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Binquin Li and Mark Duda

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Life considerations and the housing of rural to urban migrants—the case of Taiyuan, China[i]

Bingqin Li and Mark Duda[ii]

INTRODUCTION

The pressure of rural to urban migration on Chinese cities' ability to accommodate the extra population has increased rapidly since the economic reform. The urban system that was based upon strict labour mobility control policies nation wide helped to keep the pressure down in the early stage of the reform. But the opening up of urban labour markets to migrant workers in the late 1990s added to the pressure. Urban authorities, especially those in the large cities, often complained that rural to urban migration has pushed the capacity of urban infrastructure and administration to the limit (Seeborg *et al*., 2000).

One of the major challenges to the host cities is housing provision. Before the 1980s, the housing system in Chinese cities was a public one. Most urban families were able to secure public rental housing either through their employers or local housing bureaux. Tenants only paid symbolic amounts of rent. During the economic reform period, especially in the 1990s, the housing system became increasingly privatised. However, private houses were unaffordable to many urban residents (Li and Gong 2003). People who had already obtained housing in the Central Planning era were able to continue to occupy public housing either renting cheaply or buying private houses with the help of heavy subsidies. They were also able to pass the houses on to their children. Therefore, low affordability in the market has been partly disguised by the legacy of the old housing system. On the supply side, private developers were mostly keen to provide for better off urban middle and high income groups. There has been little interest in providing houses for the low income groups (Liang and Yuan 2008).

As a result, anyone who had not worked for the public sector in the past and who did not have a parent to rely on would struggle in the private market. To sort out this problem, the state in 1995 started the Anju Project (in 1998 replaced by 'Comfortable Housing Scheme' (*jingjishiyong fang*)), in which people whose income fell below a certain threshold could receive subsidises when they bought houses. At the same time, employers were supposed to contribute to a Housing Provident Fund together with the employees to help them save money in order to buy houses. Despite the fact that the housing system reform still has various problems; reforms have helped more people to own houses. However, housing benefits have until recently been highly localised in that only registered local residents have been able to enjoy the benefits (Li 2005: 145-168). However, some cities (for example, Beijing in 2003; Chongqing in 2006) have, gradually removed restrictions for people from other cities to buy subsidised houses. Very recently for example, entitlement to subsidised homeownership and employer-backed saving schemes was made available to people of rural origin.

For many years after the economic reforms began, because the government did not officially endorsed the right of rural to urban migrants to work and live in the city, there was no housing

policy to accommodate the increasing number of migrant workers. And lack of formal housing supply for migrant workers has been considered a serious issue. Insufficient housing can directly or indirectly cause serious problems for cities, such as the development of slums and ghettos (Gu and Shen 2003; Wu 2004a; Seeborg, Jin and Zhu 2000), which suffer from poor housing quality (Wu, 2002; Ma, 2004), poor basic services and higher crime rates (Chan 1998; Zhang and Song 2003).

There are various ways to respond to the challenges. The most frequently used practice was demolishing urban squats, so that urban ghettos or 'urban villages' are not an eyesore (Zhang 2002; Zhang *et al.*, 2003). The hope is to force migrant workers to rent or buy houses properly in the private market. However, this approach has not solved the problems. Migrants have often simply returned to the demolished areas and reclaimed the squatted housing simply because they have no real alternatives (Zhang 2001). This led to the realisation that when the existing urban housing markets were not accessible to the migrant population, the battles between the urban authorities and migrants squatter over illegal settlements would never end.

Two other types of approaches have offered solutions to the problem. The first approach comes from the perspective of citizens' rights. It traced the sources of housing inequality, focusing on the unequal access to urban housing benefits that migrants have suffered. The sources of this inequality are in line with the other social inequalities that migrants suffer in many different aspects of urban life (Solinger 1999, 2004; Li 2006a). This approach also attributes housing inequality to the discriminatory Household Registration System (often referred to as '*hukou*'). The *hukou* is considered to be an institutional factor that has systematically led to the disadvantages suffered by rural to urban migrants. Therefore, it is important to remove the Household Registration System and allow migrants to enjoy urban housing benefits as other urban citizens (Wu 2004b; Huang 2003). However, this line of research does not really address the fact that the majority of rural to urban migrants are only new comers or transient migrants to cities. They do not have the time and job security to accumulate a sufficient amount of money to buy houses in cities like other urban residents. The key question is: if the Household Registration were removed, would the housing conditions of rural to urban migrants improved?

The second approach focuses on increasing targeted supply. In some cities, local governments started to offer dormitory-style cheap rental housing. The idea was to provide houses specifically for migrant workers. As a result, flats or dormitories were built in the peri-urban areas and a symbolic amount of rent was charged (Li *et al.* 2007). This strategy creates a separate housing sector for migrants without making major changes to the existing housing system. However, these houses often turned out to be unpopular among migrant workers, mainly because they were usually not close to the work place. Unlike the employer provided houses or urban villages which were often close to work and free, living in the state provided cheap rental houses meant that migrant workers had to travel for quite a long time to work every day. This could be a particularly serious issue when the city was large and the employers were mainly in the city centres. What is more, the dormitories are mainly flats with shared rooms, and are thus are not suitable for families (Li 2006b). As a result, migrants have not been eager to move into these state provided dormitories and have preferred to stay where they were even if the housing conditions were poor (Xiao 2006).

These solutions to migrant housing focused on the institution that is considered to be the causes of inequality and on housing supply. Although tackling housing inequality in urban China is crucial, it is important to note that the sources of housing inequality may not be the same as the causes of migrants' poor housing conditions. The supply side policies assume that migrant workers should live in "adequate houses" of certain standards, hence the interventionist campaign for providing cheap rental housing. But so far, there has been almost no detailed research into the housing demands of migrant workers. We do not know what are considered to be adequate by migrant workers. Probably, this is the reason why earlier state provision schemes did not necessarily lead to good results.

In this paper, we try to understand the housing demand of migrant workers and show what they can realistically afford given their income and current life priorities. We seek to answer the following two questions: first, what kinds of houses are rural to urban migrants living in?

Second, how do they end up living in the current housing? We will use data collected in mid 2007 in Taiyuan, the capital city of Shanxi Province for the analyses. Because when the survey was carried out, the state had not yet intervened in the housing provision for migrant workers in this city, Taiyuan can function as a case that offers insight into the housing outcomes of migrant workers when state intervention was not present. Given that state interventions in other cities were rarely successful, studying a city without state intervention prevents the picture from being confused by earlier interventions.

Housing consumption and life considerations of rural to urban migrants—the analytical framework

The association between migrant labourers and inadequate housing is not a unique phenomenon in China. It has been documented in many parts of the world (Kim and Gottdiener 2004; Raffaelli 1997; Harpham 1994; Mitlin 2001; Lowry 1990; Fobil and Atuguba 2004; Handelman 1975; Huchzermeyer 2008), which may not necessarily have a Household Registration System. Therefore, to really understand how to tackle the housing pressures caused by rural to urban migration, trying harder to understand the housing choices or the lack of choice by migrant groups is essential. Previous literature on the behaviour of migrants shows some common features of migrants and these features are likely to affect their housing choices.

Most migrant workers are drawn into cities because of the rural-urban income gap. Also, because newcomers do not have much savings, they count on monthly or even daily cash flows in the city to cover their living costs. Therefore, a job that can offer income is the top priority in the life of most rural to urban migrants. Newcomers may not have the money to rent privately. Usually, they either stay temporarily with their fellow villagers or county-men until they find a job (Tacoli 1998; Pahl 1966). Alternatively, they may accept a job that offers housing even before they come to cities (Knight *et al.* 1999). For those who are already working in cities, living closely enough to work is crucial (Abu-Lughod 1961; Yang *et al.* 2005).

Although migrant workers earn money in cities, their family may remain in the villages. This is often a deliberate decision adopted by migrants and their families (Agesa and Kim 2001). The person working in town sends remittances back home to support the family and saves for the future (Taylor and Wyatt, 1996; Rempel and Lobdell, 1978), hoping they will return to the village after earning some money (Wu and Zhou 1996; Gmelch 1980). As a result, they may prefer to save as much as possible when they are working in the city, and not to spend much money on better quality housing.

When the family of a migrant worker joins him/her in the same city, the elements that need to take into consideration also change accordingly. Migrant workers do not only need to think about their own work when trying to look for accommodation. They also have to find accommodation to make sure it is convenient to work as well as for the family life (Duda and Li 2008). For example, single people might be more likely to live in shared rooms whereas couples need more privacy. If a child joins the couple, they need to make plans to adjust to the extra person, such as considering the need for schooling or childcare and to arrange extra space at home (Brockerhoff 1990; Li and Zahniser 2002).

Migrants, especially those coming from rural areas, do not necessarily enjoy job stability and may move again to different jobs, to different parts of the city and to different cities. When urban life is not suitable for them, they may abandon urban life temporarily or even forever. Whether a person feels he or she can stay at the destination for a relatively long period also affects the likeliness to buy houses or the intention to spend more money on housing (Costello 1987).

Similarly, in China, the housing outcomes of a rural to urban migrant are combined results of various considerations in their life. These include saving money, convenience to work, convenience for family life and keeping the flexibility for moving again in the future. Therefore, migrants do not necessarily mind enduring poor housing conditions for the time being. It is

difficult to tell whether it is simply because under the current circumstances, they do not have any choices or if they voluntarily decide to spend the least possible.

The Taiyuan Research

This paper is based on a survey with 805 interviewees during May and July 2007 in Taiyuan, the capital city of Shanxi Province. The built-up town area of the city is 6988 square kilometres. The population in the town area of Taiyuan is 2.30 million. The most quoted number of rural to urban migrants working and living in Taiyuan is 300 thousand people (Taiyuan Government 2007). Including urban and suburban areas, there are six districts: Yingze, Xinghualing, Wanbolin, Xiaodian, Jiancaoping and Jinyuan. Our survey took place in the urban parts of these districts.

Taiyuan is a business and industrial town. It is a city known for its heavy industries. The economy is heavily dependent on natural resources. It is known for coal production and the chemical industry. Unlike many coastal cities, light industries are not well developed in Taiyuan. In the past twenty years or so, the demand for natural resources in China grows dramatically as China is turned into the workshop in the world. Taiyuan benefits tremendously from China's economic growth. Shanxi has become the centre for coal production in China and exports large quantities of coal to the world. As the city becomes richer, the service sector booms and has become a key attraction for rural to urban migrants.

Taiyuan was not an early starter in terms of state intervention in the housing for rural to urban migrants. Migrant workers mainly obtain accommodation from their employers and the private rental market. Not until late 2007 did the local authorities try to impose some formal requirement in regards to housing for employers that hire large numbers of migrant workers. These employers were subsequently required to build more permanent dormitories for their employees. The government also intended to transform some of the dilapidated neighbourhoods into migrant workers' accommodation. There were also plans to grant migrant workers access to housing provident fund. However, at the time of this survey, there was no government policy that targeted rural to urban migrants.

(Figure 1 about here)
(Figure 2 about here)

The survey was carried out by a team of twenty interviewers, in the form of a structured schedule combining open and closed-ended questions. The sample included 805 rural to urban migrants. Unlike urban residents, who are all registered with city neighbourhood committees (jumin weiyuanhui), rural to urban migrants were not comprehensively registered and so there were no full records of all the migrants across the city. There was therefore no pre-existing sample frame for surveying housing for rural to urban migrants.

Instead, our sample is stratified based on migrant occupation categories. Reliable data on the occupational distribution of rural-urban migrants was found in a report published by China the Rural Survey Team of China Statistics Bureau (2005), which provides information on the employment structure of rural to urban migrants living in the central provinces of China. Sample percentages in our survey were matched to the major job categories (e.g., manufacturing, construction, service and catering, and transportation) in the report and we sought out respondents at their workplaces. By covering the range of variation in migrant occupations the sample is assured of capturing the range of housing types occupied by the majority of rural migrants. Stratifying by job type also helps us identify variation in housing choice since there is often a linkage between job categories and residence types (Wu, 2004b). For instance, construction workers almost always live in employer-provided housing on site, but this is rare for domestic workers. We also tried to maximise the representativeness of our sample by drawing from workplaces across all of the city's six urban districts.

Our sampling strategy is an effective response to a situation that presents substantial methodological challenges for those seeking to use statistical methods. Nonetheless, it is important to acknowledge some potential problems associated with our approach. First, because our interviewers identified many respondents on the street outside their workplaces, or as they moved through the city (in the case of street vendors, garbage collectors), there

was little possibility to do follow-up visits to improve the response rate if the initial contact was unsatisfactory. Interviewers instead identified and interviewed replacement interviewees from the same sub-district and employment category if the initial interviewee declined to participate. The sample is therefore biased toward those willing to be interviewed. (Interviewees were given a small gift in exchange for participation.)

Unwillingness to participate was least problematic among self-employed individuals and most challenging among workers in more formal employment. Not only could members of this group (e.g., factory workers) not be reached during working hours but in some cases employers tried to forbid interviewees from accepting interviews. It is possible that this is another source of bias as potential interviewees working in the least desirable conditions might be more likely to be excluded from the sample (though it is not clear what impact this might have on characteristics of housing units in the sample). In any case, we attempted to minimize this problem by having interviewers wait outside factories at the end of each working day and conducting interviews after work outside the workplace itself.

Table 1 shows the distribution of migrant employment by industrial sector in our sample and in the report of the China Rural Survey Team. Catering and construction were the two largest groups, each accounting for about 20 per cent of the total migrant population. Manufacturing was the third largest sector that rural to urban migrants worked in. In Taiyuan, the service sector was the largest employer of migrant workers. Although Taiyuan is known for its heavy industries, apart from coal mines, other heavy industries are dependent on skilled labourers with at least high school education. However, rural to urban migrants are often not qualified for these jobs. Therefore, the importance of manufacturing sector employment for migrant workers was less important in Taiyuan than in many coastal cities that had more active light industries.

(Table 1 near here)

Is there a migrant 'housing problem'?

Before we start analysing the housing conditions of migrant workers, it is important to look at whether there is a 'housing problem' as perceived by migrant workers themselves. In the existing literature the concept of adequate housing is mostly defined by researchers or international organisations, such as UN-HABITAT (May, et al., 2000). Considering that migrant workers come from rural China, in which living standards are on average much lower than the cities, inadequate housing that might be problematic for urban citizens may not be as problematic for migrant workers. This is potentially one of the reasons behind the willingness to live in poorer quality housing by rural migrant workers. Therefore, we need to first examine whether migrant workers really feel that there is a housing problem. In this section, we first examine the overall housing conditions of the respondents and then examine whether they find those conditions problematic.

Housing conditions
As shown in Table 2, among our respondents the average rent for a single person was about 170 yuan per month in mid 2007. For a family, it was 290 yuan per month. The average living space was 6 square metres per person. About half of the people were living in a space of less than 3 square metres per person.

In terms of housing quality, the respondents were asked to report on any problems they are suffering. The main ones reported included: 1) environmental problems: dampness (27.3%), cold in winter (18.2%), and noise (11.6%); and 2) lack of facilities: no heating (8.1%), no interior tap water (31.4%), no interior toilet (49.6%); no kitchen (63.4%), and no shower (89.2%). Most respondents (86.1%) lived in a permanent structure, but 32.6 percent lived on the job site. A small number of people's accommodation was also used for other purposes (10.1%). The majority (78.7%) lived in inner city areas and about 20 percent lived in suburban areas. 91.1 percent spent less than half an hour to travel to work everyday.

We built a quality indicator based on the housing problems reported by respondents.
Considering the lifestyle of most rural to urban migrants whose employers offered food and

shower facilities, we only include five key problems in the quality index. They are marked with an asterisk [*] in Table 2, and each of these characteristics earned a single point if it is considered to be problematic by the respondents. The maximum index score is five for the worst housing, and the minimum zero for the lest problematic. We grouped the scores into four classes 'severe'/'significant'/'some'/'none' as indicated in the table. About one third of respondents belonged to "none"; 42 percent belonged to "some"; and one fourth was in the "severe" group.

(Table 2 near here)

Housing satisfaction
A large proportion of the respondents reported lived in houses with some major quality problems. But does it matter if they live in such poor housing conditions? After all, housing satisfaction is subjective. If people are happy about their housing conditions, why shouldn't they be left alone? To check this out, we asked a direct question: "Are you satisfied with your current house?". The answers were ranked from 1 to 5 with "1" being the very dissatisfied and "5" the very satisfied. A cross-tabulation of housing satisfaction by quality shows that (Table 3), housing satisfaction/dissatisfaction is correlated with the number of housing problems. One fourth of the respondents lived in houses with severe problems and significant problems were unhappy about their housing conditions. About 16 percent of the respondents living in houses with some problems were dissatisfied. This means that people were aware of the problems and were indeed less happy about housing with more problems. However, what made them end up in the current houses? Is the poor housing merely the result of low income?

(Table 3 near here)

Modelling housing outcomes
In this section, we examine how migrant workers ended up in the current houses they lived in at the time of the interview. When migrants come to cities, either employers provide dormitories for them, or they acquire houses privately (through the market, friends or relatives). Some people need to pay rent; others do not. We constructed two logistic models. The first model tries to look at what kinds of people lived in employer provided housing. The second examines what kinds of people were more likely to pay rent. Based on the discussion in the previous section, the independent variables includes variables that can reflect the life considerations: convenience to work, convenience for family life, and expected migration plans. In each category, we include the relevant variables. The details are discussed in the following section.

Model variables and descriptive statistics

1. Socio-demographic characteristics and household structure. About two thirds of the respondents were men. The average age was 31.9. The youngest person was 17 years' old and the oldest 72. Most people were under the age of 40, and about half were under the age of 30. The education profile shows that 22 percent of the respondents had only completed primary school education, while 66.2 percent had completed secondary school or equivalent education. Less than 12 percent had high school or equivalent education. Most of the interviewees (61.9%) were married, while 218 respondents brought their children to Taiyuan. Among the 218 respondents, 158 had school-age children. The average household size was 1.89. The mean household income was 1554 yuan per month and the median was 1200 yuan.

2. Employment. We used two employment characteristics: employer type and industry sector. For the former, we capture five categories that we collapsed into three: state/collective[1] (13.8%), private (48.8%) and self-employed/no employer (37.3%). In terms of industry sector, our sampling included eight industry groups. We later merged the sectors of similar types,

[1] These are employers from the public sector, state owned enterprises and collectively owned enterprises.

and the eight original sectors were turned into four broad classifications. The purpose for doing so is to avoid that small numbers in some groups (such as garbage collector) would make the results impossible to interpret, given the relatively small sample size. The four categories are manufacturing (18%), construction (20.1%), services (51.8%), and street business (10.1%).[iii]

3. Migration and mobility. Most migrants had left their villages relatively recently (the median time as migrants was five years) and some people had stayed in other places before they came to Taiyuan (median time in Taiyuan was three years). Those who wanted to settle down in Taiyuan permanently are quite different from those who did not want to stay permanently. Most of the respondents (73%) who decided to settle down in Taiyuan did not have land in the village any more, whereas people who still wanted to go back still held land in the villages. On average, people who wanted to stay in Taiyuan permanently had already lived there for 6.6 years. In contrast, the rest of respondents had only stayed in Taiyuan for an average of 3.7 years. A larger proportion (37%) of respondents who wanted to settle down permanently (vs.14% of the others) also managed to come with their partners. The people who wanted to stay earned a higher income (1894 yuan) than did the people who did not want to stay (1196 yuan). Most migrants (80.6%) had been able to visit their home villages at least once in the preceding year, and 43.3 percent had made two or more visits home during that same period. More than 60 percent had sent monthly remittances home.

4. Housing providers and rental payment. 38 percent of respondents lived in employer provided accommodation. The rest had found housing from other sources, mainly private market renting, while a small number of people lived with their friends and relatives temporarily. Overall, the majority (61.5%) paid rent and the rest did not.

(Table 4 near here)

Logistic Regressions on House providers and rent payment

The first logistic model is about whether migrants live in employer provided housing. The second is whether they pay rent for housing or get it for free. The independent variables are sorted according to the life considerations we have discussed earlier in this paper. In order to see whether income matters in people's housing decisions, we included household income as independent variables.

(Table 5 near here)

As shown in Table 5, as older respondents were less likely to live in employer provided houses and more likely to pay rent. Having a partner in Taiyuan and living with a spouse also reduced the odds of living in employer provided houses, but increased the odds for paying rent. If a couple were both working, they were more likely to live in employer provided houses and did not pay rent, although they might live separately in the employer provided housing. However, respondents who were single were more likely to take up housing provided by employer than couples were.

Migration plans could also affect housing outcomes. The longer a person lived in Taiyuan, the less likely he or she lived in an employer provided house and the more likely that he or she lived in a rented house. Intention to settle down in Taiyuan indeed mattered.

Employment sector also affected migrant housing decisions. Relative to working in manufacturing, working in construction reduced the odds of paying rent. Manufacturers were also less likely to provide housing to employees than construction companies. Working in the service or street business sectors decreased the odds of employer provision but significantly increased the odds of paying rent. Working in the state sector means that a person was more likely to be housed by the employer and less likely to pay rent.

Interestingly, the impact of income is very small. This means as income increased, the extra money was not spent on improving housing. Instead, they saved more.

Housing decisions from a subjective perspective

We also asked direct questions regarding what the migrants had considered when they decided to accept the current housing arrangement. Table 6 shows their answers. The respondents reported three main reasons that they decided to live in the current house at the time of the interview, and three problems they suffered from living in that accommodation. The numbers reported in Table 6 are weighed totals, as the interviewees ranked the answers by importance. To reflect the varying level of importance, the most important concern received three points and the third got one point. The results suggest that the top concern was convenience of travel to work. Price ranked second. Proximity to social networks was the third. Social networks are in general considered to be helpful for sharing useful information on how to survive in the city. Safety, family life and children's schooling were also raised as factors. Facilities indicating the importance of housing quality were at the bottom of the list.

However, what made people unhappy about their current houses were mainly quality related factors such as size and facilities or lack thereof. These findings also confirmed our argument that people prioritise convenience to work and family life. However, when these considerations were taken into account, respondents became helpless regarding their housing conditions. They had to tolerate poor housing quality. The answers did not touch upon future migration plans, but it might be internalised by the choice of rental payment.

(Table 6 near here)

Conclusion

The findings largely confirmed our hypothesis that rural to urban migrants, in particular the low income migrants who prioritise convenience to work, save money to send back home or for the future, accommodate for the family and try to prepare for their migration plans. As a result, they do not want to spend more money on housing. At the same time, they remained dissatisfied with their housing conditions. Clearly, the problems can have the other side. The supply in the housing market make it difficult for

The role of these life concerns on the housing outcomes of migrant workers raise the question of why there needs to be state interventions in the housing market for low income migrants and how the interventions might work better. The findings in Taiyuan suggest that migrants came to the city to work and save money for their families and their future life. They did not intend to enjoy more comfortable housing conditions right now, and thus looking for more comfortable housing conditions is not a priority. Most often they would choose to spend as little as possible on housing even if their income had increased over time. However, this did not mean that they preferred to live in poor housing. After all, poor quality housing made them suffer both physically and psychologically, but the suffering was a form of sacrifice for the future and for the family. In this sense, even if the Household Registration System were removed and migrants could have full access to urban housing market, this would not necessarily automatically lead to better housing results for rural migrant workers.

From a societal perspective, this is also a typical case of a private decision that does not take into account the social benefits and costs, i.e. when migrant workers decide to live in poor quality houses, they haven't thought about the potential impacts on the society. These impacts can be negative, such as a deteriorating living environment, poorer safety or even greater health problems. Their consumption decisions are only based on balancing private costs and benefits. Therefore, there needs to be some external support or incentives to push the spending on housing up to a higher level so that the social costs can be taken into consideration. To achieve this, some demand side policies can potentially worth considering.

We suggest therefore that migrants, who are more established, want to settle down in the city and are able to afford better housing. The recent policies aimed at improving access to urban home ownership, higher end private rental markets, saving schemes and relevant benefits can be useful. But for those who are more likely to move to other places in the future, private rental of low cost and minimum quality requirement might be a more relevant solution. At the same time, it may also be useful to encourage migrants think of settling down in the city permanently can be a realistic goal for their future. This can be achieved through reduced formal discrimination such as differential treatment based on Household Registration status.

What is also important is to help rural migrants understand the long term health effect of poor housing. Given that in rural areas, houses are self-built with a one off investment, it might be difficult for migrant workers to adapt to the idea of having to spend a significant amount of the monthly income on rented housing on a regular basis.

On the supply side, there is a need to encourage provision of better quality but low costs housing through the market. This works for both employer provided housing and for private housing. Efforts to improve migrant housing quality might be best targeted through regulation or investment in employer provided housing. Minimally, this would have the advantage of improving a majority of housing units occupied by low income and relatively newer migrants. Further efforts to encourage more organised service provision and upgrading of poor quality housing in the dilapidated urban neighbourhoods might provide cheaper alternatives to migrant workers. On the whole, low income housing for migrants and the urban poor has the potential to be streamlined.

Our data indicate that the failed state interventions in other parts of the country might be equally unsuccessful in Taiyuan because of the life priorities of migrant workers. What is more, given that Taiyuan's migrants are highly concentrated in the service sector, where the role of employer provision is not as strong as in manufacture-based cities, more effective encouragement of private rental housing could prove to be a useful solution.

In the previous two years to our survey, Taiyuan's government had started to transform some old neighbourhoods, which were unpopular with locals, into cheap rental houses for migrant workers. This partially answered the problems of long commuting times and costs associated with publicly provided dormitories in peri-urban areas. And because these houses were originally designed for family use, recycling through renovation should be cheaper to provide and better serve household needs.

However, the importance of state provided cheap rental houses should not be over-emphasised, mainly because provision of this type of housing would only work under the premise that migrants will continue to increase in number and put pressure on the urban housing sector. There is, however, the risk that external factors – such as an economic downturn – might cause migrants to return to their villages or to move out of the city on a large scale, after which state provided cheap houses might not be absorbed by the urban housing market and become vacant (Li, 2007). Therefore, it is important to pay special attention to cultivating the roles of employers and the market as the main providers.

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Figure 1. Taiyuan in China

Source: China National Tourism Administration (2008) in Ruth Lor Malloy ed. *China Guide*, **www.china-travel-guide.com/chinamap2.htm**

Figure 2 Districts of Taiyuan

Source: Taiyuan Government (2006) Taiyuan Zhinan, **www.tyzn.gov.cn/ShowArticle.asp?ArticleID=345**

Table 1: Migrant Employment Distribution by Industry Sector

	Taiyuan Sample Composition		*Rural Survey Team*
	Frequency	*Percentage*	*Percentage*
Manufacturing	145	18.0	*18*
Restaurant/hotel	162	20.1	*20*
Wholesale/retailing	125	15.5	*15*
Construction	162	20.1	*20*
Domestic and other services	130	16.2	*18*
Street vending	49	6.1	*5*
Recycling	32	4.0	*4*
Total	805	100	*100*

Note: Data in the column of Rural Survey Team has been re-categorised to match the fit into the categories listed on the left column.

Table 2 Housing characteristics

	Median	*Mean*	*[min, max]*
Monthly rent paid			
Single people	100	168.8	[15, 2000]
Families	200	288.8	[30, 1500]
Living space (sq. m. per capita)	3	5.8	[3, 120]
Location	***Count***	***Percent***	***Cum.***
Inner city	633	78.7	78.7
Inner suburb	157	19.5	98.2
Outer suburb	15	1.8	100
Commuting time (one way)			
Live on site	262	32.6	32.6
<1/2 hour	471	58.5	91.1
½ -1hour	58	7.2	98.3
1-1½ hour	11	1.4	99.6
>1½ hour	3	0.4	100.0
Housing problems			
Cold in winter	146	18.2	
Damp	220	27.3	
Very damp and unhealthy	*31*	*3.9*	
Somewhat damp but not unbearable	*189*	*23.5*	
Very noisy/noise disturbs sleep	93	11.6	
*No interior toilet	399	49.6	
*No interior tap water	253	31.4	
Not heated	65	8.1	
No kitchen (private or shared)	510	63.4	
No shower	716	89.2	
*Building also used for other purposes	81	10.1	
*Structure is temporary	112	13.1	
Quality indicator			
No problem	249	30.9	30.9
Some problems (1 problem)	341	42.4	73.3
Significant problems(2 problems)	143	17.8	91.1
Severe problems(3-5 problems)	72	8.9	100

Note: * Items that are used to calculate the quality indicator.

Table 3 Satisfaction by quality

Indicator	*Severe problems (%)*	*Significant problems (%)*	*Some problem (%)*	*No problem (%)*	*Total (%)*	*Total (#)*
Very dissatisfied	9.8	5.2	1.2	1.0	30	24
Dissatisfied	15.7	10.3	15.5	6.0	10.9	88
No strong opinion	36.3	35.5	24.0	16.0	24.8	199
Satisfied	18.6	23.3	29.3	36.2	29.4	236
Very satisfied	19.6	25.8	30.1	40.9	32.0	257
Total (%)	**100**	**100**	**100**	**100**	**100**	**804**
Total(count)	**102**	**155**	**246**	**301**	**804**	

Note: Pearson chi2(12) = 85.8054 Pr = 0.000

Table 4: Descriptive statistics for the models

Socio-Demographic Characteristics And Household Structure	*Count*	*Mean*	*[min, max]*
Age	**805**	**31.9**	**[17, 72]**
Age by group	**Count**	**Percent**	**Cumulative**
<= 20	134	16.7	16.7
20-30	278	34.5	51.2
30-40	231	28.7	79.9
40-50	119	14.8	94.7
50-60	34	4.2	98.9
>60	9	1.2	100.0
Gender	**805**		
Male	530	65.8	65.8
Female	275	34.2	100.0
Education	**803**		
No formal Education	34	4.2	4.2
Primary	143	17.8	22.0
Secondary	520	64.8	86.8
Vocational school	11	1.4	88.2
High school	93	11.6	99.8
Polytechnic	2	0.3	100.0
Marital status	**805**		
Married	498	61.9	61.9
Unmarried	307	39.1	100.0
Partner living together in Taiyuan	**503**		
No	194	38.6	38.6
Yes	309	61.4	100.0
Working Partner in Taiyuan(including singles)			
No	563	69.9	69.9
Yes	242	30.1	100.0
Children studying in Taiyuan	**743**		
No	585	78.7	78.7
Yes	159	21.3	100.0
Income	**Monthly income RMB**	**min**	**max**
Household income, median	1200	100	20000

Household income, mean (st. dev.)	1554 (1446)		
Employment	***Count***	***Percent***	***Cumulative***
Employer type	**805**		
State/collective	111	13.8	13.8
Private	393	48.8	62.6
Self employed/no employer	300	37.3	100
Industry	**805**		
Manufacturing	145	18.0	18.0
Construction	162	20.1	38.1
Services	417	51.8	90.0
Street	81	10.1	100
Migration			
Years as migrant		Min	Max
Median	5	0.1	30.3
Mean	6.4(5.8)		
Years in Taiyuan			
Median	3	0.1	28
Mean			
Plan to settle permanently in Taiyuan	804		
Yes	239	29.7	29.7
No	565	70.3	100
Send remittances			
Yes	503	62.5	62.5
No	302	37.5	100.0
Housing			
Provider	**803**		
Employer	305	38.0	38.0
Non employer	498	62.0	100.0
Rent	**805**		
Pay rent	495	61.5	61.5
Free	310	38.5	100

Table 5 Housing choice logistic regression results

	Housing Provider (1 = employer; 0=market)			***Pay rent or not (1 = yes)***		
	coefficient	***odds ratio***		***coefficient***	***odds ratio***	
SOCIO-DEMOGRAPHIC						
Gender (1 = male)	-0.21	0.82		0.45	1.57	**
Age	-0.23	0.80	***	0.23	1.26	***
Age squared	0.00	1.00	***	0.00	1.00	***
Education (ref: primary or less)						
Secondary school	0.16	1.18		-0.15	0.86	
High Sch./Vocational/Polytech	-0.06	0.95		0.06	1.07	
HOUSEHOLD STRUCTURE						
Marriage status (1 =married/cohabit)	-0.11	0.89		0.59	1.81	*
Partner in Taiyuan (1 = yes)	-3.67	0.03	***	3.34	28.24	***

Child studying in Taiyuan (1=yes)	0.50	1.66		0.07	1.07	
Working partner in Taiyuan (1=yes)	2.61	13.53	**	-2.17	0.11	**
MIGRATION						
Plan to settle in Taiyuan permanently (1 = yes)	-0.23	0.79		0.59	1.81	**
Years as a migrant	0.08	1.08	***	-0.05	0.95	**
Years in Taiyuan	-0.12	0.89	***	0.09	1.09	**
Send remittances (1 = yes)	-0.26	0.77		0.29	1.33	
EMPLOYMENT						
Working for the state sector (1 = yes)	0.61	1.85	**	-0.49	0.61	**
Industry sector (construction omitted)						
Manufacturing industry	-0.52	0.60	*	0.99	2.70	***
Service industry	-1.73	0.18	***	2.04	7.71	***
Street vendors	-4.29	0.01	***	4.01	54.95	***
INCOME						
Household income	0.00	1.00		0.00	1.00	
Household income sq	0.00	1.00		0.00	1.00	
CONSTANT	6.38		***	-6.66		***
Log likelihood	-323.78			-340.67		
LR chi square /degrees of freedom	385.81	19		382.11	19	
Pseudo R2	0.373			0.359		
N	772			798		

Note: */**/*** denote significance at 0.10/ 0.05/0.01 levels.

Table 6 Standard for housing choice

Why choose current house(1*3+2*2+3*1)		***Dislike current house(1*3+2*2+3*1)***	
1. Convenient for work	1881	1. Crowdedness/size	965
2. Cheap	649	2. Poor facilities	851
3. Close to relatives and friends	325	3. Rentals	324
4. Safety	269	4. Inconvenient for family life	91
5. Convenient for family	184	5. Inconvenient for work	56
6. Convenient for school	182		
7. Convenient facilities	135		

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[ii] Bingqin Li, Lecturer in Social Policy, London School of Economics, b.li@lse.ac.uk
Mark Duda, Joint Centre for Housing Studies, Harvard University, mark@mdudallc.com

[iii] 'Services' combines wholesale/retail, restaurant, and domestic services. 'Street business' combines recycling, street vending, and other. Manufacturing and construction are unadjusted.