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Migrants and the new stage of public housing reform in China

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4. Migrant preferences and access to public rental housing in Chongqing, China

This chapter is based on a manuscript under review of a peer-reviewed journal. Co-author:
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ABSTRACT *Since 2010, a fundamental transition in the Chinese housing system has been the policy of opening access to public rental housing (PRH) for Chinese (intra-national) migrants. While migrants are increasingly stating that they have a preference for public rental housing, some of them did not act out such a desire while others have been insistent on it. Responding to a lack of understanding of the relationship between migrants and the public rental housing regime, the study examines three stages of migrants' access to public rental housing with a focus on exploring individual and housing differences between migrants. The three stages comprise (1) migrants who stated a preference for PRH; (2) migrants who translated the stated preference into action; and (3) migrants who persisted in the PRH application, those who applied four times or more, and those who gave up applying for a PRH after having applied one-to-three times. The study combines survey and statistical data from Chongqing, the first city to extensively offer migrants equal access to public rental housing at a broad scale. Results reveal that migrants with inter-provincial hukou, lower income, bigger family size, more urban relatives and an expectation to improve housing conditions were more likely to state a preference for PRH and eventually realize such a preference. However, although migrants with unstable occupations also stated a preference for PRH, the application criteria restricted them from continually trying to realize their preference. Difficulties in commuting and concerns on success rate and policy stability hindered migrants to translate their stated preference for PRH into action. The consistent application for PRH was more likely to relate to the desire for single family, central located and bigger housing, while these desires and the PRH provision did not match.*

KEYWORDS: public rental housing (PRH); migrants; housing preference and choice; China

Introduction

The right to housing, especially affordable housing, has been highlighted as a political and socio-economic human right alongside other social rights. This has deeply influenced the socio-economic integration and settlement of urban residents (Fenton et al., 2013). As

demographic restructuring took place in many countries, housing choice of and housing assistance for specific groups of vulnerable residents, like the poor, elderly, younger adults, ethnic minorities, and immigrants, have received ample attention (Ferguson, 2012; Musterd et al., 2017; Ronald, 2017). However, these interests rarely stretched to studies on Chinese internal migrants until the establishment of the newest national master plan that for the first time has determined to provide migrants with equal access to public housing, the New Urbanisation Plan (Wang et al., 2015; Zhou, 2018). Prior to the reform, due to the household registration system (*hukou*) that was established in 1958, migrants usually were more or less forced to passively choose from the inferior available options, that is: between employer supplied housing and inexpensive private rental housing (Wu, 2004; Wu & Webster, 2010). *Hukou* implies that for all PRC nationals in mainland China, their personal identity is classified based on both their original residential attribute ('agricultural *hukou*'/'non-agricultural *hukou*') and the region of registration (local/non-local). The distribution of local resources is linked to the *hukou* status of residents, which means large numbers of migrants who enter urban areas who are not allowed to obtain a local non-agricultural *hukou* status are not eligible for local citizenship and services such as access to housing and welfare benefits.

In 2014, the migrant population in China increased to over 253 million, sharing over 34 per cent of the urban population (NBSC, 2014). The inflow of migrants resulted in a significant amount of cheap labour, giving rise to rapid urbanisation and massive industrialisation in Chinese cities. To sustain the economic growth and to create sustainable communities, the Chinese state has been obliged to adopt policies that could cope with the housing needs of migrants (Huang & Li, 2014). Initial attempts relied on companies to provide housing assistance to migrant employees (Li and Duda, 2010; Zhou & Ronald, 2017 a), but more recently policies have been developed to include the whole migrant population in the public rental housing (PRH) scheme as it is in place since 2010 (Chen *et al.*, 2014). The PRH policy has been advocated as crucial in addressing migrants' marginalized position in the housing system, as, in principle, it eliminates the *hukou* discrimination and treats migrants as equal to local residents (Wang et al., 2015). Compared with employer supplied housing and private rental housing, PRH offers migrants relatively inexpensive and decent housing with a stable rent, and in some cities, migrants are even allowed to purchase their dwelling at discounted prices after having rented for several years (Tan, 2012; Zhou & Ronald, 2017 a). The government alleged that the policy would improve the urban integration of migrants, and bring further changes to the demographic and economic landscapes of urban China (Zhou, 2018). However, in other countries in which affordable social/public housing has been developed to solve housing problems of vulnerable residents, researchers have raised

criticisms that the provision of such housing may fail to meet the housing needs of the poor and also that it may create a concentration of the urban poor (Chen et al., 2013; Hegedus et al., 2013). Therefore, there is an urgent need to raise questions about how Chinese migrants fare in the new housing context (Chen et al., 2013). To answer this question we will explore migrants' attitudes towards participating in the PRH scheme, and how the PRH policy influences their housing choices and preferences.

However, although in recent years, the Chinese state has put more efforts in developing China's public housing sector and related housing policy, implementations of the new policy have been poor at the local level. Relevant studies mostly had to conduct surveys within a hypothetical policy context (Hui *et al.*, 2014). Studies mostly agree that opening up access to PRH for migrants would reduce social inequalities and encourage migrants to integrate in cities (Wu, 2004; Huang & Jiang, 2009). Meanwhile, domestic studies have tried to find determinants of migrants' access to PRH, but findings are undetermined so far (Yang & Tan, 2011). Academia and social media have triggered ongoing debate on whether migrants would move from their current low-cost housing to PRH (Hui *et al.*, 2014). This study attempts to offer timely and valuable insights into understanding recent migrant's preferences and access to PRH.

The paper compares key determinants of the preferences for and access to PRH of Chinese migrants. The hypothesis is that the influence of the key determinants varies between those who are stating a preference, those who are putting that preference into action, and further those who are continuing the action. The inconsistency of these influences indicates that there is a mismatch between migrants who prefer PRH and who benefit from the PRH policy. This contributes to the understanding of the extent to which the PRH policy has provided assistance to migrants of different demographic and socio-economic status and with various housing needs. The analysis differs from previous research in two respects. First, the paper provides an understanding of the three steps in the whole process of getting access to PRH. We developed a series of binary logistic regression models to estimate the three stages. Second, the paper is based on data that was collected from the city of Chongqing, which was the first city that extensively provided migrants with equal access to PRH on a broad scale. Thus, it is the first research that used the revealed household level data collected from the entire migrant population in the study area to study the access to PRH among migrants. The analysis uses both the survey data conducted with 546 migrants in 2013 and official release data about the 7th to 17th application of PRH between 2013 and 2016.

The Research Context

Migrants and their marginalized position in the housing system

The focus of this study is on Chinese intra-national migrant households who move to other localities for work but maintain the *hukou* of their registration place, excluding migrants who move in cities involuntarily due to land acquisitions. Since 1978, with a rural–urban surplus labour force dominating the population, migrants have steadily moved to cities. Higher wages, better job opportunities and the promise of a decent urban life were main attraction factors. Early migrants were often seen as young, single and low educated; as having a high level of residential mobility, a limited sense of belonging and an orientation towards employment seeking; and as generally receiving low wages from low-skilled and low-paid jobs that local residents despised, mainly in the manufacturing and construction industries, and in housing and catering services (Wu, 2004; Li *et al.*, 2009; Wu & Webster, 2010). They have played an essential role in ensuring a sufficient supply of inexpensive labour for the fast development of urban industry in China, but were mostly identified as ‘second-tier citizens’. In the past two decades, the profile of the migrant population diversified with the emergence of higher educated migrants who have grown up with nearly no farming experience and economically advantaged migrants who are moving up the career ladder after a long stay in cities (Li, 2010; Cui *et al.*, 2015). These migrants bear more resemblance to local residents in terms of socio-economic status and their aspirations for social-integration, but they also show internal variation. Therefore, recent research has paid considerable attention to the differences within the migrant population.

While the socio-economic status of migrants improved, the housing conditions they were confronted with, did not follow in parallel, or even degraded due to house price inflation in big cities (Wu, 2004; Logan, *et al.*, 2009). Private rental housing, from either private landlords or employers, has been the major option for migrants. Experiences with overcrowding, short and unstable rental periods, informality, poor quality housing, a lack of options and amenities, and affordability problems have been common for migrant housing (Wang, 2000). Such housing situations have significantly contributed to their depressing economic status and insecure lives. Many felt they could not escape their ‘floating status’. This implied their lives continued to be driven by plans to go back to their hometowns. This induced a ‘saving orientation’, which had big impacts on their housing decisions (Li & Duda, 2010). Another essential factor that has made migrants passive and subordinated in the housing system was the *hukou* barrier that prevents affluent migrants from purchasing owner-occupied housing and forbids low-to-middle income migrants access to housing welfare (Wu, 2004). In reality, since the economic transition in China, beginning in the late 1970s, public housing

has been in short supply for the whole Chinese society (Zhou & Ronald, 2017 b). The housing market in China has been dominated by a market-oriented regime, creating an over-heated real estate market with distorting housing provision and significant affordability problems. Between 1998 and 2008, the private real estate industry saw its annual growth rate (by floor space area) reach 20 per cent; for public housing, the rate fell to 0.3 per cent (NBSC, various years).

PRH, national policy, local variations, and Chongqing

To cope with the increasing housing demands of urban low-to-middle income residents, since 2008, the Chinese state has adopted various new strategies to revive public housing provision and curb house prices inflation (Chen *et al.*, 2014; Wang & Murie, 2011). A core means is to develop PRH as the largest and most flexible form of housing targeting both local residents and migrants. So far, PRH has been the only type of official rental housing open for migrants. The scheme closely links to several national socio-economic strategies (Wang, 2000; Huang & Tao, 2015). First, the state expects that it helps with reducing the housing inequalities between migrants and local residents, and improves housing conditions for migrants. Eventually, it helps to maintain a sustainable inflow of migrants for on-going urbanisation and industrialisation. Second, both the massive construction of PRH and the increasing inflow of migrants were expected to stimulate domestic consumption, and further help China to deal with economic and financial shocks (Wang *et al.*, 2015).

In 2014, the New Urbanization Plan (2014-2020) further emphasized the scheme, and soon in 2015, another type of public housing, low-rent housing, which targets the really poor local residents, was merged into the PRH scheme (MOHURD, 2013). However, the construction of PRH has been suppressed at the local level due to a lack of material inputs from both national and local governments (Wang & Murie, 2011). To meet the state directives, local governments have counted every possible resource of housing as PRH. For instance, they require employers to build or rent PRH for their employees, and asked real estate developers to provide 5 to 10 per cent of their newly built commercial housing as PRH. Moreover, they buy old public housing, vacant and unpopular commercial housing, and even housing without full ownership rights and count these as PRH (Zhou & Ronald, 2017a). In 2010, the city of Chongqing was the first to establish the largest programme to allow residents from all *hukou* categories to apply for PRH. The programme targeted the construction of 40 million square meters of PRH, about 670,000 units (approximately 60 square meters per unit) by 2013 (Zhou & Ronald, 2017 a). By the end of 2016, the housing management bureau has received over 983 thousand applications, and 306 thousand households have moved into

PRH, equivalent to nearly nine per cent of the total households in the core of Chongqing in 2015; 48 per cent of the tenants were migrants (NDRC, 2016) (HMBC, 2012-2016).

Different from other cities, PRH in Chongqing has been newly-built rather than 'recycled'. Moreover, the construction and allocation of it has been under the direct control of the public sector, which has made the whole work more efficient, but also, in many respects, more radical (Zhou & Ronald, 2017a). Regulations regarding access to PRH usually relate to income limits, stable occupation, a one-to-five year working experience, pension payment, etc. In Chongqing, the rules controlling access to PRH have been largely relaxed: applicants only need to be over 18 years old, have a stable job and have made pension payments for at least six months. The rent is designed to be very low (60% of the market price). Specifically, the programme is ownership-oriented. In 2010, the government announced that PRH would be available for sale to qualified low-to-middle income households at a discounted price after a five-year rental period. However, until now (2018), relevant regulations have not been announced. The strategy behind the policy is to repay the large bank loans via selling out PRH.

Except for two central located pilot projects, *mingxinjiayuan* and *kangzhuangmeidi*, other PRH projects are located in suburban areas undergoing development or in areas near industrial parks. Domestic research shows that the development of the facilities and surroundings subsequently fell behind the construction of PRH. Residents are, in general, unsatisfied with basic services such as health care, preschool education, cultural and sports facilities, and public security in PRH communities (Gan *et al.*, 2016). Nevertheless, by now, no other city has either realized such a massive supply of PRH or provided such a relaxed housing policy for migrants as Chongqing did. From this perspective, Chongqing represents a good case for both policy makers and academia to understand the relationship between migrants and the PRH policy.

The analytical Framework

Based on literature on residential mobility, housing choice and housing preference (Cui *et al.*, 2015; Jansen *et al.*, 2011; Mulder, 1996; Rossi, 1955), we select key factors related to housing behaviour to estimate their roles in the process of developing a preference and getting access to PRH in Chongqing. These factors include expected utilities of future housing, previous housing experience, policy perceptions, institutional status and a series of life course variables (table 4.1). Our analytical focus is on comparing how the impact of these factors changes between the three stages of accessing PRH in Chongqing: preference; action; and repeated action.

The process of housing access, especially the gap between the original housing plan and actual behaviour has attracted a great deal of attention (De Groot et al., 2011; Jansen *et al.*, 2011). Theories of these perspectives are thus included in the paper. We suspect that the final stages of the process are more complicated and significant regarding really getting access to PRH. After having stated a preference for PRH it is not just a matter of taking action to rent a dwelling; in the Chinese context, as in many other contexts, housing demand is much higher than housing supply (Gottschalch, 2015). Therefore the authorities have installed a lottery system in which potential renters can participate repeatedly, if they wish. As the PRH programme is ownership-oriented, we assume that those migrants, who consider realizing their dream of becoming a homeowner via buying PRH, may have been very persistent in applying for PRH. By contrast, those migrants who only applied one to two times might only treat PRH as a alternative of rental housing. To be able to measure the eagerness of migrants to access PRH, in this paper the revealed preference for PRH is indicated by two types of action: taking action after the stated preference; and analysing the frequency of participation in the lotteries. In short, three steps in the process of accessing PRH will be studied: (1) the very beginning, where migrants state a preference for PRH (stated preference); (2) the next step, whether the stated preference was put into action (revealed preference); (3) the further step, where we distinguish between those who dropped out without having won the lottery after having applied one to three times; and those who applied at least four times (including those who won, those who dropped out and who continued the application). This will show how eager migrants are to access the PRH and this can also be interpreted as a form of revealed preference.

The general assumption has been that a household makes decisions regarding housing based on institutional and market conditions, their (dis) satisfaction about previous housing, and housing demands associated with their position in the life course (Cui et al., 2015; Mulder, 1996). In this paper, the essential institutional and market condition in Chongqing has been the policy of opening access to PRH for migrants. Although this holds for the whole of Chongqing, and thus also for all potential renters, the perception of what this means for housing access opportunities may differ widely between migrants. As said, a range of factors may impact on the stated and revealed preferences. Hereafter we will more elaborately introduce the factors we derived from the literature as essential to include in the models explaining variation in stated and revealed preferences.

Understanding policy

Individual's understandings of the institutional and market conditions appear to have essential impacts on housing preference (Jansen *et al.*, 2011). Uncertainty on the success rate, eligibility

and policy stability all hinder migrants to access PRH. Thus, the model includes concerns regarding the PRH policy as an independent variable. Concerns are divided into those regarding the success rate of lotteries, those regarding eligibility, and those about the stability of PRH policy; people may also say that they have no clear concerns.

Housing related factors

In the decision-making process, comparisons between attributes of previous housing situations with those of the preferred housing are essential (Jansen *et al.*, 2011). Migrants make decisions based on how well a preference for PRH matches the expectations of their ideal housing. The previous housing tenure is included in the models, because this may stimulate the move to PRH, but also may be a factor withholding migrants from a move to PRH. It makes a difference whether people change from employer supplied housing to PRH or come from private rental housing and opt for PRH. Employer supplied housing usually means accommodation for free and easy commuting, and both factors may be very attractive for less affluent migrants, and in comparison with a situation in which they would come from private rental housing.

Expectations towards their potential new housing situation, in terms of the rent level, and the distance to work or to the school of their children, as well as towards the housing conditions are also included (Jansen *et al.*, 2011). Previous research has shown that improved commuting conditions and the possibility to accumulate wealth gain priority in the housing decision of migrants, while they usually compromise on housing conditions (Huang and Tao, 2015; Li and An, 2009). We assume that migrants intend to get higher quality housing than they had before. However, previous findings are only tenable in the old context, within which the private housing market failed to provide migrants housing that meets their demands on location, cost and conditions at the same time. Moreover, utilities of PRH are also included in the models, like the housing size (indicated by the number of bedrooms), location (divided into Centre, suburb and near industrial parks) and renting condition (in a shared apartment or in a single apartment). These factors reveal the specific housing preferences that migrants aim for.

The hukou status

Studies in western societies pay specific attention to residents' legal status for accessing certain types of housing (Daly, 1996). Studies on Chinese migrants have considered the *hukou* status as the most prominent factor causing housing divisions for migrants and marginalisation for some (Li *et al.*, 2009). In the contemporary housing context, although the role of the *hukou* has gradually decreased (Duda & Li, 2008; Tao *et al.*, 2015; Hui *et al.*, 2014), the influence of the dichotomy between intra-provincial and inter-provincial migrants

still exists (Zhou, 2018). Thus, specific attention is also paid to the *hukou* status in this paper. Intra-provincial migrants indicate a stronger sense of belonging in Chongqing, and more importantly, if they agree to participate in the *hukou* reform, exchanging the ownership rights of their rural assets for local *hukou* (non-agricultural *hukou*) in three to five years, they gain privileges in accessing PRH. We expect they will be more likely to participate in the PRH programme.

Control variables

Key factors that represent the demographic situation, socio-economic stages and migration strategies of migrants are included as control variables. The emerging differentiation of stages in the life course of migrants has led to more complex housing outcomes than experienced before (Cui et al., 2015). Gender, cohort differences and the formation of families appear to relate to housing decisions, and thus we included age, gender, family size and family structure in the models (Li, 2010). Urban kinship, income level, education, occupation status, and duration of stay all influence the housing decision making process of migrants as well, since they affect their housing affordability and the adaptation to city life (Tao et al., 2015; Wu, 2004). When migrants better adapt to living in cities, it is more likely that they move from migrant-concentrated rental rooms or dormitories to more general local private rental dwellings (Li et al., 2009). However, these findings are based on private housing market experiences; with regard to access to PRH, migration strategies may differ. In Shenzhen, more recent migrants were found to be more likely to express a preference for moving into PRH than earlier migrants (Hui et al., 2014). The duration of stay in the city usually positively relates to making plans for a move into homeownership. As PRH can function as either low rent housing or discounted owner-occupied housing (after a period of renting) in Chongqing, this factor is also included in the models. We expect that both temporary renters and migrants who are already staying long in the city may therefore be interested in PRH.

In the paper, the family structure is classified into three types: single person household, family with one member employed, family with more than one person employed. Based on their affiliation with (or support from) employers and participation in social insurance, migrants have been divided into five occupation types: with an unstable contract, with a stable private business contract, with a stable formal business contract, with a state agency contract, or with an old-age pension. According to the regulations, the latter gain more privileges in accessing PRH in this sequence. The classification of income quintiles is based on the quintile that the respondent finds him/herself in according to the yearbook of Chongqing in 2013.

Study area, Data and Methods

Study area

The study is based on data collected in the central metropolitan area of Chongqing, the core nine-districts, where the PRH programme was located. Except for the representative housing policy, demographic and economic structures of this area share some similarities with other capital cities in China, making Chongqing a suitable case for the study. For instance, it confirms general observations about a diversified migrant population among Chinese cities (Li, 2010). From 2000 to 2010, in Chongqing, the share of migrants with a college or university degree increased from 9% to 24%; the age distribution of migrants changed from a single peak (the cohort of 21–38) to two peaks (the cohorts of 16–28 and 35–42) (CMBS, 2001 and 2012). Moreover, Chongqing is assigned the role of being the transportation centre and industrial powerhouse for the vast western part of China. Manufacturing, especially in the IT sector, has boosted economic growth, making the city an attractive destination for migrants; in 2010, of its eight million inhabitants, nearly 40% were migrants (CMBS, 2012).

Data collection and methods

Data were obtained from a survey and from the officially released household level registration of the lotteries. In 2013, right after the policy was established, we conducted 605 structured face-to-face interviews in the nine districts of the core of Chongqing. Eventually, the survey obtained retrospective information of 546 valid responses. We asked migrants to recall their stated preference for PRH, and also investigated their current housing status to identify the extent to which they got into PRH. Actually the current stay in PRH represents migrants who applied for PRH and also got the access. As the distribution of the available PRH is randomly based on lottery drawings, these migrants can also be considered as migrants who have been able to put their stated preference for PRH into practice.

A trial survey was conducted with 20 respondents in the *Shapingba* district. Respondents comprised migrants who had stayed in the nine districts without a local or non-agricultural *hukou* for at least half a year. We opted for a stratified random sample to select them. The aim was to interview migrants staying in housing available in the market, thus excluding those staying in factory dormitories in industrial parks. The total sample was split based on the share of the migrant population in each district. Within the districts five neighbourhoods were randomly selected as the primary sampling units. Interviewers all spoke fluent Mandarin and Chongqingese, and they mostly interviewed those making the housing decisions for their families. Audio recordings were used, and eventually the response rate slightly exceeded 80%. Those who declined to participate in the survey mostly mentioned ‘lack of time’ as the reason. Our data on the proportion, the average age and education years of migrants are all

very close to the census data for 2010, suggesting that our data are representative (CMBS, 2012).

From 2013 to 2016, the PRH management bureau of Chongqing organized 11 times a lottery drawing for nearly 240 thousand applicants (from 7th to 17th); over 202 thousand of them are new applicants joined between 2013 and 2016. We obtained data of 239903 residents who applied for PRH and of the 168446 households who won the lotteries from the website of the PRH management bureau of Chongqing. We use the data on the housing lotteries as a proxy for the repeated application for PRH. We focus on the 202050 participants that have joined in the lottery since 2013. Among them, over 145 thousand residents got access to PRH, and around 25 thousand applicants dropped out of the lottery. The dropout rate was around 12 per cent, and over 60 per cent of those who dropped out were doing that between one to three time applications. On average, migrants won the lottery after participating 2.15 times. Nearly 30 per cent of the applicants persisted in joining the lottery for over three times. The data provides some basic information about the applicants, but not all the variables are covered by both the survey and official data (table 4.1).

The analysis is formed by two pairs of binary logistic regression models. The first part uses the survey data, including models 1 and 2. Model 1 concerns the stated preference for PRH among the survey respondents. Those migrants who would like to apply for PRH are coded as 1, and the rest coded as 0. To improve the estimation, we excluded the 16 migrants who live on old-age pension or work in state agencies. Model 2 regards the 467 migrants who stated the preference for PRH, and generates differences between migrants who put their stated preference for PRH into action (coded as 1) and those who did not (coded as 0). The second part of the analysis – model 3 – used the official released data. Model 3 generates the difference between migrants who continued to participate in the lotteries for 4-11 times after failing in the previous three times (coded as 1) and those applicants who dropped out after failing in the previous 1-3 times (coded as 0).

Descriptive Findings

Table 4.1 combined the composition of both survey and official release data. The mean age of the survey respondents is almost 33, and most of them had finished a junior school programme (over nine years of education). Their average family size reached 2.14, and on average, they had at least one relative living in ‘Chongqing’. The share of intra-provincial migrants was much higher in Chongqing (over 70%), because the non-central metropolitan area of Chongqing accounts for 93.4% of the entire area. On average, they had stayed in ‘Chongqing’ for over 6 years, and around 47 per cent of them wanted to settle there. Over

80% of them worked with a contract, and nearly 70% stayed in private rental housing before. If they stated a preference to move, nearly 64% of them thought living close to work/school was important, while the share that aimed for better housing conditions and for low cost housing was not that high. Their major concerns regarding the PRH policy were about the success rate (31%) and about the eligibility (34%), and only a few seemed to worry about the policy stability.

Table 4.1 Composition of the survey and official release data (Percentage/ Mean)

Variables	Survey Migrants (546)	PRH Applicants (168446)	
		Migrants	Local residents
Stated preference for applying for PRH	88%		
Realized the preference	19%		
Did not realize the preference	81%		
Did not stated a preference for applying for PRH	12%		
Total percentage		74.83%	25.17%
Age (average)	32.67		
Male		60.14%	50.61%
Female		39.86%	49.39%
Demographic features			
Family size	2.14		
Urban kinship	1.4		
Intra-provincial migrants	70.51%	46.04%	
Inter-provincial migrants	29.49%	53.96%	
Income (quintile level)	3.81	3.58	3.46
Education years (avg)	10.69		
Unstable contract	17.95%	17.04%	10.80%
Socio-economic status			
Non-formal business contract	45.05%	37.75%	30.32%
Formal business contract	34.07%	36.47%	37.85%
State agencies employee	1.83%	3.91%	6.82%
Old-age pension	1.10%	4.82%	14.21%
Duration of stay	6.11		
Migration status in CQ			
Intend to stay	46.70%		
Intend to go back	53.30%		
Previous housing			
Private rental housing	69.41%		
Employer supplied housing	30.59%		
Expected next housing			
Live close to work/school	63.92%		
Ref: No	36.08%		
Improve housing conditions	26.74%		
Ref: No	73.26%		
Remain low housing cost	54.76%		
Ref: No	45.24%		
Concerns over policy			
No clear concern	16.67%		
Concerns over success rate	31.14%		
Concerns over eligibility	33.88%		
Concerns over policy stability	18.31%		

If we compare the survey data on the one hand with the larger dataset with data on migrants and local residents who applied for PRH and won the lottery on the other, we see that the migrants in the latter data set have lower incomes and are more equally divided between intra-provincial and inter-provincial origins; migrants from the ‘application’ (winner) data more often have a formal business contract than migrants from the survey. Comparing with local-PRH-applicants/winners, migrant-PRH-applicants/winners have slightly higher incomes. The proportion with an unstable contract is a bit higher among migrant-PRH-winners compared to local residents, while the percentage of participants in an old-age pension programme is much lower among migrants. Our observation reveals that nearly 75% of the residents in PRH are migrants, while the proportion was around 50% in the official reports. This is because we identify migrants based on their ID number in the official release data, and thus those residents who were migrants but now have changed their *hukou* status are also counted as migrants as their ID did not change.

Comparing the application data with PRH distribution data, we reveal that there is a big mismatch between the demand and supply side, regarding the preference for central located PRH. Mismatch is also revealed regarding the preference for family housing and shared housing. (Table 4.2)

Table 4.2 Comparisons between applicants’ preferences and the available PRH (7th-17th applications and distributions)

	Application		Distribution	
Total amount	239903	100.00%	168446	100.00%
Core—nine districts	49180	20.50%	16508	9.80%
Around industry parks	127148	53.00%	102584	60.90%
Suburb	63575	26.50%	49354	29.30%
Total amount	239903	100.00%	168446	100.00%
Single person housing	80368	33.50%	58451	34.70%
Family apartment	152098	63.40%	99720	59.20%
Shared apartment	7437	3.10%	10275	6.10%

Results

Realization of the stated preference for PRH

Although over 83% of the respondents had concerns over the PRH policy, still 88% stated that they would prefer PRH when considering a move. This preference is estimated in model

1. Among those who stated such a preference, however, only 19% put the preference in action and realized their preference. That is estimated in model 2). Below, we investigate the varying roles of each of the independent factors in models 1 and 2 (table 4.3).

Table 4.3 Modeling the stated and revealed preference for public rental housing, odds ratios

	Stated a preference	Put the preference into action
	Model 1	Model 2
Concerns (ref: no clear concern)		
Concerns about the success rate	2.376	0.228*
Concerns about the eligibility	1.812	0.562
Concerns about the policy stability	1.137	0.379**
Expectations on ideal housing		
Close to work/school (ref: No)	0.463**	0.217*
Improve housing conditions (ref: No)	4.930***	7.569**
Keep low housing cost (ref: No)	3.420***	1.176
Previous housing tenure		
Employer supplied housing (ref: private rental housing)	0.579*	0.643*
<i>Hukou</i> status		
Inter-provincial migrants (ref: intra-provincial migrants)	0.764**	3.079**
Age	0.986	1.045*
Family size	3.082**	2.143*
Urban kinship	3.694***	1.425*
Income quintile level	1.156*	0.984*
Education years	0.914	1.415*
Occupation (ref: unstable contract)		
Private business contract	0.498*	2.876**
Formal business contract	0.376*	3.865*
Duration of stay in Chongqing	1.576***	0.986
Intend to stay in city (ref: intend to go Back to their hometown)	1.716*	1.370
N	530	467
Constant	3.126	2.978
Nagelkerke R	0.512	0.509

Notes: ref means reference category; * $p < 0.5$; ** $p < 0.01$; *** $p < 0.001$.

None of the concerns over PRH policy relate significantly to the stated preference for PRH, but concerns about success rate and policy stability relate negatively and significantly to the revealed preference, when they really apply for PRH. Thus, it seems that migrants did

not clearly consider the in-and-outs of the policy when they stated their preference for PRH. We consider 'eligibility' to be the basic condition for accessing PRH and migrants appeared not to worry much about it. However, the 'success rate of the lottery' and the 'policy stability' which act as external conditions over which migrants have no control, limit the likeliness to put the stated preference in action/practice.

The wish to improve housing conditions and the expectation to be able to live close to work/school have a big influence on both the stated and revealed preference for PRH. Expecting to improve housing conditions has a firm positive influence, while expectations regarding the nearness to school and work have a negative. This supports previous findings that migrants generally are not attracted by the location of PRH (Net EASE, 2013), but as we suspected, by the better quality of housing connected to PRH. The aim to keep housing costs low only has a significant and positive relation with the stated preference. This may be ascribed to the fact that when migrants stated a preference for PRH, they made their decision based on the average rent per square meter for PRH (10-12 *yuan*) and thought PRH would meet their demands for low cost housing as well. However, when they put the preference into action, they noticed that the rent per unit was actually not low, as PRH is usually bigger than their current housing. In terms of the association with the former tenure migrants formerly living in employer supplied housing negatively related to the preference for PRH. This confirms our speculation that comparing with private rental housing, the features of employer supplied housing, like a free accommodation and limited commuting, was very attractive for migrants.

Interestingly, although the government has promoted the PRH policy as a means to encourage intra-provincial migrants to participate in the *hukou* reform and intra-provincial migrants appear more likely to state a preference for PRH, inter-provincial migrants were more likely to put the preference into practice. This may be because intra-provincial migrants usually were better adapted to the cities, and thus their preference for PRH was easily replaced by other options in the process of putting the stated preference into action. This indicates that inter-provincial migrants may rely more on the assistance from the PRH programme.

Disadvantage in terms of occupation relates positively to the stated preference for PRH while lower education did not relate to such a preference in a significant way. However, they both turned out to correlate negatively with putting the preference in action. This supports the argument that migrants at the bottom end of the housing ladder were more likely to consider public housing as a means to improve their housing career (Hui *et al.*, 2014). However, as proofs for employment contract and social security payments were still required as a part of the application criteria for PRH, eventually, migrants engaged in informal business as well as

those who were lower educated experienced difficulty to put their stated preference into action. Nevertheless, we find that, although higher income migrants were more likely to state a preference for PRH, lower income migrants were more likely to put the stated preference into action. This was not due to the application criteria as there is no income limitation in accessing PRH in Chongqing. Thus it suggests that lower income migrants had a stronger drive to realize their preference for PRH. Additionally, migrants with more family members living together and more relatives in the city were also more likely to state a preference for PRH and come into action. Last, a longer duration of stay and an intention to settle in Chongqing city only had positive influences on the stated preference for PRH. This supports our conjecture that both temporary renters and long-stay owner-occupied housing seekers were attracted by the dual function of PRH in Chongqing.

Frequency of applications for PRH by migrants

Model 3 estimates the probability that migrants apply for PRH 4-11 times, compared with those residents who only applied one-to-three times and then dropped out (table 4.4). Remember that the probability to win for any single application are the same no matter how many times one has applied; however, the drop-out rate differs in relation to how frequently one has applied. The dropout rate drops with an increasing number of applications. Therefore, the number of applications can be interpreted as an indicator of perseverance or eagerness. The aim of model 3 is therefore to find out whether the relation between demographic and socio-economic factors and the preference for PRH differs between migrants who persisted in applying for PRH and migrants who gave up in an early stage of participation.

More males than females have applied for PRH at least 4 times. Also those with a private, or a formal business contract, and those who have a contract with state agencies tend to be more frequently present in the group who applies at least four times compared with those who have an unstable contract. This illustrates or reflects that the application criteria are in favour of applicants who are able to show proofs of a stable occupation and who are eligible to social security payments. Interestingly, migrants with lower incomes reveal a stronger motivation for endured applying for PRH than those with a higher income. Larger-family migrants are more likely to continuously apply for PRH, in line with the results found in model 1 and model 2. This seems to indicate that the need for larger dwellings among migrants is urgent, but also that the PRH programme so far failed to meet these housing needs. Lastly, those who prefer to live in the centre or the suburbs of the city have a much higher chance to continue their application effort for at least four times than those who opt for accommodation near industrial parks. Those who prefer family housing are more

likely to continue with applying than those who prefer single person housing. However, we should bear in mind (table 4.2) that in Chongqing, over half of the PRH has been located around industrial parks. This further shows the mismatch between the preferred PRH and the supplied PRH.

Table 4.4 Modeling repeated application for PRH, odds ratios

	Applied 4-11 times (ref: Applied 1-3 times then gave up) Model 3
Household Characteristic	
Male (ref: Female)	1.043*
Private business contract	1.247***
Formal business contract	1.632***
Contract with state agencies	2.018***
Old-age pension (ref: Unstable contract)	1.028
Income quintile level	0.784**
One employed family	1.354***
Over one employed family (Ref: Single person household)	1.493**
Preferred housing	
Centre	4.954***
Suburb (ref: Industrial park)	6.065***
Single person housing (ref: family housing)	0.705***
N	41047
Constant	1.657
Nagelkerke R	0.185

Notes: ref means reference category; *p<0.5; **p<0.01; ***p<0.001.

7 Discussion and conclusion

Chinese migrants have typically been marginalised in the public housing system since they began moving to cities in the 1970s, though recently they have gradually obtained a stronger position with regard to PRH. Our study is therefore timely for reconsidering the position of migrants in the housing market. The paper divided the process of accessing PRH into three stages, stating a preference for applying for PRH, putting the stated preference into practice,

and not giving up to apply for PRH. The analyses were based on survey and officially released data on experiences in Chongqing. The city has been the first in China to provide massive PRH equally available to both migrants and local residents. In our study we examined how the key determinants for getting access to PRH behave when the process is divided in three stages. Findings contribute to the understanding of how and to what extent the PRH policy has helped migrants with different demographic and socio-economic statuses and with different housing demands in Chongqing. Below we address some policy implications based on the findings.

To a certain degree, the PRH policy has helped migrants to improve their position and may assist to leave a marginalized position behind. For instance, the provision bias between migrants and local residents was small. The quest for better quality housing was positively related to the preference for PRH, and concerns over eligibility did seemingly not bother migrants to put the preference into action. Lower incomes appeared to be positively related to the preference for and access to PRH. However, consistent with situations in other cities, findings still reveal a mismatch between the PRH policy and migrants' status and housing demands. Although around 88% of the migrants showed an interest in PRH between 2011 and 2012, only 19% had achieved this goal before 2013. Dissatisfaction regarding the distance between PRH and work/school and concerns over the success rate of lotteries and over the stability of policy all hindered migrants to put their preference for PRH into practice. Differences between migrants who stated a preference for PRH and who put the preference into action, and between migrants who persisted in the PRH application for 4-11 times and those who just applied 1 to 3 times, have been significant and should be paid attention to. Migrants with unstable occupations had a stronger motivation to state a preference for PRH, but were less likely to realise this preference due to the PRH application criteria that require migrants to provide proofs of a stable occupation and social security payments. Before the establishment of PRH policy, regulations on accessing housing have frequently been criticized for marginalizing vulnerable migrants in the housing market. Our study is in support of the argument that the criteria for accessing PRH should be further relaxed. Additionally, inter-provincial migrants were more likely to put their stated preference for PRH into practice.

Furthermore, future construction of PRH in Chongqing should also aim at reducing the gap between housing preferences and housing provision. For instance, being confronted with the merits of PRH, migrants who stayed in employer supplied housing before were less likely to access PRH. This is consistent with the previous argument that migrants usually prioritize their needs for easy commuting and accumulating wealth when they make housing decisions. This is especially true for migrants who intend to keep their life 'floating' and who have less

integration ambitions in the city. Thus, housing assistance for migrants should not be limited to efforts to move them to PRH. The government may consider providing monetary subsidies to either migrants or their employers, to improve the employer supplied housing. Moreover, a larger dwelling size and a location not close to industrial parks are conditions that stimulated migrants to continue their applications for PRH. However, such types of PRH have been in short supply in Chongqing.

Some limitations of our paper should also be mentioned, and these limitations require further study. First, due to differences between variables of the survey data and the officially released data, we were not able to provide more comparisons between the three stages we distinguished regarding access to PRH. Second, we do not know yet how long it takes for migrants to realise their preferences for PRH. Those migrants in our study who stated a preference for PRH but did not take follow-up action may have done so after the period covered by the study. Third, in model 3, a more elegant analysis would be to compare the consistent applications with migrants who dropped their applications, while controlling for those who had fallen out because they were successful and got access to PRH, but so far we do not have the data for that. Finally, we must stress that the findings regard the early period of the PRH policy. In the meantime, the policy develops and changes are occurring over time.

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