Yves; Ding, Chengri. Let’s Not Throw the Baby out With the Bath Water: The Role of Urban Villages in Housing Rural Migrants in China. *Urban Studies*. 2008; 45:313–330.
- Wang, Feng; Zuo, Xuejin. Inside China’s cities: Institutional Barriers and Opportunities for Urban Migrants. *American Economic Review*. 1999; 89:276–280.
- Wang, Ya Ping. Housing Reform and Its Impacts on the Urban Poor in China. *Housing Studies*. 2000; 15:845–864.
- Wang, Ya Ping; Murie, Alan. The Process of Commercialisation of Urban Housing in China. *Urban Studies*. 1996; 33:971–989.
- Wang, Ya Ping; Murie, Alan. Social and Spatial Implications of Housing Reform in China. *International Journal of Urban and Regional Research*. 2000; 24:397–417.
- Wang, Ya Ping; Murie, Alan. The New Affordable and Social Housing Provision System in China: Implication Comparative Housing Studies. *International Journal of Housing Policy*. 2011; 11:237–254.

- Author Manuscript
- Author Manuscript
- Author Manuscript
- Author Manuscript
- Wang, Ya Ping; Du, Huiming; Li, Si-Ming. Migration and Dynamics of Informal Housing in China. In: Youqin, Huang; Si-Ming, Li, editors. *Housing Inequality in Chinese Cities*. Oxon and New York: Routledge; 2014. p. 87-102.
- Wang, Ya Ping; Wang, Yanglin; Wu, Jiansheng. Housing Migrant Workers in Rapidly Urbanizing Regions: A Study of the Chinese Model in Shenzhen. *Housing Studies*. 2010; 25:83–100.
- Wilson, William J. *The Truly Disadvantaged: The Inner City, the Underclass and Public Policy*. Chicago: University of Chicago Press; 1987.
- Wu, Fulong. Changes in the Structure of Public Housing Provision in Urban China. *Urban Studies*. 1996; 33:1601–1627.
- Wu, Fulong. Intraurban Residential Relocation in Shanghai: Modes and Stratification. *Environment and Planning A*. 2004; 36:7–25.
- Wu, Weiping. Sources of Migrant Housing Disadvantage in Urban China. *Environment and Planning A*. 2004; 36:1285–1304.
- Wu, Weiping. Migrant Intra-Urban Residential Mobility in Urban China. *Housing Studies*. 2006; 21:745–765.10.1080/02673030600807506
- Zhu, Jieming. Local Growth Coalition: The Context and Implications of China's Gradualist Urban Land Reforms. *International Journal of Urban and Regional Research*. 1999; 23:534–548.
- Zhu, Yushu. Spatiality of China's Market-Oriented Urbanism: The Unequal Right of Rural Migrants to City Space. *Territory, Politics, Governance*. 2014; 2:194–217.
- Zhu, Yushu; Fu, Qiang; Ren, Qiang. Cross-City Variations in Housing Outcomes in Post-Reform China: An Analysis of 2005 Micro Census Data. *Chinese Sociological Review*. 2014; 46:26–54.

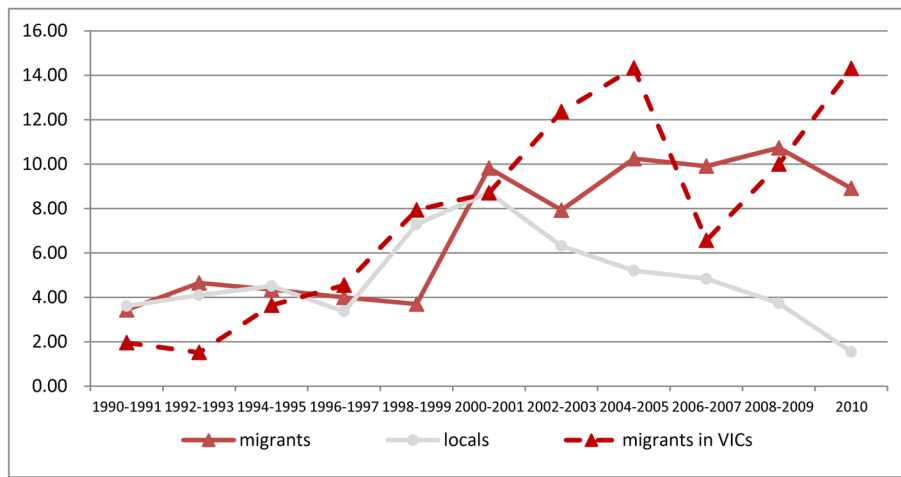


Figure 1. Residential mobility rates in Guangzhou migrants versus locals Source: Computations based on 2005 and 2010 Guangzhou surveys

Table 1

Distribution of locals vs. migrants in Guangzhou City.

	Locals	Migrants
Total sample	1,893 (77.2%)	558 (22.8%)
2005 main sample	1,084 (90.3%)	117 (9.7%)
2005 1% national survey	76.3%	33.7%
2010 main sample	809 (64.7%)	441 (35.3%)
2010 census	64.0%	36.0%

Source: Survey data; Tabulation on 2005 1% National Population Sample Survey; Manual of Guangzhou Statistics Information 2013 (Guangzhou Statistical Bureau, 2013).

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 2

Composition of the main sample.

No. of obs.	2005 Main Sample				2010 Main Sample			
	Urban local	Rural local	Urban mig.	Rural mig.	Urban local	Rural local	Urban mig.	Rural mig.
	1,053	31	31	86	785	24	149	292
Age								
<=20	4	--	2	--	2	--	2	9
21-30	260	9	10	41	88	4	67	112
31-40	380	13	11	35	220	3	49	100
41-50	306	5	6	9	231	7	18	50
51-60	87	1	2	1	135	4	7	15
>60	16	3	--	--	109	6	6	6
Education								
-Illiterate	3	1		--	16	1	3	6
-Primary school	48	1		1	59	6	2	44
-Junior secondary	185	10	4	35	184	9	29	119
-Senior secondary	489	12	13	41	235	5	53	88
-Tertiary degree	175	5	7	6	95	1	24	16
-College	130	2	4	2	167	2	35	19
-Above college	23	--	3	1	29	--	3	--
Marital status								
-Never married	216	7	12	16	73	5	37	66
-Ever married	837	24	19	70	712	19	112	226
Homeownership								
-Owner	863	23	13	15	641	21	45	39
-Other	190	8	18	71	142	3	102	250

Source: Computations based on survey data

Table 3

Composition of the supplementary sample.

	2005 Supplementary Sample		2010 Supplementary Sample	
	Urban mig.	Rural mig.	Urban mig.	Rural mig.
No. of obs.	71	228	63	241
Age				
<=20	--	6	6	14
21-30	33	96	34	92
31-40	27	94	15	66
41-50	9	29	6	55
51-60	2	2	2	11
>60	--	1	--	3
Education				
-Illiterate	1	5	--	16
-Primary school	2	23	4	38
-Junior secondary	18	106	12	121
-Senior secondary	32	81	29	60
-Tertiary degree	13	11	16	2
-College	5	--	2	4
-Above college	--	--	--	--
Marital status				
-Never married	19	53	28	72
-Ever married	52	175	35	168
Ownership				
-Owner	1	0	3	4
-Other	70	228	60	235

Source: Computations based on survey data

Table 4Change in living space upon move by *Hukou* status.

<i>Hukou</i> status	Change in living space			Total
	Equal	Upward	Downward	
1990–2001				
Rural migrant	19 (28.79%)	17 (25.76%)	30 (45.45%)	66 (100.00%)
Urban migrant	10 (43.48%)	2 (8.70%)	11 (47.83%)	23 (100.00%)
Rural local	16 (59.26%)	5 (18.52%)	6 (22.22%)	27 (100.00%)
Urban local	446 (45.37%)	336 (34.18%)	201 (20.45%)	983 (100.00%)
Total (main sample)	491 (44.68%)	360 (32.76%)	248 (22.57%)	1,099 (100.00%)
Migrants in VIC	39 (26.35%)	35 (23.65%)	74 (50.00%)	129 (100.00%)
2002–2010				
Rural migrant	82 (43.16%)	30 (15.79%)	78 (41.05%)	190 (100.00%)
Urban migrant	40 (36.04%)	16 (14.41%)	55 (49.55%)	111 (100.00%)
Rural local	6 (27.27%)	5 (22.73%)	11 (50.00%)	22 (100.00%)
Urban local	243 (44.26%)	178 (32.42%)	128 (23.32%)	549 (100.00%)
Total (main sample)	372 (42.55%)	229(26.26%)	272 (31.19%)	872 (100.00%)
Migrants in VIC	127 (33.96%)	79 (21.12%)	168 (44.92%)	298 (100.00%)

Note: Change of living space per capita is defined as “upward” or “downward” if it increases or decreases by 30% and is defined as “equal” with a change within 30%.

Source: Computations based on survey data.

Table 5

Results of discrete time logistic models for locals vs. migrants.

Dependent: Intra-city move (0=no move; 1=intra-city move)	Models 1-3 Local population in main sample			Models 4-6 Migrants in main and VIC samples		
	1990-1995	1996-2001	2002-2010	1990-1995	1996-2001	2002-2010
Age	-0.123	-0.024**	-0.030***	-0.106	0.003	0.006
Female	0.047	0.177	0.405**	1.608	-0.598	0.129
Education	0.224*	0.168*	0.103	0.309	-0.002	0.084
Income	-0.046	0.091**	0.176***	-0.003	-0.001	-0.0004**
Married	0.619*	0.401*	0.167	1.249	0.035	-0.122
Marital status change	1.828***	1.632***	2.040***	-2.705	-0.889	0.773**
Owner	0.112	0.059	-0.795***	-0.495	0.397	-0.348
Job change	0.496 ^d	0.699***	0.761**	5.065***	2.818***	1.858***
Living space per capita before move	-0.007	-0.0002 ^a	0.012**	0.059**	0.003	0.001
Work sector (reference: government)						
- SOE	-0.308	-0.313 ^a	-0.337	--	0.229	0.489
- Collective enterprise	-0.086	-0.506 ^d	0.323	-1.342	-0.545	0.307
- Private enterprise	-0.258	-0.152	-0.149	-3.333	-0.603	0.430
Urban hukou (reference: rural)	0.093	0.337	-0.471	--	0.269	-0.068
Party membership	-0.065	0.067	0.354	--	-0.572	1.383***
Migrants in main sample (reference: VIC sample)	--	--	--	-0.447	-0.027	-0.447*
Spell year						
-1990-1991	--	--	--	--	--	--
-1992-1993	0.235	--	--	-0.094	--	--
-1994-1995	0.034	--	--	-0.005	--	--
-1996-1997	--	--	--	--	--	--
-1998-1999	--	0.861***	--	--	-0.379	--
-2000-2001	--	1.146***	--	--	0.925*	--
-2002-2003	--	--	--	--	--	--

Dependent: Intra-city move (0=no move; 1=intra-city move)	Models 1-3 Local population in main sample			Models 4-6 Migrants in main and VIC samples		
	1990-1995	1996-2001	2002-2010	1990-1995	1996-2001	2002-2010
-2004-2005	--	--	-0.213	--	--	0.366*
-2006-2007	--	--	-0.744***	--	--	-0.340
-2008-2009	--	--	-0.808***	--	--	0.020
-2010	--	--	-3.779***	--	--	-2.379***
Constant	-4.339***	-3.097***	-2.178**	-1.248	-2.642	-2.686***
Model statistics						
- Number of obs	2009	3098	5300	211	724	2463
- LR Chi square	87.37	240.35	323.12	54.38	114.55	238.49
- Prob > Chi ²	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
- Pseudo R-squared	0.0731	0.1095	0.1970	0.5353	0.2783	0.1875

Note:

^a p<0.1;

* p<0.05;

** p<0.01;

*** p<0.001.

Source: Computations based on survey data