Living condition of floating population in urban China

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Abstract:

Slum and squatter is not widespread in most Chinese towns and cities, although China has been experiencing rapid urbanization. Moreover, statistics from the 2000 national census, which for the first time contains information on housing, reveals that migrants do not necessary live in poorer housing condition in contrast to their counterparts of non-migrants in the urban areas; some housing facilities of floating population, who move without changes of household registration, are even better than local urban residents. Using 0.95% of household sample of 2000 census dataset, we study the living condition and its determinants of floating population in urban China, and answer questions, such as: (1) How do floating population live in urban China? (2) Which type of floating population live in which type of housing? (3) Why do some floating population live better than native urban residents?

1. Motivation

Cities of developing countries are frequently characterized by high rates of in-migration and coupled with poverty and a widespread proliferation of slum and squatter areas (Brockerhoff and Brennan, 1998; Costello, 1987; Tangr, 1968). In its report, the United Nations Population Division (2001) indicates a rapid population urbanization happening in the developing world. Driven by increasing rural-urban migration rate and high fertility, 95% of the world population growth during the next 30 years will be absorbed by the urban areas of the less developed regions whose population will likely rise from approximately 2 billion in 2000 to just under 3.5 billion in 2030. As the majority of the world population migrating to the urban areas, the locus of global poverty is also moving to the cities, a process now recognized as the urbanization of poverty. The combination of high population density amid poverty and limited resources makes an environment which favors the rapid growth of slum areas. According to UN-HABITAT (2003), if the current trend persists, the number of slum dwellers worldwide is projected to rise over next 30 years and reach about 2 billion, which accounts for about 40% of the total urban residents. To significantly improve the lives of slum dwellers became one of the 18 UN Millennium Development Goals (MDGs). Therefore, studies on the current situation, the trend, and the causes of slum-dwelling among the rural-urban migrants in the developing world are surely needed.

Urban squatters and slum dwellers in the less developed countries have been the focus of research for many social scientists (Anderson, 1928; Protes, 1972; Ulack, 1976 and 1978; Peattie and Aldret-Haas, 1981). Some observed that squatter settlements remain the predominant first destination areas for rural-urban migrants (e.g. Richardson, 1977; La Greca, 1977), while others argue that moving into slum is the rational choice of those

migrants (e.g. Portes, 1972; Ulack 1976). From the negative perspective, the new comers to the city are mostly unskilled and untrained, therefore have difficulties in gaining steady employment and income; as a result, many of them congregate in squatter communities, preserving their regional prejudices and customs, and can hardly be absorbed in the process of urbanization (Davis, 1975). On the other hand, slum is positively regarded as a community which provides necessary adjustment for the new comers to the city milieu (Abu-Lughod, 1961). Nevertheless, according to majority of the observers, slum community is essentially an unavoidable consequence of cityward migration in the less developed world. According to those observers, two assumptions are made for the less developed countries: (1) slum and squatter is the consequence of rapid rural-urban migration; the higher speedy migration, the more expanding slum and squatter; (2) most of cityward migrants from the rural areas firstly move into slum and squatter, and therefore, their living condition in average is significantly poorer than that of the native urban residents. Actually, these assumptions have been testified by many authors, and become the premises for the study of urbanization and migration in the developing regions.

However, there are a few studies do not support the generalization. For example, a comparative study of housing quality between the migrants and native residents in Manila shows that migrant does not contribute disproportionately to, nor suffer disproportionately from the problems of slums associated with urbanization (Hendershort, 1978). Another study in a medium Philippine city Cagayan de Oro suggests that migrants are neither heavily settled nor segregated in the slum community (Costello, 1987). However, as the author stated in their papers, the findings from the Philippine cities might represent the special cases and therefore could only applicable to the places under study. The housing pattern of the migrants in Cagayan de Oro City was chiefly attributed to its heavy rates of migration by the young unmarried female, who mostly resided in non-slum neighborhoods as servants, lodgers or extended relatives. For the Manila case, it was also pointed out by the author that its conclusion is limited by the problems of the validity of the quantitative measures of housing quality, and the problems of the representative of the sample used. Nevertheless, these case studies indicate that the predominant proposition that cityward migrants disproportionately contribute to and suffer from the housing difficulties in the slums could be questionable.

Recently, studies on urbanization and migration in China also provide evidences and reach various conclusions concerning the housing condition of rural-urban migrants. While some authors indicate that housing inequality is expanding (e.g. Logan, Bian and Bian, 1999) and migrants are segregated in and suffered from poor living conditions (e.g. Ma and Xiang, 1998; Huang, 2003), others argue that informal settlements are not a viable option for the migrants since municipal authorities are intolerant to migrant congregation and squatting (Wu, 2002; Wu and Wang, 2002). It should be noted that all those studies, based on sample survey data, only focus on one or several cities which may limit the generalization of their conclusions for the whole country. Most recent statistics from China 2000 Census shows that housing conditions of the migrants significantly varies among regions (Zhai and Zhang, 2003), and floating population do not necessarily living in poorer housing conditions (Jiang and Pang, 2003). Therefore, the present study

is designed to mainly answer the two questions: (1) In contrast to local urban residents, do Chinese rural-urban migrants live in poorer housing (or slum)? (2) What are the driving forces affecting living conditions of the migrants?

To answer these questions, it should be aware of the special social and political settings of China which affects people's decisions (including housing choice). Most of the authors believe that housing situation of migrants in China represents a significantly different pattern from those in other developing countries where market force plays a major role, Given that the unique institutional factors and the natural of the transitioning state of urban housing market affect housing decision of Chinese migrants. First of all, studies of migration and urbanization in China should inevitably consider the impacts of household registration (or Hukou) system[1]. Recognizing that extensive rural-to-urban migration would undercut the attempt to develop an urban welfare state, Chinese government in 1955 established a registration system that classified each member of the population as having agricultural (rural) or non-agricultural (urban) status, with a sharp differentiation of rights and privileges and extremely stringent conditions for converting from rural to urban status (Wu and Treiman, 2003). Being affected by the Hukou status, migrants in China can be divided into two groups: permanent migrants and temporary migrants (or floating population). While the former group officially changes their household registration in the migration, the latter does not. Moreover, the permanent migrants are mostly urban population who move due to job assignment or allocation, or marriage and other family reasons which are approved by authorities. The rural-city migrants are mostly defined as floating population. Therefore, our study mainly focuses on the floating population, and compares their living condition with that of permanent migrants and local non-migrating residents.

In the next section, a brief discussion on migration and urbanization, as well as housing reform in urban China during the past two decades is given. It is followed by a descriptive analysis of the living conditions of floating population, compared with local urban residents and permanent migrants. Then, a logistical regression approach is adopted to statistically analyze the major determinants affecting their living conditions. A brief conclusion and discussion is included in the final section.

2. Urbanization, Housing Reform and Floating Population in Urban China

2.1 Urbanization and floating population

The urbanization process of China in the past two decades can be divided into three phases. The first stage started from the early 1980s. Recognizing the increasing rural surplus labor force accelerated under the household production responsibility system, urbanization became an inevitable choice for Chinese leaders. However, the priority was given to the development of rural township and village industries in order to absorb rural surplus labour *in situ*, intended to avoid the urban problems caused by rapid urbanization

[1] There are several papers devoted to the discussion of household registration system and its impacts on urbanization and migration in China (e.g. Yang, 1993; Wang, 1997).

which was observed in many developing countries. This policy orientation is clearly reflected in the development slogans, such as "leaving the land without leaving the countryside" and "entering the land without entering the city". Despite the success of rural industrialisation, the ability of absorbing rural labour by township and village enterprises was limited.

Being aware of the important role of the urban sector in economic development and in absorbing rural surplus labour, the central government adjusted the criteria for urban designation in the mid-1980s (Zhang and Zhao, 1998). According to the lenient standards set in the State Council's 1984 and 1986 circulars, many rural townships as a whole were redefined as urban towns. Moreover, many counties were abolished to be re-established as cities. Consequently, a speedy proliferation of designated cities and towns and urban population was observed. Administrative designation of urban areas was the foremost driving force of grown urbanisation during 1980–1986: it accounted for 53 per cent of the total increase of urban population in the period 1980–1983, and as much as 91 per cent in 1983–1986 (Li and Li, 1996).

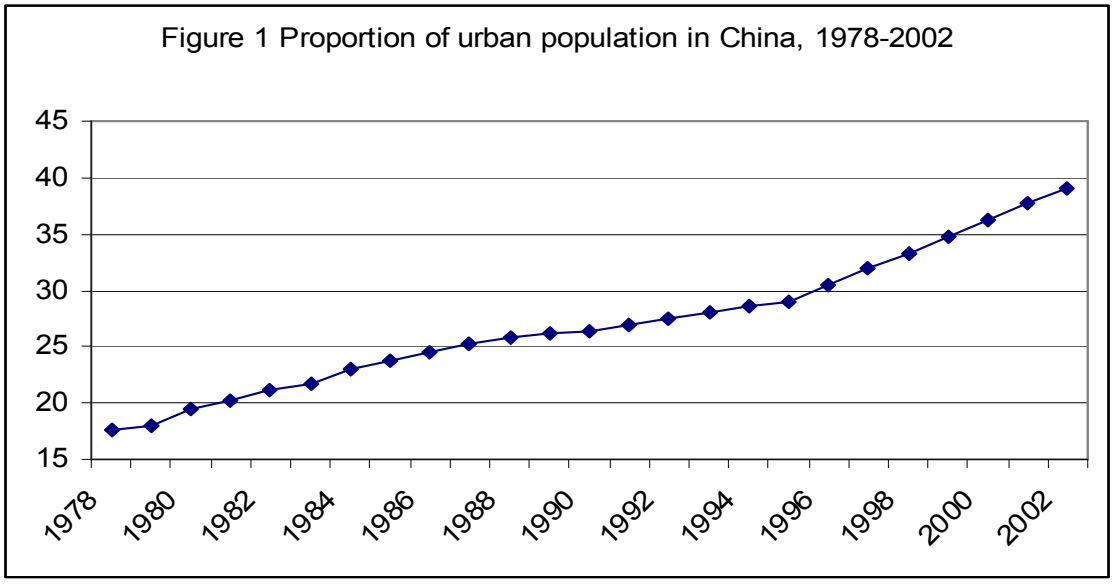
In the third stage, urbanization was accelerated in the 1990s. Urban economic reforms and the development of market-oriented economy have led to an opening market for the rural peasants, who are allowed to enter commercial channels and to work temporarily in urban places through individual or collective contracts or simply through self-employment since the late 1980s. The household registration system is gradually losing its prominent role in regulating individual's residence and spatial movement, leading to a flood of migrants into the urban areas, particularly to the cities of the more developed eastern coastal areas. This increasing spatial movement is often referred to as 'floating population' booming, because it involves no change in the migrant's official household registration. The total number of floating population is estimated at between 70 million to 100 million in most of the years. The 2000 Census reported that there was more than 11% of Chinese population had who had left the place of household registration for more than 6 months. If those who had moved out for less than 6 months are also counted, the floating population size should be even much bigger[2]. Among the total floating population, 41.4% had lived in the current place for at least five years, 71% of which reside in the urban areas. Among those floating population who came within the past five years, about 50% moved from rural to urban, 31% moved between urban towns, 16% moved between rural areas, and only 3.5% moved from urban to rural.

Without local household registration, floating population is excluded from the social welfare system which is provided for the local urban residents, such as education, housing, medical care, etc. In many cities, floating population is not allowed to be employed in certain economic sectors. Recently, the household registration system is increasingly criticized for hindering the development of market economy and urbanization, and violating social justice. Chinese government is reforming the system, and aims to eventually remove it. Actually, some of provinces (e.g. Hunan, Jilin) have already tentatively implemented a 'Residential System' (Ju Min Zhi Du) in which

[2] According to the Beijing 1997 floating population census, about 28% had stayed in Beijing for less than 6 months.

everybody is equally called resident. However, resistance against this reform is still strong, and the Hukou system will be remained active for certain period and continues to affect people's migration, housing choice and other decisions.

In the past two decades, the proportion of urban population increased from 17.5% in 1978, to 26.4% in 1990, 36.6% in 2000 and further to 39.9% in 2002 (Figure 1). Moreover, this proportion is planned by Chinese government to reach 45% in 2010, 50% in 2020, and about 70% in 2050 (Qiu, 2003). The newly published China Urban Development Report (China Mayor Association, 2004) stresses the importance of mega-cities and suggests to prompt the development of agglomerations. Therefore, it is predictable that as China accelerate its urbanization process, the influx of rural migrants to the urban areas will dramatically increase in the coming decades.



Source: Xinhua Data on Line, 2004, http://data.xinhuaonline.com/xhol/xh_pwd.asp, obtained through the Library of Peking University

2.2. Urban Housing Reform

Since 1978, China embarked on a series of ambitious reforms to transform the old systems under central planned economy to the new ones in the market economy. One of the important practices is to reform the urban housing system. There are already several review papers in English providing good introduction to the process of urban housing reform (e.g. Tolley, 1991; Tong and Hays, 1996; Wang, 2000, 2001; Zhou and Logan, 1996). The main purposes of the reform are, through privatization and marketization, to solve the problem of severe housing shortage, to enhance people's standard of living, and to prompt economic growth. The specific steps chronologically involves (1) encouraging sitting tenants to purchase their occupied public dwellings at subsidized prize; (2) allowing suburban agricultural population and urban residents to construct housing in the urban periphery where land is available; (3) promoting commercial housing construction aiming at high income households; (4) supporting economic and comfortable housing project for meeting the needs of low and medium income households; (5) providing

subsidized municipal public housing for the lowest income urban households; (6) lifting the restrictions on the previous public housing purchased by the sitting tenant, and fostering a regulated secondary housing market. Rapid economic development and housing reform enable China to achieve great success in housing construction. The newly completed housing space of urban areas in the period of 1980-2000 accumulated to more than 4.6 billion square meters. The living space per urban resident increased from less than 3.6 square meters in 1978 to about 10 square meters in 2000, while the rate of homeownership rate among urban residents have significantly increased from less than 20% in the early 1980s up to around 73% (72% for the city, and 78% for the town) in 2000.

However, the welfare of floating population was generally not taken into account in the urban housing system reform. Given their Hukou status, floating population theoretically has no access to public housing (by either purchasing or renting) which is only provided to local urban residents. They also have no access to the land for housing construction. The economic and comfortable housing is also only available to local urban residents. The only possibilities of housing left for floating population are to rent private housing, or to rent or purchase commercial housing in the market. Actually, many cities encourage floating population to purchase commercial housing as a mean to attract investment, although mortgage is normally not available for them. Those of floating population who bought commercial housing in the cities are often offered a blue stamp Hukou status, holders of which have partial access to basic social welfare in the cities. This policy, however, only favors high-income individuals and is beyond the reach of most floating population. In fact, many floating population regard their present in the cities as temporary, and try their best to reduce the living cost in order to save more for the future after going back to the home villages. As a result, renting or sharing housing in the suburban rural areas where rate is relatively low is one of their important housing choices. Many suburban villages have experienced an influx of floating population, forming so-called “migrant enclaves” (Ma and Xiang, 1999).

Encountering the segregated employment market and limited housing access, floating population is generally at a disadvantage position in housing choice. This situation significantly affects their living condition which is analyzed in the next sections.

3. Data and Measurement

3.1 Data

Data used for this study is mainly the 0.95% sample dataset of the long form of China 2000 Census. For the first time, the 2000 Census investigated into the housing condition of the population living in private household. The questionnaires of the census include a short form and a long form. A random sample of 10% of the households was selected to fill the long form, while other 90% of the households answered the questions in the short form. In addition to the questions concerning general information of the household and its individual members, the long form requests the selected households to provide information on their housing situation. A limitation of this dataset is that it does not

provide housing information for those who lived in collective households. Moreover, the census does not count those who had lived in a place other than that of household registration or had left the place of household registration for less than half year as migrants. In stead, this group of people is enumerated back to the place of their household registration and counted as non-migrants. To solely rely on this dataset, it will limit this research to only study those who lived in private households, and had left the place of household registration for more than half year. To compensate the limitation of the 2000 census dataset, we also use the dataset from the 1997 Beijing Floating Population Census to provide references for floating population living in collective household and having stayed at a place for less than 6 months. Since the 1997 survey interviewed all the floating population (with a size of 2,299,416) who had lived in Beijing for at least 3 days. In addition to collection of information on the major socio-economic and demographic characteristics, the survey included a question of housing type of the floating population.

While the 1997 Beijing Survey only deals with floating population, population in the 2000 census can be divided into three groups: local urban residents, permanent migrants, and floating population. Floating population is defined as those who had had left the place of household registration for more than half year at the time of interviewed (Nov. 1, 2000). Permanent migrant refers to those who moved to a place with official change of household registration within the past five years, while local urban resident refers to the people who did not move away from the place of household registration in the past five years. Comparing floating population and permanent migrants with local residents would help to understand the effect of migration, while comparing floating population with local residents and permanent migrants will provide evidence on the effect of Hukou status.

3.2 Measurement

To measure the housing conditions, it is important to select appropriate indicators. Although housing condition could be defined according to the nature of housing availability, affordability, and qualitative aspects of the neighborhood environment (Lawrence, 1995), choice of the indicators is often context dependent and variable overtime (Wu, 2002). Moreover, use of the housing indicators often relies on data availability. For example, to measure the prevalence of slum in the developing countries, UN-HABITAT (2003) adopted five indicators in its statistical report: access to improved water, access to improved sanitation, access to sufficient living area, access to improved durable housing, and access to secure tenure[3]. However, data for the later three indicators is not available for most of the countries, including China[4]. A few studies of China urban housing condition (e.g. Wu, 2002; Logan, Bian and Bian, 1999) construct a qualitative index of housing quality using several variables including availability of water, bathroom, kitchen, fuel, etc.

[3] A slum is defined as a group of individuals living under the same roof lacking one or more of the five conditions (UN-HABITAT, 2003, p. 18).

[4] The date source of the two indicators for urban China is not specified in this report, given that the major source is from Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) while China is not involved in either of the surveys.

In our study, indicators of four important characteristics of housing condition are considered. These four characteristics are tenure, crowding situation, privacy, and facility.

- For housing tenure, in addition to the nature of owner or renter, we also compare the sources of housing (self-building, public or private housing, economic and comfortable housing, and commercial housing) and the cost of purchasing/constructing and renting.
- For measuring crowding situation, we consider indicators of per capita rooms and building areas, as well as the housing structure (bungalow, 2-6 stories, and 7+ stories).
- The index of privacy is constructed by summing up two variables: sharing housing with other households (0 = sharing; 1= none), and the function of the dwelling (0 = residential, working or other purpose; 1 = residential only). The value of privacy index ranges potentially from zero to 2.
- For constructing facility index, we use six variables: tap water (1 = none; 5 = yes), bathroom (1 = none; 2 = shared other type; 3 = shared flushing; 4 = private other type; 5 = private flushing), kitchen (1 = none; 2.5 = shared; 5 = private), bath or shower (1 = none; 2 = other; 3 = public hot water supply; 4 = private water heater), construction materials (1 = other; 2 = grass, bamboo, or wood; 3 = brick or stone; 4 = concrete), cooking fuel (1 = biomass and other; 2 = coal; 4 = electricity or gas). The first three variables represent the basic conditions of housing, and therefore are slightly heavier weighted than the later three. The values of the six variables are summed up to construct a comprehensive facility index which ranges potentially from 5 to 29.

Another important indicator – neighborhood environment - could not be derived from the datasets due to lack of information. Therefore, the hypothesis that floating population spatially congregate in slum areas can not be directly testified. However, it is believed that housing facility is closely related to the physical neighborhood environment.

For the purpose of testing the assumption of slum incidence, we need to compare the proportion of slum dwellers among floating population, local residents and permanent migrants. We adopted the definition of slum used by UN-HABITAT (2003, p. 7): "… slums describe old residential buildings which have deteriorated and lack essential services …"; "the term slum includes the traditional meaning, that is, the housing areas that were once respectable or even desirable, but which have since deteriorated, as the original dwellers have moved to new and better areas of cities. The condition of the old houses has then declined, and the units have been progressively subdivided and rented out to lower income groups[5]". According to UN-HABITAT, one has to note the distinction between slums and shanties. The latter refers to spontaneous settlements in outskirts and unbuilt areas of the city. Given that spontaneously occupied land for housing is not tolerant by Chinese government, shanties are rare in urban China. Therefore, a slum in our study is defined as a housing which has no access to tap water or bathroom.

[5] According to this definition, the year of construction should also be adopted to measure slum. This variable is available in the dataset of China 2000 census. However, to make our estimate comparable to UN-HABITAT measurement, we decided not to use it.

4. Comparison of Living Condition

Statistical analysis of 2000 census dataset shows that, among all urban population, 68.1% are local residents, 7.3% are permanent migrants, and 24.6% are floating population. Among the floating population, 54% held an agricultural household registration, while other 46% had a non-agricultural Hukou. About 40% of the floating population had lived in the place for at least 5 years. Of those floating population coming within the last five years, 61% came from rural areas, while 39% moved in from other urban areas. Therefore, economic reform and development of market economy in the past two decades had already induced a large proportion of floating population in urban China. Moreover, the characteristics of floating population had become greatly diversified.

4.1 Housing types of Collective Household

Of all the urban population, 92.3% live in private household, 7.7% live in collective household, according to the 2000 census. Separately looking at the three components of urban population, there are only 0.6% of local residents living in collective household, while 28.8% of permanent migrants lived in collective household. The proportion of collective household tenant among floating population (21.3%) is bigger than local residents, but smaller than permanent migrants.

The reason that permanent migrants had the highest propensity of living in collective household is mainly because a large proportion of permanent migrants are young college students or new graduates. Statistical analysis shows that 94% of the collective household tenant of permanent migrants aged 15-24. Most of the college students and graduates are normally accommodated in dorms by their colleges or work units, and accordingly registered as collective household members. There is no housing information for collective household tenants in the 2000 census. In general, the dorms provided for the permanent migrants are adequately facilitated, although tenants of those dorms usually have to share bathroom, eat at the cafeteria and take shower at public baths. However, the housing conditions of floating population living in collective household could be much diversified, and need to be carefully studied.

Exploiting the dataset of 1997 Beijing Floating Population Census, we obtain general information on housing of floating population living in the collective household. According to the survey, among 2.3 million of the floating population living in Beijing, 97.7% had stayed for at least a month, 72% had stayed for longer than half year, 53% had stayed for more than a year, and 12% had stayed for longer than 5 years (Figure 2). If Beijing's situation could apply to all Chinese cities, 2000 census might have undercount the floating population size by about 30%, given that those had left the place of household registration for less than half year is not counted as floating population in the 2000 census. However, this might not be true, since Beijing as the capital city attracts people more than average for medical, sightseeing, and training purposes, which more likely involve short durations of stay only. Moreover, Beijing Municipality government implements a stricter household registration policy than most of other cities, which limits the floating population to extend their stay in the city. Therefore, only 12% of the floating

population had remained in Beijing for more than 5 years, comparing to 38.7% for the whole country reflecting in the 2000 census. Moreover, floating population in Beijing is more likely to stay in a collective household (57%) which also reflects the fact of their relatively short duration of stay.

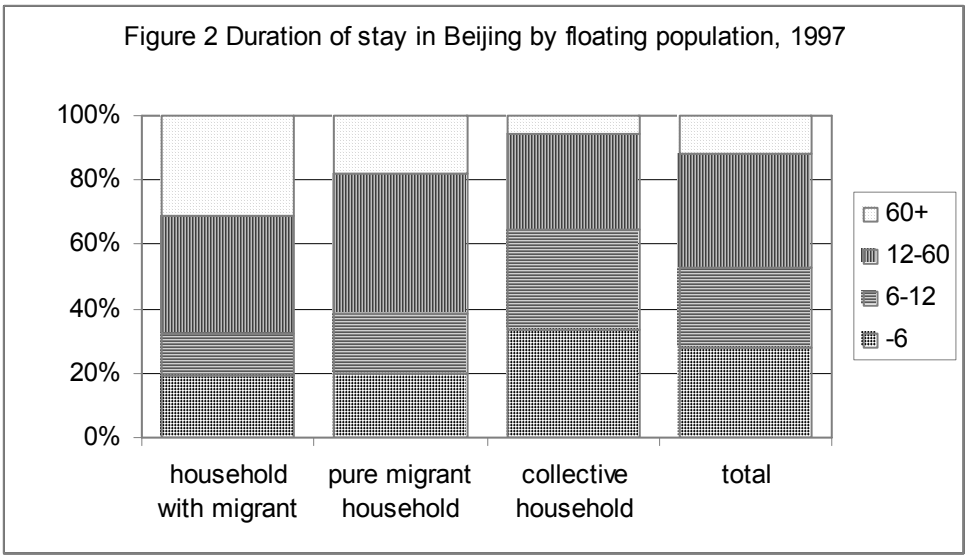


Table 1 Housing types of floating population in Beijing, 1997 (%)

housing types	Household with migrants	pure migrant household	collective household	Total
renting peasant housing	2.1	32.9	4.4	14.2
renting urban resident housing	2.5	32.4	4.9	14.4
renting working unit housing	3.8	14.5	12.9	12.8
self-building	10.5	3.5	2.2	3.3
purchased housing	3.1	1.2	0.1	0.7
work unit dormitory	10.5	5.4	41.2	26.4
working site	0.7	6.5	14.0	10.3
working plant		0.8	15.7	9.3
employer's housing	17.1	0.8	1.7	2.6
relative's housing	49.2	1.5	0.1	4.3
Hotel	0.1	0.3	2.2	1.4
Hospital		0.0	0.4	0.2
Other	0.4	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0
Among total floating population	7.6	35.0	57.4	100.0

Studies of the living condition of floating population of collective household, we found out that 42% lived in work unit dorms, 22% rented housing, and about 30% just lived on the site of work (table 1). Compared with those living in private household, floating population of collective household is much more likely to live in the work unit dorms and on site of work. Although no further information on housing conditions of these living arrangements is contained in this survey, however, according to some studies (e.g. Wang, 2000; Wu, 2002; Jiang and Kuijsten 2003), the facility of work unit dorm for the floating

population is generally much poorer than those for the permanent residents, while the on-site living constitutes the worst conditions with only limited sleeping space. Therefore, it is safe to conclude that the living condition of floating population in the collective household is worse than that in the private households. In the next sections, our studies on housing of urban population only refer to those living in private households.

4. 2. Housing Tenure

According to the 2000 Census, the homeownership rate in urban China reached about 73% by the end of last century which is higher than that in most of the developed countries. When those living in collective household are excluded, the homeownership for those private household members was even as higher as 78% (Table 2). Analysis on the source of housing shows that self-construction (accounts for 4%) is the most important means for urban residents to achieve homeownership. It is followed by purchasing public housing (23%), and renting public housing (12%). Although the government has been trying to enhance housing market, purchasing or renting commercial housing is not common (together account for less than 14%), while purchasing economic and comfortable housing which could be regarded as semi-market type accounts for about 6% only. It is apparent that housing reform in China was still at an early stage.

Table 2 Housing tenure of urban population in China

	local resident	Perm. migrant	floating population				Total
			Household registration of the householder				
			Sum	Local resident	perm. Migrant	floating pop.	
Source of housing							
Self-building	49.8	14.4	16.9	35.8	6.2	12.5	41.1
Purchased commercial housing	6.6	19.3	13.1	7.7	24.4	14.1	8.7
Purchased eco. & comf. Housing	5.2	11.8	6.6	5.9	11.1	6.6	5.9
Purchased public housing	23.5	31.2	17.4	26.5	28.8	14.8	22.7
Rented public housing	10.6	15.1	17.8	17.2	19.6	18.0	12.3
Rented commercial housing	1.3	3.5	18.7	2.1	4.9	23.5	4.9
other	3.0	4.7	9.4	4.9	5.0	10.4	4.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cost of purchasing/building (Yuan)							
Less than 10 000	29.6	9.1	18.6	25.7	5.8	16.4	26.9
10 000-20 000	24.5	14.5	17.3	24.0	11.8	15.0	22.9
20 000-30 000	14.9	14.7	13.4	14.8	14.2	12.9	14.7
30 000-50 000	14.8	22.7	17.4	16.6	22.7	17.7	15.6
50 000+	15.9	37.7	32.0	18.5	45.1	36.9	19.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cost of rent (Yuan)							
Less than 20	32.5	22.0	12.7	30.9	14.2	9.8	23.5
20-50	37.1	29.5	19.5	35.5	28.3	17.6	29.2
50-100	20.9	28.8	25.9	21.3	32.0	26.5	23.5
100-200	6.7	13.8	21.5	7.9	16.4	23.4	13.4
200-500	2.9	6.0	20.4	4.4	9.0	22.7	10.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Comparing with local residents and permanent migrants, floating population had a lower homeownership rate which was not unexpected. Table 1 indicates that floating population much more likely rent housing (36.5%) than permanent residents (19.6% for permanent residents and 11.9% for local residents). Moreover, the source of housing for floating population was much more diversified than one would expect. Although they had a relatively high proportion of renting or purchasing commercial housing, floating population also rent public housing (17.8%), purchased public housing (17.4%) and economic and comfortable housing (6.6%). The latter three type of housing is theoretically not accessible to floating population given their Hukou status.

One may argue that floating population themselves did not own or rent the housing which is not accessible to them, but just lived with a permanent resident who is qualified for those types of housing. Therefore, we further divided floating population, according to the Hukou status of their householders, into three subgroups: (1) living in the household headed by local residents, (2) by permanent migrants, and (3) by floating population. Although there is a small possibility that a floating population head a household with permanent residents, we consider floating population headed household as a pure floating population household. The Analyses result shows that the distribution of sources of housing for the pure floating population household does not differ much from that for total floating population (table 2). Therefore, one may argue that the limitation on housing accessibility by Hukou status in urban China has been significantly compromised under the 20 years of economic reform. In practice, many floating population are accommodated by state-owned-enterprises (SOEs) which they are working for. Some of the SOEs may sell work unit-owned housings to the sitting tenants of floating population. In some cities or towns, floating population managed in renting old public housing from the municipality housing bureau. Although economic and comfortable housing project aims at urban permanent residents, driven by economic interests, some of the real estate developers are willing to help floating population to purchase their products. Moreover, many local residents moved to their newly purchased commercial housing but rent out the old public housing to floating population, even though the secondary housing market is not fully established and renting out public housing by individual household is not yet allowed in many places.

In purchasing or renting housing, floating population usually had to pay significantly higher price than permanent residents (table 2). While only less than one third of floating population paid low rent (less than Yuan 100), there are two-thirds of local residents and more than half of permanent migrant paying low rent. The cost for purchasing or constructing housing is also higher for floating population than that for local residents, while permanent migrants cost the most. Although the cost for renting or purchasing housing is surely related to the housing quality which will be discussed in the next section, evidences show that floating population has to pay higher price for housing than permanent residents since the latter received many types of subsidies which are not available to the floating population. Moreover, floating population very often had to pay extra administration fee while purchasing or renting housing in the urban areas.

4.3. Housing condition

We use crowding index, privacy index and facility index to measure the living condition of urban population. Based on the statistical analysis, one can at the first sight reach an impression that housing quality (judged by facility, privacy and living space) of Chinese urban population is still rather poor, comparing with their counterparts in most developed countries, although its homeownership rate had reached a very high level. For example, more than half of Chinese urban households had no shower or bath facility, 40% had no access to clean cooking fuel, about one quarter of population had no bathroom, and more than 20% had no access to tap water.

Crowding Index

Compared with local residents and permanent migrants, floating population had smaller living space and fewer rooms per household member (table 3), not matter whether they lived by themselves or lived with permanent residents. Looking at the building styles, local residents more likely lived in bungalow or low multiple-story buildings, while larger proportion of permanent migrants lived in tall buildings. This reflects the reality of urban China which has been experiencing rapid and large scale housing construction and population movement. Most of the new buildings are multi-stories with larger living areas for each apartment. Many urban residents have recently moved to the new buildings in different districts or towns, while others are waiting for the new construction projects which may replace their old dwellings or try to purchase a new apartment. The former group of urban population is identified as permanent migrant, the latter are local resident. Therefore, permanent migrants in average enjoy more rooms and larger living space than local residents. The situation for floating population is between permanent migrants and local residents. On the one hand, floating population as the new comer may be accommodated in the newly constructed buildings. On the other hand, their uncertain residential status and instable employment and economic situation may dampen their desire of moving into the new dwellings. They very often seek a cheap housing in the old neighborhood by substituting the old tenants who have moved out to the new residential community.

Privacy Index

Living in a crowded situation, floating population's privacy is also compromised. A larger proportion of floating population shared housing with other households than local residents and permanent migrants do (table 3). Some floating population just lived on the working sites, e.g. restaurants, hospital ward. A study in Beijing shows that many floating population used their dwellings for business purposes (Ma and Xiang, 1998). ANOVA analysis indicates that the privacy index of housing for floating population is significantly ($p<0.001$) lower than for local residents and permanent migrants.

Facility Index

Although they were at disadvantage position in terms of housing crowding and privacy index, floating population's housing facilities was not necessary poorer than permanent residents (table 3). In fact, some indicators of housing facilities of floating population were better than that of local residents, although permanent migrants almost always possessed the best housing facilities. In contrast to the local residents, floating population

had higher proportion of tap water availability, were better-off in bath or shower facility, more likely used clean cooking fuel, and had more durable housing (in terms of housing construction materials), although their kitchen facility is poorer, the proportion of having no bathroom is higher. Dividing floating population into different household types according to Hukou status of the householder, the pattern persists. Comparison of facility index, which provide a comprehensive measurement, shows that housing facility is the highest for permanent migrants, the lowest for the local residents while floating population's housing facility index is in between. Analyzing the differences of floating population by household types, however, floating population living with permanent residents enjoyed better housing facility than with a pure floating population household.

Slum Incidence

Adopting the methodology and measurement of UN-HABITAT (2003), we estimate the incidence of slum dweller among different groups of urban population. The two indicators used for identifying a slum are access of tap water and access of bathroom[6]. According to this definition, those who have no access to tap water OR no access to private or neighbor-shared latrine are categorized as slum dwellers. The analysis result shows that about one-third of Chinese urban population was slum dwellers in 2000, which is close to UN-HABITAT's estimate (37.8% for 2001). The proportion of slum dwellers among floating population (25.5%) was significantly lower than that among local residents (39.0%),while the permanent migrants had the lowest slum incidence (12.3%). Dividing floating population according to Hukou status of their householders, the proportion of slum dwellers among pure floating population households increased to 33.6% which is still lower than that of local residents.

Table 3 Housing condition of the urban population in China, 2000

	Local resident	perm. migrant	floating population				Total
			Household registration of the householder				
			Sum	local resident	perm. migrant	floating pop.	
Crowding index							
1. rooms per capita	0.81	0.80	0.71	0.68	0.68	0.71	0.79
2. building areas per capita (m^2)	24.1	25.1	20.0	20	21.4	19.9	23.3
3. Building structure (%)							
Bungalow	41.0	15.4	32.4	33.0	12.0	33.0	37.8
Less than 7 stories	50.8	56.9	51.3	56.1	57.3	50.1	51.3
7+ stories	8.2	27.1	16.0	10.9	30.7	16.8	10.8
Privacy index	***1.94***	***1.95***	***1.92***	***1.93***	***1.94***	***1.92***	***1.94***
1. Function of the housing (%)							

[6] UN-HABITAT (2003) used access to improved water and access to improved sanitation in measuring the incidence of slum dweller for urban China. The former indicator refers to "sufficient amount of water (20 liters/person/day) for family use, at an affordable price (less than 10% of the total household income), available to household members without being subject to extreme effort"; the latter denotes "an excreta disposable system, either in the form of a private toilet or a public toilet shared with a reasonable number of people, is available to household members" (p. 19). Our two measurements - access to tap water and private flushing or other type latrine are very close to the UN-HABITAT indicators.

residential solely	98.7	98.2	93.7	98.3	98.3	92.8	97.6
residential, work ant others	1.3	1.2	6.0	1.7	1.7	7.2	2.3
2. Sharing with other household (%)							
Sharing	6.1	5.4	8.0	6.9	6.0	8.4	6.5
No sharing	93.8	94.0	91.7	93.1	94.0	91.5	93.4
Facility index	***20.4***	***23.5***	***21.0***	***21.2***	***23.9***	***20.8***	***20.7***
1. Construction material (%)							
Concrete	26.1	44.3	32.7	29.1	49.3	33.1	28.5
Brick or stone	67.8	53.1	62.5	66.4	49.6	62.1	65.9
Wood, bamboo or grass	2.2	0.7	2.0	1.8	0.6	2.1	2.1
Others	3.8	1.3	2.5	2.7	0.5	2.5	3.4
2. Kitchen (%)							
Private	88.5	91.3	78.0	86.5	92.2	75.6	86.5
Shared	1.9	1.6	3.4	2.1	1.4	3.7	2.2
No kitchen	9.6	6.5	18.3	11.3	6.4	20.5	11.2
3. Cooking fuel (%)							
Gas	53.4	78.8	67.8	63.0	84.9	68.7	57.8
Electricity	1.7	2.7	2.0	1.7	1.7	2.1	1.8
Coal	28.7	13.9	23.8	26.9	12.3	23.4	26.8
Biomass	15.9	3.4	4.5	8.0	0.8	3.8	12.9
Others	0.3	0.7	1.6	0.3	0.4	1.9	0.6
4. Tap water							
Yes	75.7	91.8	87.8	85.4	95.1	88.5	79.1
No	24.3	7.6	11.9	14.6	4.9	11.4	20.8
5. Bath or shower (%)							
collective hot water supply	1.8	4.0	2.0	1.4	3.3	2.1	2.0
private heater	33.2	55.7	36.8	39.8	60.6	35.3	35.2
Other	9.8	6.4	8.4	8.1	6.0	8.6	9.3
None	55.2	33.3	52.5	50.6	30.1	53.9	53.4
6. Bathroom (%)							
private flushing latrine	38.5	67.4	44.6	42.9	68.3	44.4	41.4
Shared flushing latrine	1.0	1.2	2.1	1.5	1.3	2.3	1.3
private other type latrine	32.7	15.4	17.2	25.3	14.4	15.3	28.6
Shared other type latrine	4.0	2.7	6.9	4.6	3.0	7.6	4.5
None	23.8	12.7	28.8	25.6	13.0	30.2	24.2
Proportion of slum dweller (%)	**39.0**	**12.3**	**25.5**	**32.6**	**15.6**	**33.6**	**33.7**

Basing on above discussion, we could conclude that on the one hand, in contrast to permanent resident, floating population lived in more crowded situation where their privacy was compromised due to the crowded situation and the multiple functions of their dwellings; on the other hand, floating population in average possessed better housing facilities, and had lower slum incidence than permanent residents. Therefore, floating population does not necessary disproportionately suffer from severe living condition in urban China.

Given the fact that floating population had better housing facility than local residents and permanent migrants were significantly better-off in all housing index (crowding, privacy, and facility), one may argue that migration may help people to achieve better living conditions. From another perspective, however, the fact that the living condition of floating population is much poorer than that of permanent migrants implies that different statuses of household registration significantly impact on migrants' housing choice and living condition. While moving to a new place of urban towns, the status with or without local Hukou affects migrants' access to different sources of housing, costs in obtaining available housings, and housing choices under different levels of uncertainties. Therefore,

a permanent or floating Hukou status played an important role in affecting migrants' housing condition.

In addition to the distinction between permanent and floating status, the household registration system has a fundamental divisions between agricultural and non-agricultural (or rural and urban) status which should be taken into account in the analysis, since by this division non-agricultural Hukou holders enjoys about 13 types of social welfare which the agricultural Hukou holders are not qualified to benefit from (Jiang and Kuijsten, 2003). Economic reform ever narrowed the income gaps between rural and urban residents in the 1980s. However, socio-economic development in the rural areas was seriously ignored in the past decades. A recent study indicates that China had become the nation in the world that has the biggest income gap between the rural and urban (Li and Yue, 2004). Some of the local urban residents were agricultural Hukou holders, living in the suburban areas. Although urban economy expanded into the rural areas, residents of those rural areas did not benefit much from the process of urbanization. Although the land of the suburban rural villages was encroached by urban expansion and the villagers were urbanized and were counted as local urban residents, their agricultural Hukou status was not accordingly changed. Therefore, they were still not qualified for the benefits of social welfare designated for non-agricultural population. As a result, their housing facilities could hardly be improved as quickly as non-agricultural urban residents. In fact, many suburban villagers rent out part of their house to floating population in order to earn more income, while they have to squeeze in the left spaces. Consequently, the housing condition of some local suburban population even worsened than before (Ma and Xiang, 1998). Therefore, while comparing the living conditions of urban population, it is necessary to make the distinction between agricultural and non-agricultural Hukou holders among the local urban residents. To a great extent, the local urban residents with agricultural Hukou could also be considered as newly urbanized population.

Moreover, to study the impacts of urbanization on housing conditions, it is also necessary to separate two subgroups of floating population: one with agricultural Hukou, the other with non-agricultural Hukou. The former group of floating population generally migrated from rural to the urban and contributed to the growth of urban population, while the latter moved between urban towns. The non-agricultural floating population mainly consists of three subgroups: (1) the laid-off SOEs employees who seek job opportunities and do business away from home cities/districts; (2) the professionals who hold better position and earn higher income in other districts/cities but would like to keep or could not change their Hukou; (3) university graduates who are not satisfied with the jobs and/or the locations they were assigned, and prefer to live in the places where they could earn a better life. Therefore, the non-agricultural floating population is very different from city-ward migrants of agricultural floating population.

Considering the two fundamental elements of Hukou status (permanent vs. floating, non-agricultural vs. agricultural), we distinguish five groups of urban population: non-agricultural local residents, permanent migrant, non-agricultural floating population, agricultural local residents, and agricultural floating population. The housing conditions of these five groups of urban population are compared and displayed in table 4.

It is noted that the housing of urban population with agricultural or non-agricultural Hukou status differs significantly: the living condition of non-agricultural local residents is much better than that of agricultural local residents; non-agricultural floating population lived far better than agricultural floating population. Although the agricultural local residents enjoyed the biggest living space, their housing facility is the poorest, and their proportion of slum dweller is the highest. Analyzing the net effect of floating vs. permanent Hukou status, we found out that in contrast to agricultural local residents, agricultural floating population had much smaller living space, while their housing facility index is significantly higher. Moreover, while permanent migrants maintain the best housing condition, non-agricultural floating population were better off than non-agricultural local residents in terms of living conditions. Therefore, the effects of being floating (or migrating) might be much more complicated than what we could learn from the above descriptive analysis. To further understand the factors determining living conditions of urban population, in particular living conditions of floating population, we conduct a multivariate analysis by constructing a logistical regression model.

Table 4 Housing condition of urban population by Hukou status in China, 2000

	per capita room	per capita building area (m^2)	% of slum	facility index	privacy index	propor. of total pop.
local resident with non-agricultural Hukou	0.77	22.4	25.5	22.3	1.94	41.7
permanent migrant	0.80	25.1	12.3	23.5	1.95	7.3
Floating population with non-agricultural Hukou	0.78	23.4	18.2	23.0	1.94	10.9
local resident with agricultural Hukou	0.87	26.9	60.5	17.5	1.93	26.3
Floating population with agricultural Hukou	0.62	16.1	30.7	18.7	1.90	12.9
Total	0.79	23.3	33.7	20.7	1.94	100.0

4.3. Determinants of Housing Condition

We choose the most significantly varied indicator of housing condition – slum dweller, as the dependent variable for the logistical regression analysis. We constructed three regression models: in the first model, all urban population are considered; in the second model, we consider all floating population; in the third model, the floating population with agricultural Hukou is taken into account. The independent factors included: (1) Hukou type (agricultural vs. non-agricultural); (2) floating status (permanent vs. floating); (3) urban type (city vs. town); (4) the year of coming; (5) migration reason; (6) occupation; (7) education; (8) age; (9) household structure.

In the first model when total urban population is considered, Hukou type significantly affects the possibility of being a slum dweller: an agricultural Hukou holder is more likely to stay in a slum dwelling (table 5). In the second model with all floating population, the effect of Hukou type considerably reduced, which may indicate that the floating status deprived at least part of the privileges given to the non-agricultural floating population. However, the fact that non-agricultural floating population still

possessed better living condition than agricultural floating population might be explained as: (1) previous living experiences caused non-agricultural floating population to seek similar housing condition as that before moving; (2) non-agricultural floating population had had a better income and saving situation and might receive support from their family, while most of agricultural floating population had to save and remit to the family left behind in the rural areas.

Table 5 Logistical regression of slum dweller on characteristics of urban population in China,

		total urban population	all floating population	agricultural floating population
No slum	Constant	1.2257***	0.7813**	-0.5301
Occupation	official & manager	0.9835***	1.4941***	1.6907***
	Professional	0.7405***	1.1509***	1.0120***
	clerk	0.9272***	1.3779***	1.0310***
	business staff	0.5916***	0.7755**	0.9462***
	service staff	0.5926***	0.9414***	1.1778***
	farm	-0.4831***	-0.2539	-0.0540
	Worker	0.6073***	1.0606***	1.2940***
	other	0.0000	0.0000	0.0000
Year of coming	From birth	-0.9760***	-0.9491***	
	5 years before	-0.6953***	-0.5380***	-0.131
	1996	-0.5040***	-0.4605***	-0.2270*
	1997	-0.3418***	-0.3142***	-0.2380***
	1998	-0.2406***	-0.1857**	-0.1250**
	1999	-0.1631***	-0.1463**	-0.1000**
	2000	0.0000	0.0000	0.0000
Age	15-24	-0.0830	0.5567***	0.9548***
	25-34	-0.3295***	0.1190	0.5110**
	35-44	-0.1632***	0.2250	0.5110**
	45-54	0.1300	0.4040*	0.6550***
	55-64	0.0000	0.0300	0.365*
	65+	0.0000	0.0000	0.0000
Education	Illiterate	-1.5533***	-1.9099***	-1.3533***
	primary school	-1.1524***	-1.4495***	-0.9527***
	junior middle school	-0.8851***	-0.9817***	-0.4959**
	senior middle school	-0.5281***	-0.6515***	-0.2523
	college and above	0.0000	0.0000	0.0000
Urban type	city	0.3456***	0.2179***	-0.0212
	town	0.0000	0.0000	0.0000
Migration reason	non-migrants	0.7300***	0.6238***	0.6546***
	labor or business	0.9605***	0.7966***	1.0616***
	job assignment or relocation	0.1724*	0.2335**	0.9919***
	training or education	0.6436***	0.0923	0.3366
	old-housing demolished	1.4902***	1.3706***	1.6102***
	to family	0.3728***	0.3683***	0.3320**
	to relative or friend	0.0000	0.0000	0.0000
Household structure	single	0.8250***	1.3800***	0.9980***
	couple only	0.0640*	-0.1920***	-0.3000***
	two generation	0.0810**	-0.0830*	-0.1140*
	single parent	-0.0110	-0.2190**	-0.2450
	multiple generation	0.1090***	-0.0780	-0.0370
	couple with other	-0.0090***	-0.0370	0.0450
	single with other	0.0000	0.0000	0.0000
Hukou type	agricultural	-0.4880***	-0.3015***	
	non-agricultural	0.0000	0.0000	
Floating status	permanent resident	0.0420*		
	floating population	0.0000		

*** p<0.0001

** p<0.001
* p<0.01

The effect of permanent vs. floating is not very significant after controlling other factors, although floating population has a slightly higher chance of being slum dweller. Moreover, analysis of the net effect of migration reasons also shows that migrants moving for labor or business had a lower probability of being slum dwellers than non-migrants. Given that most of the floating population moved for doing business and labor, migration does actually contribute to the improvement of their living condition. It should also be noted that migration due to demolition of old-housing have a very strong impact on improved housing condition. Providing the widespread and large scale urban development projects in recent urban China, 17% of the migrants (27% for permanent migrants and 13% for floating population) moved due to demolition of old-housing by new construction projects. When the land was used for new housing project or urban infrastructure development, the former residents of the old housing on the land usually receive a compensation with which they bought new apartments elsewhere. In general, migrants moved due to this type of reason had improved their living condition[7]. The effect of migration on slum dwellings is consistent cross all the three models.

Considering the effect of urban type, residents of cities are better-off in terms of living condition in contrast to their counterparts of towns, since the former benefit from better infrastructure and social welfare. However, this type of effects lessened among floating population. Moreover, the sign of regression coefficient even changes in the third model, although the difference is not significant. Therefore, floating population particularly agricultural floating population in the cities did not benefit from the better infrastructure or larger investment as city permanent residents.

Duration of residence in the current place has a significant impact on the incidence of slum. In general, the earlier one came, the poorer his living condition was. Among permanent residents, one may argue that those who moved in recent years had benefited from the nationwide urban development and improved their housing conditions, while those who did not move were left behind. For floating population, the fact that earlier comer had higher slum incidence rejects the assumption that cityward migrants firstly move to squatters but improve living condition later after being settled in the urban areas. Instead, it to some extent supports the findings from the Philippines case studies (Hendershort, 1978; Costello, 1987) that rural-urban migrants change downward their living condition. The reasons for the downward changes of living conditions for the floating population need more studies. In the Philippines studies, the author argued that many rural-urban migrants firstly lived with relatives or employers whom they worked for as housemaids, therefore had comparatively good housing condition. After getting

[7] However, some urban residents are forced to move out their dwellings for new construction project even they do not agree upon the compensation proposal. Real estate developers, who usually receive support and cooperation from local officials, frequently offer unreasonable compensation which is too low for the residents to purchase new housings. When the residents refuse to move out, the developers often demolish the housing using violence. Some of the residents are forced to be squattered. Facing the wide-spread violent demolishing problem, the government is trying to stipulate and implement new regulations to restrict the unlawful conducts of the developers (People's Daily, 2003).

familiar with the city and achieving a stable income, most of those migrants moved out from the household of their relatives or employers, and rent or built their own housing which normally is poorer than that of their relatives or employers. This explanation might be applicable to the situation of Chinese floating population. Moreover, this kind of change of housing conditions might also reflect the changes of floating population's life course and household structure. Majority of floating population are young and unmarried. Those who are married usually move into the urban areas firstly by themselves. They may live in a place close to the job in the inner city where housing facility is better. Later on, when they get married or their family join them, increase of living cost and requirement of larger living space may drive the floating population to seek cheaper but larger housing in the suburban areas at the expense of declining housing facility. Analysis of the factor of household structure supports this explanation. Among the floating population, single person has the lowest proportion of slum dweller, while couple only household and two generation household show higher proportion of slum dweller.

The impacts of age significantly differ among the three models. For all the urban population, older people have better housing facility than the younger groups. This could be due to the fact that under the central planned economy, housing allocation by the work unit was based on seniority and job rank of the employee. As a result, the senior urban residents were at better situation to purchase or rent public housing with heavy subsidy, while most of younger workers have no access to public housing, therefore, have to rent or purchase cheaper apartments with poorer facilities. However, among the floating population, the age differences of living condition are lessened. Moreover, the effect of age on living condition is even reversed among agricultural floating population: the younger age groups have lower slum incidence than the older ones. This could be explained by the reason mentioned above: the young agricultural floating population are usually unmarried, lives and works in the inner city, while the older groups usually live in larger and extended households which are more prevalent in the suburban areas.

Education and occupation shows the most important effect on housing condition in all the three models. The higher education, the better housing facility; the higher occupational status, the lower slum proportion. Using these two indicators as the representatives of individual capacity and income level, one may argue that economic factors always exert important impact on housing choices, even though it is in the situation where market forces are restricted by institutional arrangement. Previous studies (e.g. Logan, Bian and Bian, 2000) also reach the similar conclusion. Moreover, it is interesting to note that official or manager who possess the power of resources allocation have the best living condition. Clerks who stay close to and provide direct services for official or manager also enjoy better housing than the professionals. This type of effect is consistent for the three models with total urban population, all floating population, and agricultural floating population. However, the difference between clerk and the professional becomes very small among the agricultural floating population which may imply that institutional impact is greatly lessened within this group of population.

5. Conclusion and Discussion

The huge floating population in present China is the consequence of joint effects of rapid economic growth, accelerating urbanization, enlarged regional income gaps, and rigid household registration system and other outdated institutional arrangements. While their movement and contribution prompts social mobility, relocation of economic resources, and urbanization, floating population living in the urban areas encounter enormous difficulties induced by the household registration system, among which housing problem is an obstacle for them to overcome. Our study reveals that floating population (particularly floating population moving from rural to urban) had to pay much higher price than permanent residents for accommodation even their living space is smaller; many floating population of collective households had the poorest housing condition and just lived on site of work; their temporary and agricultural Hukou status significantly impact on the slum incidence among urban population. Reforming and eventually removing the household registration system will bring social justice to floating population, and can surely lessen their housing difficulties.

Although floating population is at a disadvantage position in the urban housing system, their presence in the urban areas does not necessarily cause expansion of slum dwellings. Actually, compared with local urban residents, floating population possesses better housing facility and lower proportion of slum dwellers. The fact that non-agricultural floating population enjoy better living condition than nonagricultural local urban residents and agricultural floating population possesses lower slum incidence than agricultural local urban residents indicates that migration serves as a important means for floating population to improve their housing condition. Although this phenomenon may be due to selective effects of education, occupation and life course of the migrants, it is undoubted that floating population does not disproportionately contribute to or suffer from slum expansion. Moreover, our analysis of housing condition of floating population reject the assumption that cityward migrants predominantly move into squatters as the first location in the urban areas. Reversely, the new comers of floating population to urban China are better-off in terms of housing facility than those who come earlier. Therefore, slum or squatter is not the inevitable choice for the migrants in the process of rapid urbanization and migration.

The low proportion of slum dwellers among floating population is also consistent with the observation that slum and shanty is less common in urban China, in contrast to many other developing countries. This may reflect the reality of rapid economic growth and attentive designation of urbanization path in China. Some people attribute this phenomenon to the effects of China traditional close family ties: migrants receive supports or are accommodated by their relatives or village folks who have already settled in the urban. However, our analysis reveals that the effect of relative support is not important since very small proportion of floating population live with relatives or friends. We argue that the low slum incidence in urban China should have been strongly related to the strict household registration system and regulations based on this system. Under the household registration system, a regulation of Internment and Deportation of Urban Vagrants and Beggars was stipulated in urban China which allowed public security officials and staff of the Bureau of Civil Affairs to detain and deport any people who had no local household registration, no job or regular income, and no formal accommodation

in the areas under their jurisdiction. Floating population should find a job before or upon arrival in the urban areas, should register as temporary population in the local public security office, and should find a formal housing. Without a job and formal housing, floating population would be very difficult to survive in the urban areas, let alone to spontaneously build shanties. When economic recession happened, it was always the floating population being firstly laid off and deported from cities (Jiang and Kuijsten, 2003). Frequently the detention and deportation was very coercive, violent and sometimes unlawful. Under this circumstance, expansion of slum and shanty by the floating population is generally impossible. The interment and deportation system was gravelly criticized as violating human rights, and was eventually replaced by an Aid to Vagrants and Beggar policy in 2003[8]. The effect of this change and further reform on household registration system on floating population and slum growth needs further observations. However, slum control should not carry out at expense of social injustice and human rights.

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[8] The direct cause of the abolishing the two-decade-old regulation was the death of a young college graduates Sun Zhigang. 27-year-old Sun was allegedly beaten to death in a detention centre after he was arrested as a vagrant in March of 2003 in the southern Chinese city of Guangzhou for not carrying ID. Sun's case has triggered a major debate on the validity of the regulations of Internment and Deportation of Urban Vagrants and Beggars. Five months later, a new regulation of Aid to Vagrants and Beggars in Urban Areas has comes into force, which is designed to provide temporary shelter to people who do not have enough money to cover basic living costs and who are begging or roaming in cities. The system also sees reduced role of the police in handling vagrants and beggars, further marking the change from forced detention to relief.

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