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**HOUSING SETTLEMENT FOR MIGRANT  
WORKERS IN CHINA: A CASE STUDY OF  
SHENZHEN**

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**Ph.D**

**The Hong Kong Polytechnic University**

**2013**

**The Hong Kong Polytechnic University**

**Department of Building and Real Estate**

**Housing Settlement for Migrant Workers in China: A  
Case Study of Shenzhen**

**TAO Li**

**A thesis submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy**

**November 2012**

## **CERTIFICATE OF ORIGINALITY**

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TAO Li

## ABSTRACT

Since the economic reform in 1978, China has experienced remarkable speed in economic growth and an extraordinary process of urbanization. At the same time, the economic development gap between regions, especially western inner cities versus eastern coastal areas and urban versus rural areas, has widened. Both the inequality in the regional development and the deregulation of the floating population in the 1980s accelerated the influx of a floating population from less developed regions to developed regions to look for jobs. The members of this floating population are usually called migrant workers. The research objects of this study are the temporary migrant workers who arrived in the locality more than half a year ago without local *Hukou*. For simplicity and convenience, they are referred to as migrant workers in this study.

Migrant workers are vulnerable. Their income is generally lower than that of the locals. Housing affordability among migrant workers has increasingly become a serious problem, especially in first-tier cities such as Beijing, Shanghai, Guangzhou and Shenzhen. As they do not have local *Hukou*, they are barred from the local public housing system, and they do not have access to mortgages and the Housing Provident Fund. Moreover, a large proportion of migrant workers are not covered by social security, increasing their non-housing costs (e.g., medical cost due to accident or illness) and thus decreasing their housing consumption capacity. As a result, a large number of migrant workers turn to rental housing in urban villages, private rental housing, and free dormitories for accommodation. However, many of these housing facilities are dilapidated and have poor conditions.

One way to resolve the fundamental housing problems of migrant workers is by exploring how to provide more adequate and affordable housing for them, which is the aim of this study. The following were found through a literature review on migrant workers and their housing issues. 1) An organized study on housing demand and housing supply for migrant workers is yet to be conducted. 2) The underlying reasons for the housing choices and residential satisfaction of migrant workers have not been sufficiently examined. 3) A comprehensive review of all housing options available for migrant workers, including the housing in their hometowns, in China is needed. 4)

More empirical work is needed for comparison and verification of migrant workers in China, as no officially released systematic data on migrant workers are available.

To fill the four knowledge gaps on the demand side, two objectives are associated with obtaining a deeper understanding of migrant workers: 1) to depict a profile of migrant workers' demographic characteristics, housing choices, housing conditions, and housing preferences, and 2) to explore the factors affecting migrant workers' housing choices. On the supply side, it is necessary to look further into the housing options available for migrant workers: 1) to examine the housing supply in the public sector, 2) to examine the housing supply in the private sector, and 3) to examine migrant workers' housing in their hometown. Based on the analyses of both demand and supply sides, suggestions can be put forward in a holistic way on how to provide more adequate and affordable housing for migrant workers in China. Two objectives are associated with this: 1) to assess the match between housing demand and supply for migrant workers, and 2) to put forward suggestions on how to provide more adequate and affordable housing for migrant workers in Shenzhen from the network perspective.

Shenzhen is taken as the case study because it is a unique migrant city with the highest proportion of a non-local population in China. Its experience in accommodating migrant workers can be shared with other major cities in China. This research was conducted in three main stages: literature review, analysis of housing settlement of migrant workers, and verification. Both firsthand data and secondhand data were employed. The collection of firsthand data was divided into three stages, namely, Stage 1: semi-structured interview with the government and research institutions (pilot study); Stage 2: questionnaire survey (including the pilot survey of two districts and survey of all six districts of Shenzhen); and Stage 3: semi-structured interview with government officials and structured interview with migrant workers (for verification). In data analysis, factor analysis, multinomial logistic regression, and ordinal regression were employed. The network approach was used to make suggestions on how to improve housing affordability and adequacy for migrant workers.

The seven research objectives can be achieved through this research. This study has

five major contributions. 1) It deepens the understandings of migrant workers in China based on the previous research findings, for example, the underlying reasons for their continuing move after their arrival in the locality, their cognitive level of the locality, the housing ladder of migrant workers, their sources of housing fund, housing expectations, and so on. 2) Specific factors affecting the housing choices of migrant workers are explored, for example, mobility characteristics, *Hukou*, cognition and expectation of the locality, residential preferences, and so on. The cognitive level of the locality plays an important role in housing choices of migrant workers. A better understanding about migrant workers' housing consumption is achieved, shedding light on how to cater for their housing needs and to accommodate them more effectively. 3) A comparison between the housing demand of migrant workers and the housing supply for them in the public and private sectors is given. The housing cost ratio of migrant workers and their residential satisfaction are examined. The factors affecting their residential levels are explored. Although *Hukou* (rural vs. urban) influences the residential satisfaction of migrant workers, the effect is not significant. 4) The network approach is employed to examine how to provide more adequate and affordable housing for migrant workers in China. The semi-public sector, for example, housing associations, is suggested to be established to provide affordable housing in China. 5) The data collection of this research is comprehensive in terms of meeting the purposes of the different stages of the research, validating the situations of different time periods and representing the opinions or situations of different stakeholders.

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## CHAPTER 1: INTRODUCTION

### 1.1 Background

#### 1.1.1 Reasons for Studying the Housing Settlement for Migrant Workers in China

Since the economic reform in 1978, China has experienced remarkable speed in economic growth and an extraordinary process of urbanization. According to the National Bureau of Statistics of China (2010), the per capita gross domestic product (GDP) increased from RMB 381 in 1978 to RMB 7,858 in 2000 and further to RMB 25,575 in 2009. The urbanization rate increased from 10.64% (i.e., year 1949, the founding of the People's Republic of China) to 17.92% (i.e., year 1978, China's reform and opening up) and further to 46.59% (year 2009), more than four folds (Figure 1.1). The ultimate urbanization goal of China is to reduce the total amount of rural population to 100 million according to the Urban Temporary Migrants' Housing Research Group (UTMH Research Group, 2005). The total population of China was about 1,335 million and the rural population was about 713 million in 2009, indicating that at least 613 million rural people need to be accommodated in urban areas in the future.

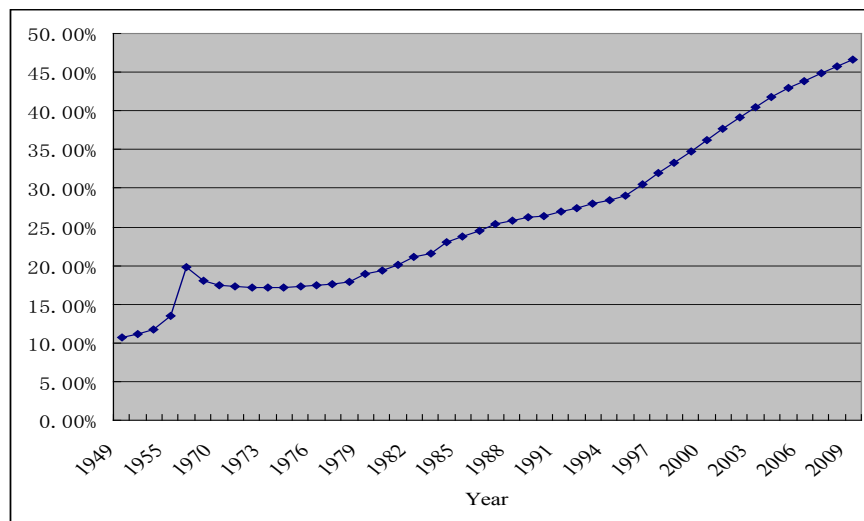


Figure 1. 1 Proportion of urban population to total population in China  
**Source:** National Bureau of Statistics of China, 2010

At the same time, the economic development gap between regions, especially western inner cities versus eastern coastal areas and urban versus rural areas, has widened. In

2009, the per capita GDP was RMB 40,800 in Eastern China, RMB 19,862 in Middle China, RMB 18,286 in Western China, and RMB 28,566 in Northeastern China (National Bureau of Statistics of China, 2010).

Both the imbalance in regional development and the deregulation of the floating population in the 1980s accelerated the influx of the floating population from less developed regions to developed regions to look for jobs. The members of this floating population are usually called migrant workers. In 1993, there were about 70 million floating population in China. The number increased to 140 million in 2003 (Xinhua Net, 2005) and further to 211 million in 2009 (Ifeng.com, 2010). The percentages of floating population are shown in Figure 1.2.

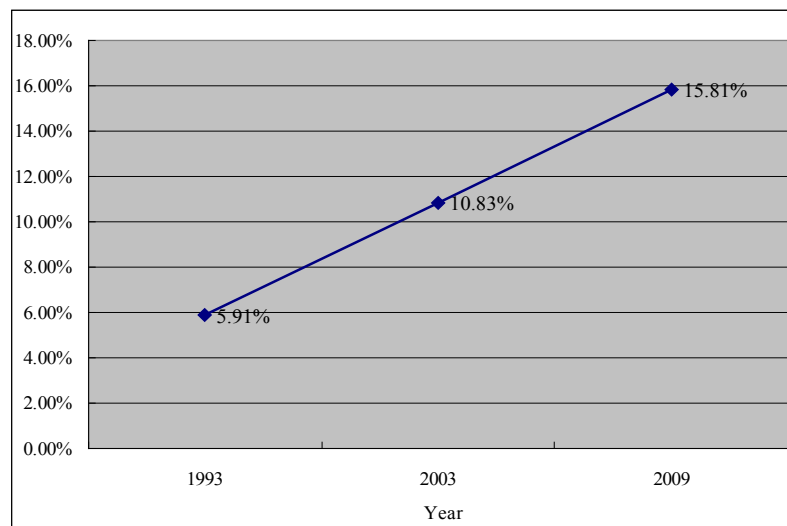


Figure 1. 2 Percentage of floating population in China  
**Source:** Xinhua Net, 2005; Ifeng.com, 2010

The urbanization rate of China exceeded 50% in 2011 (People, 2012). As the non-local population (i.e., people who do not hold local *Hukou*, i.e., the household registration system; refer to Chapter 2 for details) in urban areas is also included in this figure although it is not covered by the local welfare system, the urbanization process of China is called semi-urbanization or pseudo-urbanization. If only the local residents are included, the urbanization rate is about 33% (People, 2012).

Housing affordability among migrant workers has increasingly become a serious problem, especially in first-tier cities such as Beijing, Shanghai, Guangzhou, and Shenzhen. As migrant workers do not have local *Hukou*, they are barred from the

local public housing system, and they do not have access to mortgages and the Housing Provident Fund (HPF). Moreover, a large number of migrant workers are not covered by social securities, which may increase their non-housing costs (e.g., medical cost due to accident or illness) and thus decrease their housing consumption capacity. As a result, a large number of migrant workers turn to rental housing in urban villages (refer to Chapter 2 for the definition and details), private rental housing, and free dormitories for accommodation. However, many of these housing facilities are dilapidated and have poor conditions.

One way to resolve the fundamental housing problems of migrant workers is by exploring how to provide more adequate and affordable housing for them, which is the aim of this study. The provision of public housing for migrant workers is included but not exclusive. Depending solely on public housing to accommodate low-income migrant workers is not feasible because the capacity (both in terms of financial and administrative) of local governments is limited.

### 1.1.2 Reasons for Taking Shenzhen as the Case Study

Shenzhen is a unique migrant city where the bulk of the residents are non-locals. According to the Shenzhen Statistics Bureau (2010), there were 8.91 million residents in Shenzhen in 2009, and the number of non-local residents was 6.50 million (72.91% of the total population). The non-local population in Shenzhen hit 10.3 million in 2005 (The UTMH Research Group, 2005). According to the geographical distribution from Northern China to Southern China, several cities (i.e., Beijing, Shanghai, Nanjing, Shenzhen, Zhuhai, and Dongguan) are chosen for comparison (Figure 1.3). Three cities, namely, Shenzhen, Zhuhai, and Dongguan (all within the Pearl River Delta Region) have much higher proportions of non-local population. Shenzhen distinguishes itself with the highest percentage of non-local population, which explains why Shenzhen is selected as the study case of this research. Its experience in accommodating migrant workers can be shared with other major cities in China.

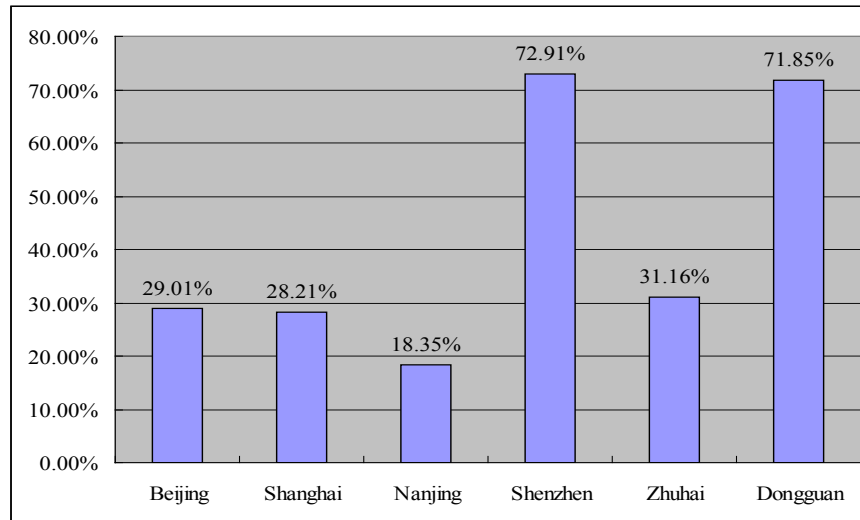


Figure 1. 3 Percentage of non-local population in several cities of China in 2009

**Sources:** Beijing Statistics Bureau, 2010; Shanghai Statistics Bureau, 2010; Nanjing Statistics Bureau, 2010; Shenzhen Statistics Bureau, 2010; Zhuhai Statistics Bureau, 2010; Dongguan Statistics Bureau, 2010.

## 1.2 Knowledge Gap

From the literature review on migrant workers and their housing issues (Chapter 2), four knowledge gaps are identified.

Gap 1: An organized study on the housing demand and housing supply for migrant workers is yet to be conducted.

Gap 2: The underlying reasons for the housing choices and residential satisfaction of migrant workers have not been sufficiently examined.

Gap 3: A comprehensive review of all housing options available for migrant workers, including the housing in their hometowns, in China is needed.

Gap 4: More empirical work is needed for comparison and verification of migrant workers in China, as no officially released systematic data on migrant workers are available.

## 1.3 Research Objectives

This research has seven objectives to fill the four knowledge gaps. On the demand side, a deeper understanding of migrant workers is needed. On the supply side, it is necessary to look further into the housing available for migrant workers. Based on the analyses of both demand and supply sides, suggestions can be put forward in a

holistic way on how to provide more adequate and affordable housing for migrant workers in China.

On the demand side, the research objectives are as follows:

- To depict a profile of migrant workers' demographic characteristics, housing choices, housing conditions and housing preferences
- To explore factors affecting migrant workers' housing choices

On the supply side, the research objectives are as follows:

- To examine the housing supply in the public sector
- To examine the housing supply in the private sector
- To examine migrant workers' housing in their hometown

From the holistic perspective, the research objectives are as follows:

- To assess the match degree between housing demand and supply for migrant workers
- To put forward suggestions on how to provide more adequate and affordable housing for migrant workers in Shenzhen from the network perspective.

## **1.4 Research Design**

This research was conducted in three main stages: literature review, analysis of the housing settlement of migrant workers, and verification (Figure 1.4). The corresponding methodologies employed by this research are explained in Chapter 3 (i.e., Research Design). The implementation of these methods is elaborated in Chapter 4 (i.e., Research Methods).

### **Stage 1: Literature review**

In this stage, the definitions of relevant terms (e.g., *Hukou*, migration, migrant workers, etc.) were identified. The literature on the characteristics of migrant workers in China, the housing available for them, and affordable housing provision was reviewed. The research gap was also identified (Chapter 2).

### **Stage 2: Analysis of the housing settlement of migrant workers**

Before conducting the city-wide questionnaire survey, a pilot study was conducted including four semi-structured interviews (with government officials and research

institutes) and a pilot questionnaire survey with 60 migrant workers in the Futian District of Shenzhen in 2009. The information obtained from the four semi-structured interviews and the literature review facilitated the design of the questionnaire. The pilot questionnaire survey on 60 migrant workers helped improve the setting of appropriate questions for the city-wide questionnaire survey. Based on the pilot study, a city-wide questionnaire survey was conducted on 540 migrant workers in 2010.

To process data, factor analysis was used to determine the factors on the residential preferences of migrant workers, which were later included as the independent factors of housing choices analysis. Multinomial logistic regression was employed to analyze the factors affecting the housing choices of migrant workers. Ordinal regression was used to explore the factors affecting the residential satisfaction of migrant workers.

Finally, a profile of the migrant workers in Shenzhen, the factors affecting housing choices, and the residential satisfaction of migrant workers were obtained. A better understanding of housing availability for migrant workers in Shenzhen was achieved through the literature review, interviews, and questionnaire survey.

Objectives 1, 2, 3, 4, 5, and 6 were achieved during this stage. For details, refer to Chapter 3, 4, 5, 6, and 7.

### **Stage 3: Verification**

To verify the findings gathered from Stages 1 and 2, a verification survey was conducted in 2012, including semi-structured interviews with two government officials and structured interviews with 40 migrant workers in the Bao'an and Futian Districts of Shenzhen.

Lastly, combining the housing demand of migrant workers and the housing supply for migrant workers or low income households, suggestions were put forward to better accommodate migrant workers from the network perspective.

Objective 7 was achieved in this stage. Refer to Chapter 8 for details.

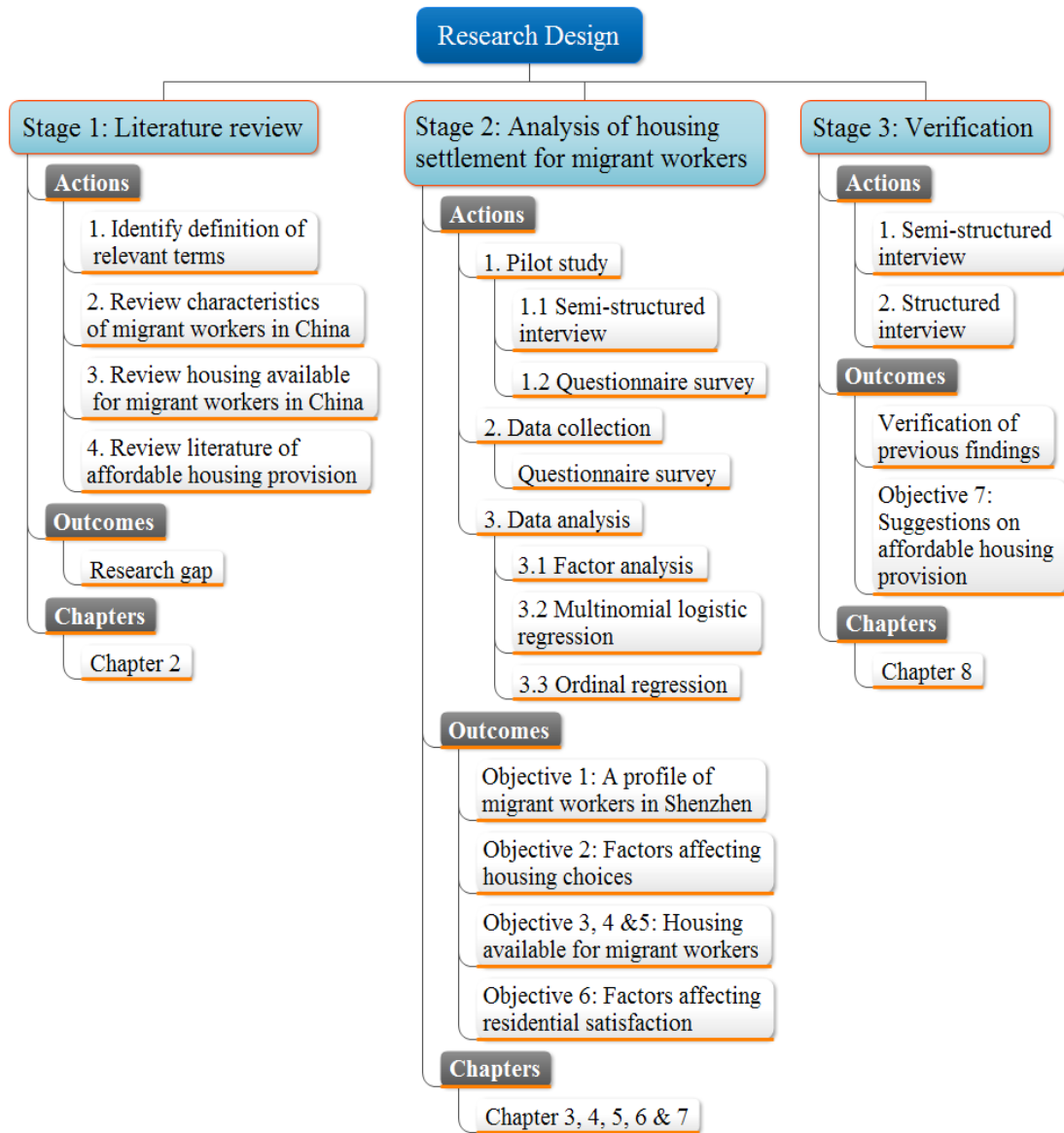


Figure 1. 4 Research Design

## 1.5 Structure of the Thesis

Chapter 1 gives an overview of the research background. The problems associated with the housing settlement of migrant workers in China are stated. The knowledge gaps are identified. The scope and objectives of this research are introduced. Lastly, the research design is presented.

Chapter 2 gives the definitions of the relevant terms and reviews the literature on migrant workers from the aspects of their characteristics, their housing issues, and affordable housing provision.

Chapter 3 presents the analytical framework of this research.

Chapter 4 explains the research methodology employed by this research. The detailed implementation of the data collection and data analysis is also elaborated.

Chapter 5 studies the housing demand of migrant workers from the perspectives of demographic characteristics, housing choices, housing conditions, and housing preferences. The factors affecting migrant workers' housing choices are explored.

Chapter 6 examines the housing supply in both public and private sectors. Housing in the migrant workers' hometown is studied.

Chapter 7 examines the balance between housing supply and housing demand from the perspectives of housing affordability, housing satisfaction, and expected housing of migrant workers.

Chapter 8 demonstrates the verifications of the research findings through another round of interviews, which is independent from the previous interviews. Supplementation on the relevant issues is made. Suggestions are put forward on how to provide more adequate and affordable housing for migrant workers in China from the network perspective. Issues on migrant workers (e.g., sense of belongingness and new migration characteristics) and China (e.g., *Hukou* and dual land system) in particular are examined.

Chapter 9 summarizes the research findings on the achievement of the research objectives and the contributions to this research field. The limitations and recommendations for further research are also presented.

## **1.6 Summary of the Chapter**

This chapter gives an introduction to this research. The reasons for conducting this research and the background information are presented. To explore how to provide more adequate and affordable housing for migrant workers, seven research objectives are put forward. Lastly, to fill the knowledge gaps, the research design is presented in relation to the seven objectives.

The next chapter explains the definitions of the relevant terms, reviews the relevant literature, and further explores the research gaps.

***Note:***

1. HPF: Shanghai first implemented the HPF scheme in China in 1991. HPF is a financial tool for housing reform from welfare to commodity. Both employers and employees are required to contribute a certain percentage (no less than 5% of the average monthly salary of the previous year; the percentage can be increased to some extent for well-off cities) of the salary to the HPF account on a monthly basis.

## CHAPTER 2: LITERATURE REVIEW

### 2.1 Scope of the Chapter

This chapter reviews the literature on migration, migrant workers, their housing issues, and affordable housing provision. The design of the survey, the links of the literature to this research, and the research gaps are highlighted at the end of each section. First, this chapter begins by introducing relevant terms and keywords. Second, the housing issues of migrant workers, for example, housing choices, housing conditions, residential satisfaction, urban villages, and relevant housing policies, are examined. Third, the literature on affordable housing provision is studied. Lastly, the research gaps are summarized.

### 2.2 Relevant Terms

#### 2.2.1 *Hukou* System

*Hukou* (i.e., household registration system) is a fundamental institution in China. It was introduced in the late 1950s. It has two criteria: original living place (local vs. non-local) and *Hukou* type (agricultural vs. non-agricultural). The system allocates a *Hukou* location and *Hukou* type to every Chinese citizen, which is passed on from the parents to their children. It effectively divides Chinese population into two distinctive classes, namely, urban population and rural population (Chai & Chai, 1997). Another division is between local and non-local. These two divisions cause a series of inequalities and problems in China. For instance, migrant workers (who do not hold a local *Hukou* although they have worked in the locality for many years) are not covered by the local welfare system. Another example is that rural land is not allowed to be sold in the market by indigenous villagers or collectives unless the land is acquired by the government. The original purpose of this system is to better control the population movement by the government. Since the 1980s, the floating population has been gradually deregulated, largely stimulating a large number of labors to migrate to look for jobs.

As a special institutional arrangement in China, *Hukou* plays a great role in influencing migration and migrant workers, as has been widely discussed. Chan and Zhang (1999) examined the role of *Hukou* in controlling rural–urban migration in

China and the changes in the *Hukou* system since 1978. Zhu (2007) argues that the *Hukou* system is not the only reason for the temporary nature of the floating population. Factors such as the demand from the industrial society and the household strategy (e.g., to achieve the maximum economic opportunities) also contribute largely. The needs of migrant workers (e.g., housing needs and the social insurance function of the land in their hometowns) and the development of their hometowns during the process of policy making also require attention.

The *Hukou* system features such terms as “Red *Hukou* Booklet,” “Blue *Hukou* Booklet,” “Temporary Residence Card,” and “Residence Card.” The “Red *Hukou* Booklet” is a formal document that is given only to permanent residents. It bears a red official stamp instead of the officer’s signature to show the permit from the Public Security Bureau. The “Blue *Hukou* booklet” was first introduced by Shanxi Province in 1992. Afterwards, many other municipal governments adopted this measure. Local governments regard it as a stimulus to attract investments (including housing purchase) and talents. Unlike the “Red *Hukou* booklet,” it bears a blue official stamp (Shen & Huang, 2003). It is given to non-local residents with high education who engage in local investment or employment. People with the “Blue *Hukou* Booklet” can enjoy almost the same rights as the local residents. Their original *Hukou* in their hometown will not be cancelled, but their residential status will be reviewed on an annual basis. If they cannot meet the relevant requirements, their “Blue *Hukou* Booklet” may be withdrawn. Since 2000, “Blue *Hukou* Booklet” has almost been cancelled in China. The “Residence card” was first introduced in Shanghai in 2002 to attract talents. It is a substitute for “Blue *Hukou* Booklet” and is more advanced than the “Temporary residence card.” In Shenzhen, a “Temporary Residence Card” gives non-local people legitimacy to reside in the locality. The following kinds of non-local residents are required to apply for this card: 1) above 16 years old and to stay in the locality for more than 30 days, 2) employed in the locality, and 3) engaged in local business. For “Blue *Hukou* Booklet,” “Temporary Residence Card,” and “Residence Card” holders, they can transfer to formal *Hukou* under certain conditions. Residence Card holders have the priority. For the specific requirements, refer to Figure 2.1.

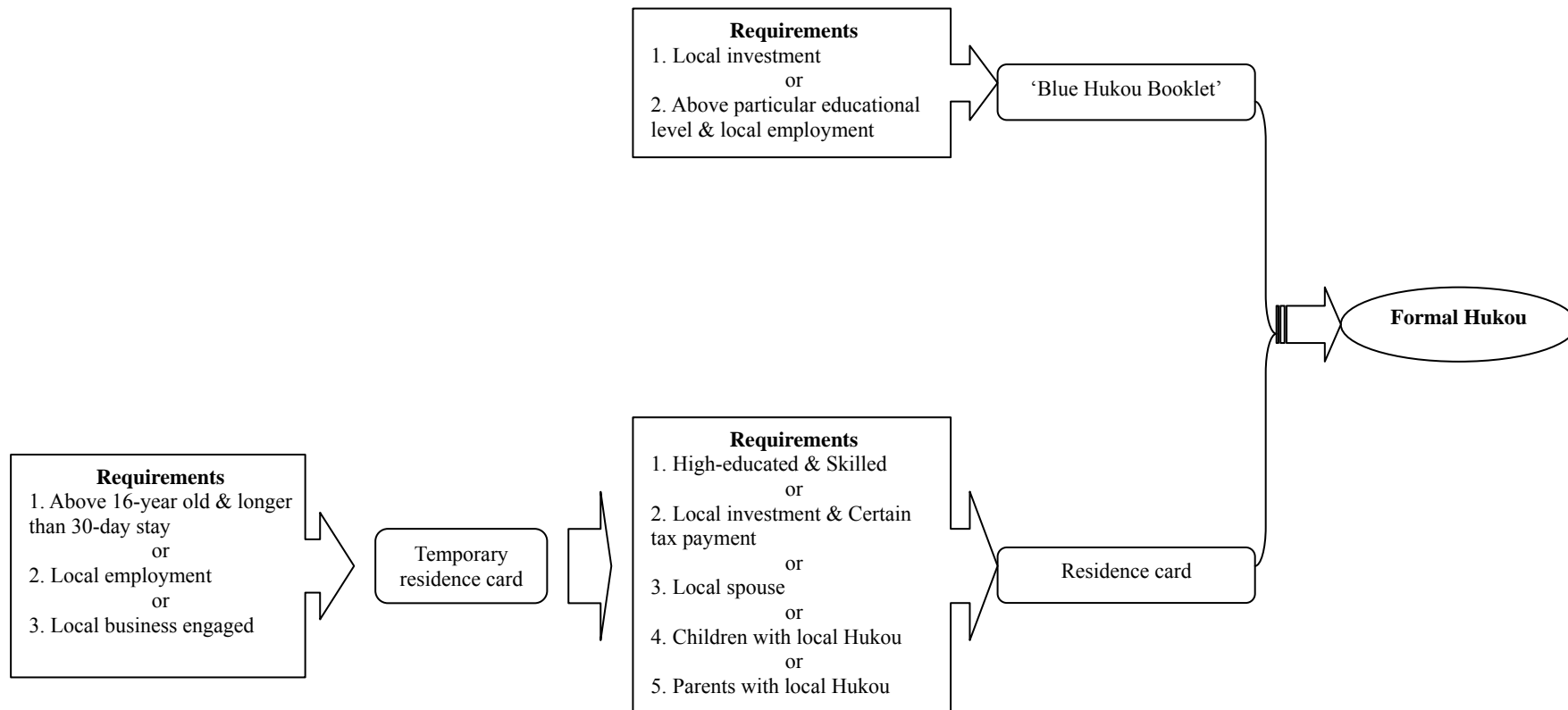
In this research, questionnaire survey and interviews were employed to collect data on institutional factors (i.e., *Hukou*, Residence Card, and Temporary Residence Card)

considering their profound effects on migration, migrant workers, and the society. As the role of *Hukou* is controversial as regards its effects on specific characteristics and behaviors of migrant workers in previous research, regression analysis was conducted in the present study to examine the effects of other factors on migrant workers aside from *Hukou*.

### 2.2.2 Migration

Spatial movement can be called migration if it satisfies two criteria, that is, the scale of spatial move at the sub-county level or above and the period of stay of no less than half a year in the place of enumeration (Duan & Sun, 2006). For convenience and accuracy, China's national statistics usually only include those staying in the locality for more than half a year. Migration can be classified into temporary and permanent, depending on whether *Hukou* has changed. If it has changed, the movement is called permanent migration. Otherwise, it is temporary. Permanent migration is also called Qianyi (Chan, 2008).

A vast volume of empirical studies on migration in China has been recorded since the 1990s. The research focuses include geographic distribution, indicators of migration and effects of migration, among others. Liang and Ma (2004) found that Guangdong Province, Zhejiang Province, and Jiangsu Province attracted the largest number of floating population in China in 2000. Fan (2005) examined the inter-provincial migration from western and central provinces to more developed eastern provinces. From the perspective of indicators, economic factors such as job opportunities, income disparities, and regional imbalances are the key driving forces for migration in China (Liang & Ma, 2004; Wu, 2008). The degree of government control and geographic distance also affect the distribution of migrants in China (Chai & Chai, 1997; Goodkind & West, 2002; Zhang & Song, 2003). Factors affecting actual mobility and potential mobility have been studied (Wu, 2006). Family status, age, education, gender, housing choice, and housing space were found to be significant in affecting one's actual residential mobility. For example, migrant workers aged 25 to 35 were found to be the most mobile. As regards its effects, migration is associated with both positive and negative effects (Chai & Chai, 1997; Fan, 2005). Migration can increase the freedom of farmers, relieve rural poverty, reduce the underemployment rate in rural areas, narrow the rural–urban income gap, reduce the dualistic nature of

Figure 2. 1 Transfer to formal *Hukou*

Chinese society, and benefit from the development of the private sector in urban areas. Conversely, it is also criticized for deteriorating the quality of life in urban areas such as over-urbanization and inadequate provision of housing, transportation, and so on.

Everett (1966) summarized the factors affecting mobility decisions and their processes into four groups: 1) factors associated with the area of origin, 2) factors associated with the area of destination, 3) intervening obstacles, and 4) personal factors. People usually make migration decisions by comparing the positive and negative factors associated with originality and destination. According to the migration laws proposed by Ravenstein (1889), economics is the major cause of migration. As a result, migrant workers usually migrate from less developed to well-off regions.

In China, the direction of migration is usually from the central and western regions to the eastern coastal regions (Population Reference Bureau, 2002; Liang & Ma, 2004; Fan, 2005; Wu, 2006; China Labor Bulletin, 2008). As shown in Figure 2.2, migration to and within eastern cities constitute the bulk of the total migration. Moreover, migration has largely increased in the 1995–2000 period. The inter-provincial net migration rates of Beijing, Shanghai, and Guangdong Province are the highest (Figure 2.3). In Shenzhen, inter-provincial migration constitutes the majority of the total migration (the UTMH Research Group, 2005). Along with the rapid economic development, the demand for cheap labor is intensive because of the large number of labor-intensive enterprises. In the Shenzhen Special Economic Zone (SEZ)<sup>1</sup>, the majority of migrant workers come from urban areas, whereas outside the SEZ, most migrant workers come from rural areas.

The focus of the current research is on the temporary migration at the inter-city level with a stay period of not less than half a year. Relevant issues, for example, year of arriving in Shenzhen, plan to work in other cities, plan to go back to their hometown, reasons for returning to the hometown, reasons for previous residential mobility, change in the living district, and so on, were investigated through questionnaire survey and interviews. The effects of mobility characteristics (e.g., history of mobility, period of stay, plan to return to their hometown, etc.) on housing choices and residential satisfaction were also examined.

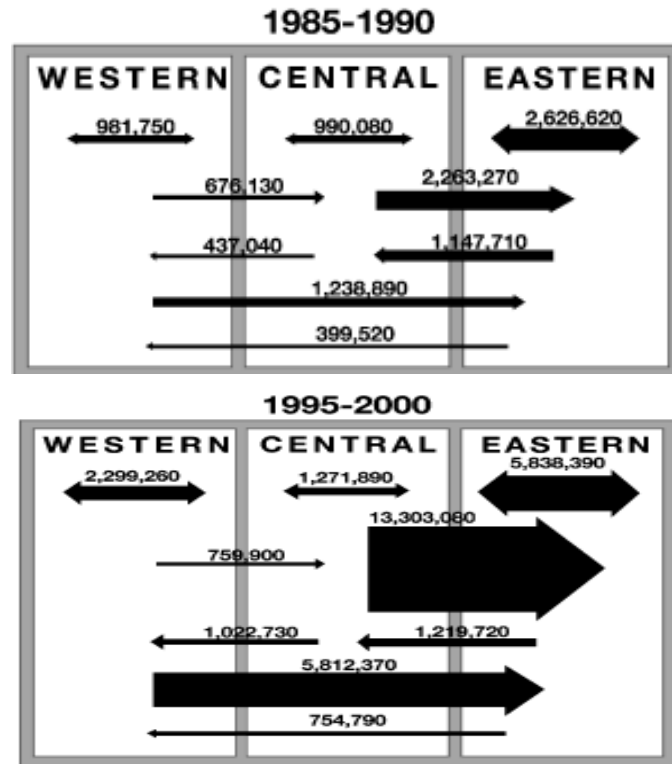


Figure 2. 2 Direction and volume of inter-provincial migration  
*Source:* Fan, 2005

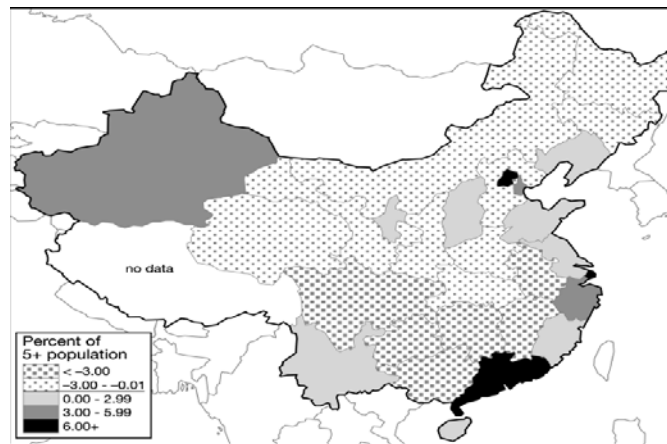


Figure 2. 3 Inter-provincial net migration rates, 1995-2000  
*Source:* Fan, 2005

### 2.2.3 Migrant Workers

Migrant workers are labors who leave their original places of household registration to look for jobs. Figure 2.4 shows the classifications of migrant workers. According to the *Hukou* status in the locality, migrant workers can be classified as temporary and permanent. Temporary migrant workers have limited access to the local welfare system. Conversely, permanent migrant workers become part of the local population and can enjoy the same welfare benefits as do the locals (Fan, 2005). The majority of

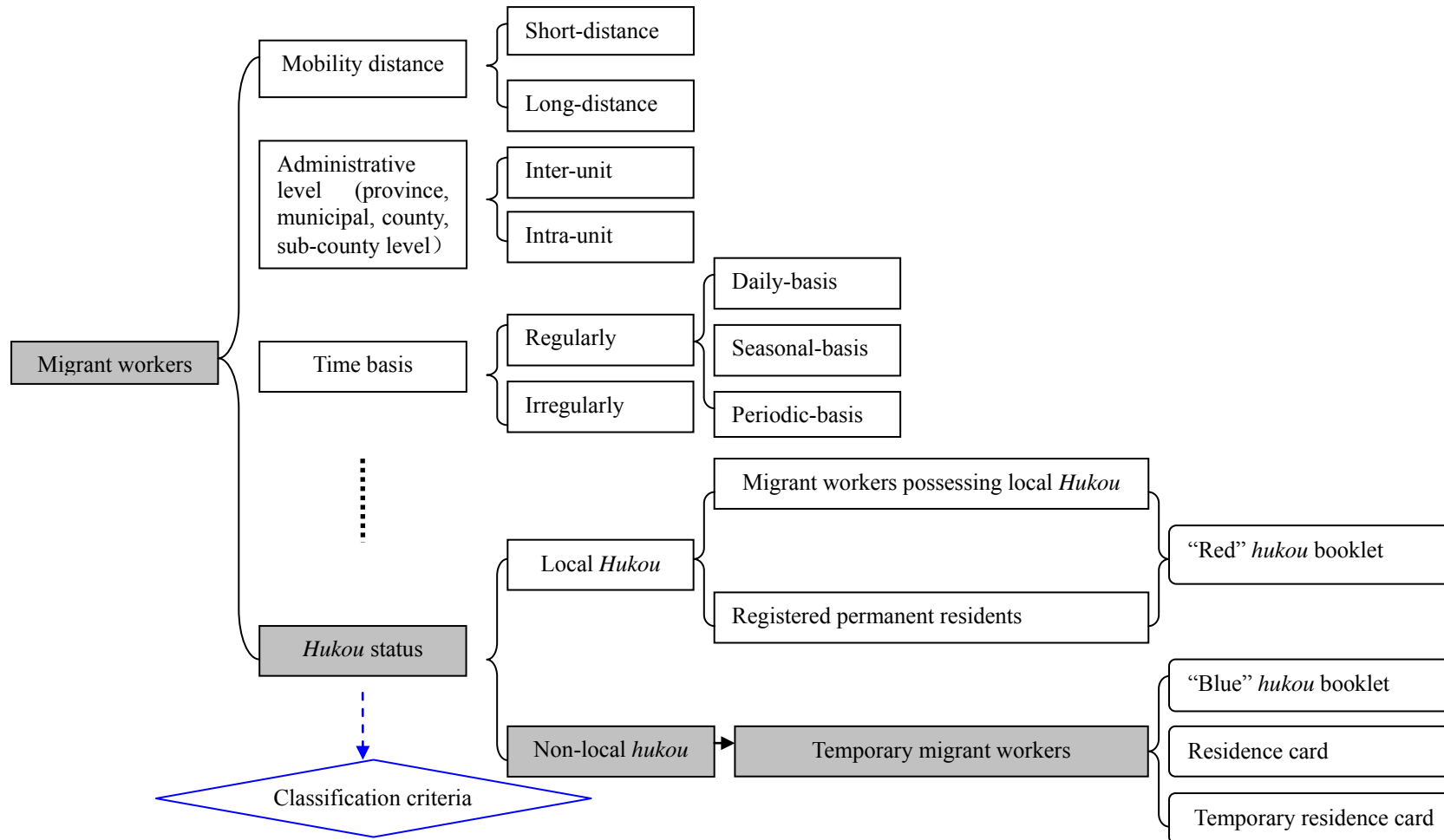


Figure 2. 4 Classifications of Migrant Workers in China

migrant workers come from rural areas.

The characteristics of migrant workers have been examined in the literature, such as young age, relatively low education level, mobile, low wage, and so on (Wang, Wang & Wu, 2010). Employment opportunity is the most important driving force for the mobility of migrant workers. These workers have a low degree of expected permanence and may continue to move after their arrival (Wu, 2006). Their primary aim is to earn money instead of permanent residence (Zheng, Long, Fan & Gu, 2009). They keep close connections with their families in their hometown and fellow villagers for fear that they may be forced back (Population Reference Bureau, 2002; Wu, 2002). The social integration of migrant workers into the urban society is an issue raised by many scholars. Wong, Li, and Song (2007) examined the marginalized living experience of rural migrant workers. The experience was studied from the aspects of employment, working conditions, social security, medical insurance, education of children, housing, and discrimination by urban residents. Marginalization was attributed to the *Hukou* system and the decentralization of trade unions in China. To some extent, employer provision and social networks filled the gap of social provisions (supposed to be provided by the government) for migrant workers (Li, 2006).

To demonstrate a general profile of migrant workers in China, the findings of the China General Social Survey (CGSS)<sup>2</sup>, the UTMH Research Group (2005), and other researchers were employed in this study.

### 1) Age

According to CGSS, the average age of migrant workers is 32 in China. In Shenzhen, the average age is 30. The majority is in the category of 16 to 35 years old (Population Reference Bureau, 2002; Liang & Ma, 2004; UTMH Research Group, 2005; Wu, 2005; Wu, 2006; China Labor Bulletin, 2008). The average age is 27.6 in Guangzhou (Chan, Yao & Zhao, 2003), 32 in Taiyuan (Li, Duda & An, 2009) and 29 in Beijing and Shanghai (Wu, 2004).

### 2) Gender

According to Wu (2006) and the China Labor Bulletin (2008), males account for more than 62% of the migrant workers in China. Males account for 66.7% in Taiyuan (Li,

Duda & An, 2009) and 62% in Beijing and Shanghai (Wu, 2004). However, according to CGSS, female migrant workers (China: 51.9%; Shenzhen: 62.6%) outnumber the male migrant workers.

### 3) Marital status

According to CGSS, married migrant workers (60%) make up the bulk of this population in China. The proportion is 49.5% in Shenzhen, 61.9% in Taiyuan (Li, Duda & An, 2009), 44.4% in Guangzhou (Chan et al. 2003) and 66% in Beijing and Shanghai (Wu, 2004). Migrant workers usually live in the unit of families or collectives. Family migration is on the rise (Wu, 2006; Ma & Chen, 2008).

### 4) Educational attainment

According to CGSS, both in Shenzhen and China, the largest proportion of migrant workers received middle school education (nine years on average), which is also true for migrant workers in Guangzhou (Chan et al. 2003). The proportion of migrant workers with high school education or above in Shenzhen is higher than that at the national level, indicating that migrant workers in Shenzhen possess better educational attainment. In Beijing and Shanghai, the average length of education is eight years, which is almost equal to the middle school education level (Wu, 2004).

### 5) Occupation

Among migrant workers in China, 53% work in the secondary industry and 47% in the tertiary industry. Those engaged in the manufacturing industry and the construction industry account for 30% and 23%, respectively, according to the “Research report on migrant workers in China” promulgated by the State Council in 2006. In Shenzhen, about 58.9% of migrant workers are engaged in the manufacturing industry, 17.1% in the commercial and service industries, and 4.8% in the construction industry. They are usually engaged in labor-intensive, low-skilled, low-paid, tiring, temporary, and unstable jobs, or “3D” jobs, that is, dangerous, dirty, and difficult (Shen & Huang, 2003). A small percentage is composed of self-employed craftsmen and traders (Chai & Chai, 1997; Ma & Chen, 2008). Although rural migrant workers can make a living from the rural land, they mainly live on salaries earned from urban areas (Chai & Chai, 1997).

#### 6) *Hukou* Status

According to CGSS, rural surplus labor accounts for the majority of migrant workers (Shenzhen: 61.5%; China: 68.9%), as confirmed by the UTMH Research Group (2005). The proportion is 87% in Beijing and Shanghai (Wu, 2004) and 78.8% in Guangzhou (Chan et al. 2003).

#### 7) Hometown administrative level

Regarding the administrative level of the migrant workers' hometown (CGSS), most of them come from the countryside (China: 69.1%; Shenzhen: 52.7%). Those coming from towns (China: 10%; Shenzhen: 15.4%) and counties (China: 11.3%; Shenzhen: 22%) also constitute a relatively large proportion of migrant workers. Very few migrant workers come from prefecture-level cities, provincial capitals, or municipalities. In the survey conducted in Shenzhen, the proportion of those coming from municipalities is zero.

#### 8) Degree of permanence in the locality

Migrant workers usually have a low degree of expected permanence (Population Reference Bureau, 2002; Wu, 2005; Wu, 2006; Chan, 2008; Ma & Chen, 2008). Some are seasonal workers who, move to urban areas in winter when not much work is available in farms (Chan, 2008) and continue to be on the move in search of jobs after arriving in the locality (Wu, 2006; Chan, 2008).

#### 9) Mental status

Migrant workers usually lack a sense of belongingness and are hardly involved in the locality (Wu, 2006; China Labor Bulletin, 2008; Ma & Chen, 2008). According to CGSS (Figure 2.5), most migrant workers have not considered whether to stay or leave the locality in the future. Only 27.1% of them have decided to stay in a locality in China. The others either are not sure or will go back in one to five years. In Shenzhen, the proportion of those staying is even lower (18.7%). About 14.3% of the migrant workers in Shenzhen choose to return to their hometown in one to five years, which is 1% higher than the national level. Rural migrant workers usually maintain links to their hometown partly because they are afraid to be forced back to the countryside (Population Reference Bureau, 2002). These workers are more likely to feel lonely, anxious, and pessimistic and to commit crime in the locality (China Labor Bulletin, 2008).

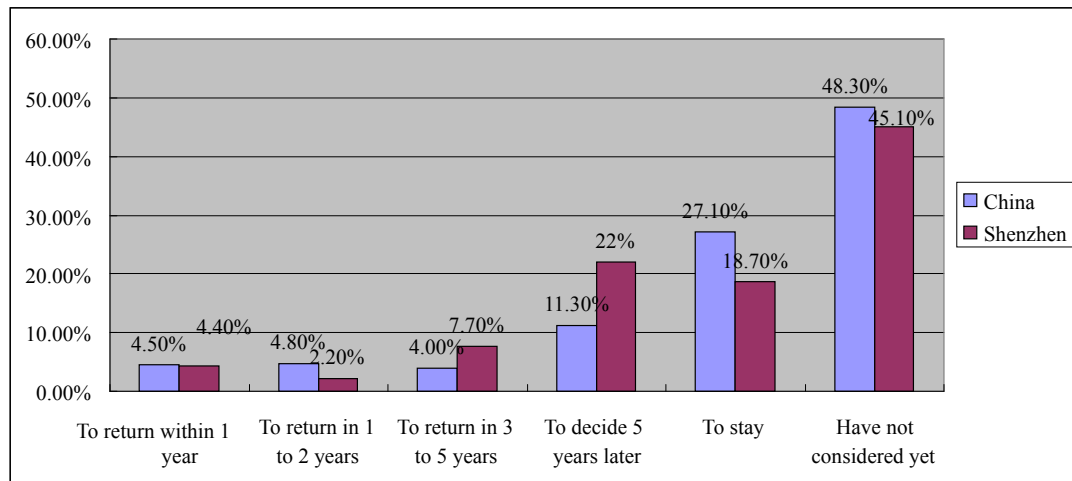


Figure 2. 5 Willingness of migrant workers to return to hometown

*Source:* CGSS

The subjects of this study are temporary migrant workers who have stayed in the locality for at least half a year and do not have a local *Hukou* (Figure 2.4). Although the migrant workers were selected by random sampling method during the survey, as long as they met the criteria of “staying in Shenzhen for no less than half a year” and “not holding local *Hukou*”, the research emphasis is on the low-income migrant workers because they encountered the most serious housing problems among others. For convenience, these workers are simply called migrant workers in this study. As no data on migrant workers in China have been officially released and previous studies have based largely on city-wide surveys, more empirical research is needed for the verification and supplementation of data. To explore further the characteristics of migrant workers, questionnaire surveys and interviews were conducted to investigate the demographic characteristics of migrant workers in Shenzhen, social security coverage of these workers, cognitive level of the locality (e.g., relatives and friends, main sources of housing and job information, familiarity with local policies, and concern about such policies), and mobility plans.

## 2.3 Housing Issues of Migrant Workers

### 2.3.1 Most Frequent Housing Choices of Migrant Workers

Research on housing choice can be classified into two domains: The first domain, often examined by economists, concerns the price of different housing types and the effect of various dwelling attributes on price. The second domain, usually examined by planners, geographers, and sociologists, concerns housing choice itself and the

changing patterns of choice across the population. The second domain is the focus of this study. Consumers usually try to maximize utilities in the housing market according to a constrained budget. Housing choice is a decision not only about location but also about tenure.

Literature on the housing settlement of migrant workers in other countries includes Malaysia, India, South Africa, Brazil, and South Korea, etc. The housing choices for these low-income and low-skilled migrant workers are largely associated with self-help housing or self-constructed informal settlements. A large proportion of migrant workers in Malaysia come from the neighbor countries, e.g., Indonesia, Nepal and India. Because of low skill and low income, they compete with the local poor for low-cost accommodation in the squatter settlements and the Malay Reservation areas (Kanapathy, 2006). In India, low-income migrant workers usually occupy self-constructed slums in urban periphery areas (Mahadevia, Liu & Yuan, 2010). In South Africa, the housing of migrant workers is characterized with informal settlement in impoverished border towns and allocated single-sex hostels in remote areas (Lalloo, 1999; Hachzermeyer, 2003). In Brazil, the emphasis has been shifted from demolishing to upgrading informal settlement since the 1980s (Hachzermeyer, 2003). Squatters also played an important role in accommodating migrant workers in South Korea in the 1960s and 1970s (Ha, 2007). The case of China is different from the above countries. The land is owned by the state or the collective, which makes the widespread of informal settlements or slums constructed by migrant workers impossible.

In China, housing choices for migrant workers, whose incomes are generally lower than those of the natives, are very limited. Moreover, migrant workers do not have a local *Hukou*, a status that hinders them from entering the public housing system and limits their access to mortgages and the HPF. Most migrant workers are not covered by social security, which may increase their non-housing cost (e.g., high medical cost because of accident or illness) and thus decrease their housing consumption capacity. According to Shen (2002), three types of housing are available for migrant workers: (1) dormitories, including those that are self-developed, rented from other enterprises, and bought from the private sector; (2) construction sites; and (3) rental housing. According to Li, Duda, and An (2009), private market (59%) and employer-provided

(38%) accommodations are the major housing choices of migrant workers. According to the UTMH (2005), about 63.7% of migrant workers live in rental housing, 26.2% in accommodations provided by their employers or the local government, and less than 10% in purchased commodity housing in Shenzhen; about 48.7% rent housing in urban villages. According to CGSS, 72.9% of migrant workers do not have any plans to purchase a house in China; in Shenzhen, the proportion is even larger (83.5%) (Figure 2.6). The majority of migrant workers live in private rental housing (China: 66.8%; Shenzhen: 84.6%). Very few migrant workers purchase commodity housing in the locality (China: 12.4%; Shenzhen: 4.4%). Moreover, 48.7% of the renters live in rented houses in the urban villages of Shenzhen.

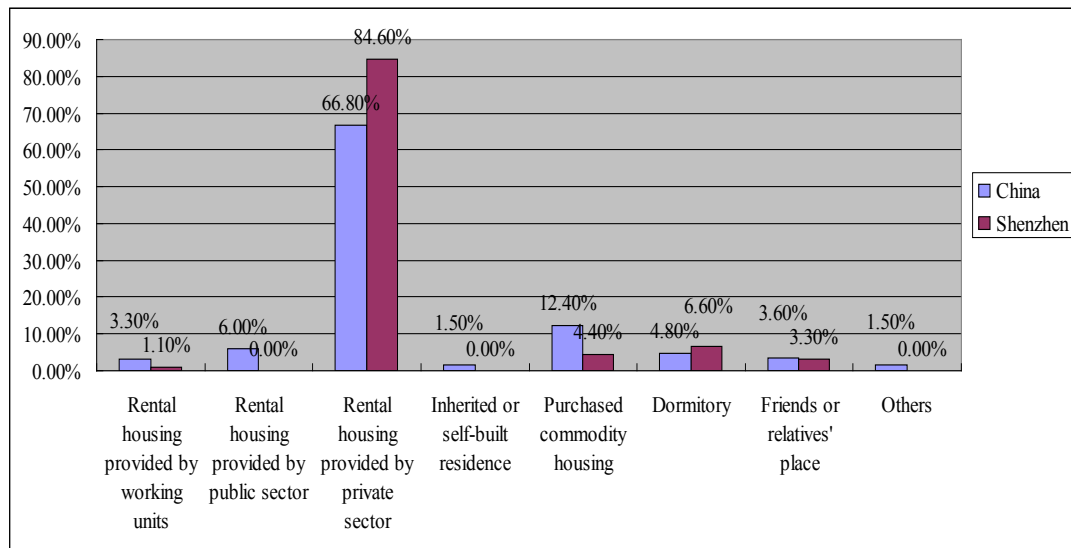


Figure 2. 6 Housing choices of migrant workers in China and Shenzhen  
**Source:** CGSS

Renting is the most common choice of migrant workers (Jiang, 2006; Wu, 2002; Wu, 2004). According to Wu (2004), more than half of the migrant workers in Beijing and Shanghai are renters. Wang et al. (2010) found that over 80% of the migrant workers in Shenzhen, Shenyang, and Chongqing live in rental housing. However, rental housing affordable for low-income migrant workers is usually located in dilapidated urban areas or suburban villages. Only migrant workers with relatively high incomes can afford commodity housing. Thus, many migrant workers can only turn to illegal accommodations. Nevertheless, migrant workers pay a much higher proportion of their income on housing than do local residents under similar living conditions (Wang, 2004).

Rental housing in urban villages is a common choice of migrant workers because of its low price and good location. Urban villages provide both space and time for migrant workers to “adapt to the new way of life” and move to affordable housing in large cities. The urban village approach is a different kind of self-help approach (Wang et al., 2010). Housing in urban villages provides another kind of informal housing. The important role of urban villages in accommodating migrant workers is increasingly recognized by scholars (Chan et al. 2003; Song, Zenou & Ding, 2008; Wang et al. 2010; Zhang, Zhao & Tian, 2003), who consider that urban villages not only provide cheap shelter for migrant workers but also remedy the defects of the urban housing system, which fails to accommodate non-local population. The formation of urban villages, also called villages in cities or urbanized villages, is the outcome of rapid urbanization and massive rural-to-urban migration since the 1980s. Urban villages are rooted in the dual land system of China (i.e., urban land is state owned, whereas rural land is collectively owned). In the process of urban expansion, local governments usually prefer to acquire farmland only and disregard land for homestead use to avoid the huge requisition costs associated with demolition, resettlement, and compensation. Thus, villages are isolated and urban villages have emerged. Without agricultural income, indigenous villagers are forced to look for other ways of earning a living. As many migrant workers rush to more economically prosperous regions, the demand for affordable housing from new migrants becomes acute, motivating indigenous villagers to lease their extra rooms to migrants. Despite the conveniences (e.g., low housing cost and short distance to work), urban villages are known for their poor physical conditions, high-density buildings, inadequate facilities, and high crime rates (Zheng et al., 2009). To maximize the income from the available land, indigenous villagers add more stories on top of their houses or rebuild their houses into multi-story buildings. The number of floors increased from less than 5 in the late 1980s to 6–10, or even 20 in some extreme cases, in the late 1990s (Wang et al., 2010). As a result, urban villages are not desired by local authorities because they deem demolition and redevelopment to be urgent.

Employer-provided housing also has an important effect on migrant worker accommodations. Single workers are more likely to live in employer-provided housing (Wang et al., 2010). Married workers tend to live in their employer-provided dormitories separately from their spouses, a behavior that demonstrates the

transitional characteristics of migrant workers (e.g., money-saving intention and mobile characteristics). Employers tend to provide accommodations for migrant workers to increase the competitiveness and profit margin of their companies but ignore the housing quality (Li & Duda, 2010).

In this research, the housing choices of migrant workers in Shenzhen were investigated through questionnaire surveys and interviews. Aside from current housing choices, previous and expected housing choices were also examined. The housing career of migrant workers was examined, which was seldom studied in previous research on migrant workers in China.

### 2.3.2 Factors Affecting Housing Choices of Migrant Workers

Factors in housing choices are frequently examined from the micro and macro levels. Life cycle factors fall under the micro level. The life cycle is paralleled by changes in housing. For example, after leaving their parents' home, children usually rent small apartments first. Over time, the children move to different housing types of increasing space until marriage or cohabitation. The life course paradigm is an alternative approach that not only conceptualizes household structure changes but also enables other changes to be embedded. Aside from life events, life course also involves social force (e.g., the changing social and economic context, market forces, and government regulations) and structure (e.g., housing stocks), which can be considered as macro-level factors. Macro-level factors include the economy (e.g., financing, new constructions, property price, and mortgage rates), regional differentials, and government policies. To link the concept of life course to housing choice, the notions of housing career and the hierarchy of housing submarkets are introduced. Housing career suggests that homeowners improve their housing in several steps during the life course. The move from renting to purchasing is the most important step in this progress. Movement across the housing market can be classified into three categories: upward, downward, and lateral. The hierarchy of housing submarkets is constructed according to tenure and dwelling size, type, and price.

Specifically, the measures of housing choice include the following: (1) dwelling characteristics, namely, size, age, tenure, location, housing services, and neighborhood (e.g., access to local education, jobs, amenities, and social

environment); (2) changing economic events and different circumstances such as income prospects, mortgage and inflation rates, housing price (i.e., either rent or purchase price), and volume of new constructions; (3) government regulations including housing allowances, taxation measures, and access rules; and (4) life cycle factors such as education, income, age, marital status, presence of children, tenure, and history of mobility.

In China, institutional factors, such as the *Hukou* system, party membership, and seniority in the work unit, contribute significantly to the housing choices of migrants (Huang & Jiang, 2009; Logan, Fang & Zhang, 2009; Wang et al., 2010; Wu, 2004). The local and non-local divisions of the *Hukou* system are the most important factors in home ownership. Local residents and permanent migrants are more likely to purchase the residence than do temporary migrants. Both recent urban and rural migrants are more likely to live in collective and private rental housing (Logan et al., 2009). Among temporary migrants (i.e., migrants without a local *Hukou*), factors such as age, education, income, duration of stay, type of *Hukou* (rural or urban), and intention to stay are positively related to homeownership. Moreover, migrant housing choices vary with the city (Logan et al., 2009; Wu, 2004). For example, more migrants in Beijing live in dormitories, whereas migrants in Shanghai tend to live in private rental housing (Wu, 2004).

Household-level strategies, the transitional economic environment, and individual migration characteristics also have significant effects (Li et al., 2009). According to Li et al. (2009), the housing choices of migrant workers in Taiyuan, China, are influenced more by the transitional economic context and the characteristics of the workers' individual migration than by conventional factors (e.g., income and life cycle). Migrant workers tend to prioritize convenience and cost saving over housing quality. They are prepared to "respond to uncertainty about the future" (i.e., lack of commitment to the locality) and tend to invest little of their income in improving housing conditions (Wu, 2004), a behavior demonstrating a strong saving orientation but resulting in limited housing choices.

As this research uses the cross-sectional (instead of longitudinal) data of Shenzhen, the factor of transitional economic environment is not applicable. To verify their effects on the housing choices of migrant workers, the other abovementioned factors

(i.e., age, education, income, duration of stay, type of *Hukou*, intention to stay, individual migration characteristics, and household strategies) were included in the questionnaire. Aside from these factors, the influences of trade, spouse income, marital status, children, history of mobility, presence of family members in Shenzhen, residence in their hometown, cognition and expectation of the locality, residential preferences, and the relevant interactions between the factors were explored in this study.

### 2.3.3 Housing Conditions of Migrant Workers

In general, migrant workers live in overcrowded houses with poor facilities. Overcrowding is the most commonly reported quality issue among migrant workers (Li & Duda, 2010; Wang et al., 2010; Wu, 2004). Room sharing is also very common. According to the 2000 Census of China, migrants occupy better housing facilities than do local workers. However, migrants tend to occupy less living space than do local residents and permanent residents, an observation that echoes the findings of Wang et al. (2010), CGSS, and UTMH (2005). According to CGSS, migrant workers occupy a much smaller living space than do their local counterparts. The floor area per household occupied by the migrants in Shenzhen is much lower than the national level. In China, the average floor area occupied by migrant households is 61.25 m<sup>2</sup> and that of local households is 77.60 m<sup>2</sup>; in Shenzhen, the figures are 48.80 m<sup>2</sup> and 74.00 m<sup>2</sup>, respectively. According to UTMH (2005), the floor area per capita for migrants (i.e., both workers and non-workers) in Shenzhen is 13.26 m<sup>2</sup>, much lower than the city level (21.80 m<sup>2</sup>). Conditions are even worse for migrants living in collective units, as they occupy only 9.69 m<sup>2</sup> per capita and many of them share the housing with more than five roommates.

According to CGSS, most migrant households have one bedroom, a living room, and a washroom (Table 2.1). Some migrant workers do not even have a living room or a separate washroom, especially in Shenzhen. Local families are more likely to have more living facilities, an observation contradicting that of Jiang (2006).

The determinants of the housing conditions of migrant workers have been investigated as well. According to Wu (2004), housing conditions in China are significantly affected by institutional factors, especially the *Hukou*, and housing

choices. Housing choice and the local/non-local divide are the two most significant predictors of housing conditions. Migrant workers from urban areas usually occupy a larger living space than those from rural areas (Wang et al., 2010). Migrants living in dormitories and inner suburbs suffer from the poorest housing quality (Li & Duda, 2010; Jiang, 2006; Wu, 2002; Wu, 2004). Overcrowding, low quality, poor infrastructures, and social and environmental problems are common in housing in urban villages (Wang et al., 2010). Income and education have positive effects on the housing conditions of migrant workers. Jiang (2006) made comparisons between the floating and the local population, between the floating population from rural areas and from urban areas, and among the floating population from rural areas in terms of their housing conditions. Aside from *Hukou* status (i.e., agricultural or non-agricultural), the reasons for migration (e.g., job hunting, demolition of residence, and living with relatives or friends), duration of stay in the locality, age, education, and occupation have significant effects on housing choice. Interestingly, the longer the floating population has stayed in the locality and the older it is, the worse housing conditions it bears.

Table 2. 1 Housing layout of migrant households and local households

Number of rooms	China		Shenzhen	
	Migrant workers	Local residents	Migrant workers	Local residents
Bedroom	1	46.0%	17.3%	68.1%
	2	39.0%	55.4%	27.5%
	3	12.5%	19.8%	4.4%
	4	1.5%	3.9%	0
	5	0.5%	1.1%	0
Living room	0	24.4%	16.9%	18.7%
	1	69.4%	71.2%	79.1%
	2	5.8%	11%	2.2%
Washroom	0	21.3%	15.4%	1.1%
	1	76.3%	79.9%	98.9%
	2	2.1%	3.8%	0

*Source:* CGSS

This research aims to investigate further and verify the living conditions of migrant workers in Shenzhen through questionnaire surveys. Data were used for descriptive

analysis and as independent variables contributing to the residential satisfaction of migrant workers. As the subjects of this study are exclusively migrant workers, the effect of the distinction between local and non-local *Hukou* was excluded. The effects of relevant factors (e.g., rural vs. urban *Hukou*, housing choices, income, and education) on housing conditions were also excluded because these factors are not the focus of this research. Nevertheless, these factors were included in the analysis of housing choices and residential satisfaction.

#### 2.3.4 Residential Satisfaction of Migrant Workers

According to Canter and Rees (1982), residential satisfaction is the degree to which the residential environment can help residents achieve their goals. The degree of satisfaction can be obtained by a comparison between people's real residential environment and their ideal one. Wolpert (1965) proposes an expected utility threshold to represent people's tolerance of environmental stress: an evaluation above the utility threshold denotes satisfaction, and one below the threshold denotes dissatisfaction.

The study of residential satisfaction has two dimensions: (a) residential satisfaction itself and (b) its impact, such as on residential mobility (i.e., predictor of moving or residential improvement). In the first approach, people evaluate the attributes of a particular residential environment and then express a certain degree of satisfaction. The first dimension can be further classified into four subcategories. The first subcategory is the residential satisfaction of certain demographic groups. Based on an ethnicity perspective, Jagun et al. (1990) employed multivariate techniques to identify the factors that best predict the residential satisfaction of urban black adults. Physical environment, socio-economic, and personal variables were identified as the predictors of residential satisfaction. Elsinga and Hoekstra (2005) compared the housing satisfaction level among eight countries classified into three groups, namely, English-speaking countries, countries with a well-developed rental sector, and Southern European countries. The effects of homeownership on housing satisfaction were analyzed, and the extent of the effects among the given countries was also compared. The second subcategory is the residential satisfaction of people at certain stages of life. Amerigo and Aragone (1997) analyzed the residential satisfaction of around 1,000 housewives in terms of its cognitive, subjective, social, and behavioral

aspects. These subjects were divided into three subsamples: those who have recently moved to brand new flats, those living in substandard accommodations and waiting for rehousing, and those whose houses are undergoing repair. Amerigo and Aragoné propose that the following contribute to residential satisfaction: non-overcrowding of the house, relationships with neighbors, housing quality, urban insecurity, infrastructure, neighborhood facilities, residential safety, overcrowding, and health infrastructure. Oh (2003) examined the residential satisfaction of elderly urban residents in Chicago. In China, a similar research was also conducted on the residential conditions and satisfaction of elderly residents (Li & Chen, 2011). The third subcategory is residential satisfaction with respect to certain housing preferences. Ge and Hokao (2006) conducted surveys in two Japanese cities. The respondents were divided into groups according to housing preference patterns in terms of comfort, health, safety, and community. The fourth subcategory is the levels of residential satisfaction with particular building performance and design. Mohit, Ibrahim, and Rashid (2010) examined the elements and facilities influencing people's residential satisfaction levels in a newly designed public low-cost housing in Kuala Lumpur, Malaysia. Li (2010) studied people's residential satisfaction levels with affordable housing (i.e., Jingji Shiyong Fang, public housing selling to low- and medium-wage earners) in Beijing, China. The need for studying spatial segregation was noted. Ng, Palaneeswaran, and Kumaraswamy (2011) compared the levels of residential satisfaction before and after the implementation of ISO 9000 in Hong Kong, confirming the advances made by employing ISO 9000-based quality management systems.

As for the second dimension, people make decisions on whether to stay or improve their current residence (i.e., residential mobility) according to their evaluation of the residential environment. Residential satisfaction is useful for guiding the formation of housing policies and assessing their performance (Jagun et al., 1990). Bach and Smith (1977) elaborated the residential mobility model of Speare (1974) by applying it to inter-country migration with panel data. Bach and Smith propose two hypotheses: that an interaction exists (*a*) between community satisfaction and expectation to migrate and (*b*) between community satisfaction and actual migration. Ukoha and Beamish (1997) and Jiboye (2010) assessed the satisfaction of public housing residents in Nigeria to provide feedback for the government and housing technocrats. However,

other researchers (e.g., Aragonés, Francescato & Garling, 2002) argue that the satisfaction score itself cannot be a valid assessment measure of the performance of housing policies, programs, and implementations. The score is meaningful only when used to compare several residential settings and conditions. As a result, housing attributes should be analyzed to explain residential satisfaction so that suggestions on policy making can be proposed.

Residential satisfaction has the following factors: (1) household attributes such as age, gender, race, education, tenure, income, duration of residence, *Hukou* (in China), household type (i.e., marital status), household size, dependent children, and residential mobility experience; (2) housing characteristics such as crowding ratio, unit size, housing type (i.e., public or not), housing conditions (e.g., dining space), housing cost, percentage of housing cost vis-à-vis income, housing market, and property value; and (3) neighborhood characteristics such as housing location and friends and relatives. Age has a positive effect on residential satisfaction levels (Speare, 1974; Lu, 1999), a result that Deane (1990) and Mohit et al. (2010) contradict. Marriage status, dependent children, income, unit size, homeownership, the proportion of housing cost to income, property value, housing facilities, friends and relatives, public housing, neighborhood satisfaction, and satisfaction with different aspects of the residence positively affect residential satisfaction levels (Speare, 1974; Deane, 1990; Lu, 1999; Oh, 2003; Holly, 2004; Fang, 2006; Mohit et al., 2010). Factors such as household size, crowding ratio, housing market conditions (e.g., vacancy rates and housing price), location in the central city, and mobility in the past 12 months negatively affect residential satisfaction levels (Speare, 1974; Deane, 1990; Mohit et al., 2010). Education, gender, and *Hukou* also affect residential satisfaction levels (Speare, 1974; Deane, 1990; Lu, 1999; Holly, 2004; Fang, 2006).

The housing satisfaction of migrant workers in China does not follow “standard patterns” (Li et al., 2009). Migrants seem more satisfied with employer-provided housing than with private rental housing, although the former is associated with more problems, such as poor conditions (Li & Duda, 2010). Wu (2002) proposes that most migrant workers feel neutral or good about their housing conditions and less dissatisfied with their current residence compared with the local residents probably because of migrants’ preference for convenience and low cost. According to Wu

(2004), almost 90% of migrants are happy about the travel distance, less than half are happy about the housing facilities and the size of living space, and most indicate that the housing conditions in the locality are worse than those in their hometowns.

The literature on residential satisfaction has focused largely on the whole population or on subpopulations, such as the elderly, women, and public housing residents, and the literature on migrant workers have focused mainly on individual characteristics (Chai & Chai, 1997; Goodkind & West, 2002), spatial distributions (Wu, 2008), living conditions (Shen, 2002; Wu, 2002; Shen & Huang, 2003; Jiang, 2006), and housing choices (Shen, 2002; Wu, 2002; Shen & Huang, 2003; Li, Duda & An, 2009; Logan, Fang & Zhang, 2009; Ding, Qiu & Wang, 2011). Studies particularly examining the residential satisfaction of migrant workers are rare. Such existing studies are mainly descriptive analyses (Wang, Hou & Zhai, 2010). The underlying reasons for the residential satisfaction of migrant workers have not been properly examined.

In this research, both dimensions (i.e., residential satisfaction and its relation to residential mobility) were examined. For the first dimension, the demographic group is migrant workers. The influence of demographic characteristics (e.g., age, gender, and income) on the residential satisfaction of migrant workers was explored. As most migrant workers are young (i.e., 20 to 30 years old), this research can be regarded as a study on the residential satisfaction at an early stage of life. The effects of life stage factors (e.g., marital status and dependent children) were included in the analysis. The residential preferences of migrant workers were classified into three spectra, the effects of which were also examined. Housing type was also included in the analysis to examine if residential satisfaction varies with housing type. As to the second dimension, its relation to residential mobility (i.e., residential mobility plan) was analyzed and discussed. Aside from those of the abovementioned factors, the effects of particular characteristics of migrant workers (i.e., trade, fellow villagers, social security, plans to work in other cities and to return to their hometown, and residence card) on the residential satisfaction of migrant workers were similarly examined.

### 2.3.5 Housing Policies on Migrant Workers in China

Both the central government and the local governments have promulgated policies on

alleviating housing poverty among migrant workers. For instance, the State Council promulgated “Several Views on Solving the Issues of Rural Migrant Workers” in 2006, whose focus was to improve gradually the living conditions of migrant workers in various ways: (1) by allowing self-built dormitories for enterprises employing many migrant workers from rural areas; (2) by strengthening the planning, construction, and management of urban peripheries to accommodate many rural migrant workers; (3) by including the housing issues of rural migrant workers in the urban housing development plan; and (4) by creating an HPF for rural migrant workers in well-off cities. The issue on the housing settlement of migrant workers was also mentioned in “Several Views on Solving the Housing Poverty of Urban Low-income Households” (State Council, 2007), a development of the previous housing policies that mention the redevelopment of urban villages and advise the construction of some dormitories in the villages, especially for rural migrant workers to rent, based on proper urban and land use planning. Aside from the State Council, the Ministry of Construction and other relevant departments also raised some suggestions in 2007. Enterprises have been appointed to hold the main responsibility, and the local governments are required to encourage and guide indigenous villagers who live in rural–urban areas to rent their houses to rural migrant workers. In May 2012, the Ministry of Housing and Urban–Rural Development of the People’s Republic of China promulgated “Measures for the Administration of Public Rental Housing,” which has been implemented since July 15, 2012. Migrant workers who have worked in the locality for certain years (the number of years is determined by the local government) are eligible to apply for public rental housing.

Local governments in China usually adopt two approaches to accommodate migrant workers. The first approach is to separate the housing provision from the urban welfare housing system, that is, enterprises serve as the main housing providers, and the government plays a complementary role. The second approach, usually adopted in cities where public housing resources are sufficient, is to include migrant workers in the public housing system. For example, the Chongqing government allows the floating population to purchase the Economic Affordable Housing. The government of Guangdong Province promulgated “Views on Further Strengthening Services for Rural Migrant Workers” in 2006 and planned to include migrant workers to the urban housing construction plan. The Shenzhen government plans to gradually include

low-income migrant workers in public rental housing (Shenzhen Government, 2007; Shenzhen Municipal Bureau of Land Resources and Housing Management, 2008). Comprehensive environmental remediation in urban villages and community and property management are required to improve the living conditions of migrant workers. Dormitories are encouraged to be constructed in industry parks by enterprises or relevant government authorities under the principle of intensive land use. The housing construction plan of Shenzhen (2006) emphasizes the security function of public rental housing for both local residents and migrant workers. Aside from policies and housing construction plans, the Xiamen government promulgated in 2009 the first legislation in Mainland China on public housing, followed by the Shenzhen government in 2010. However, the Xiamen government did not include migrant workers in the public housing legislation (the Shenzhen government did), but it plans to include particular groups of migrant workers (i.e., talents and migrant workers who have paid social insurance in Shenzhen for years) in the public housing system step by step.

According to a review of relevant policies, public rental housing is available to migrant workers at the policy level. The policies encourage the utilization of dormitories and urban villages. Proper urban planning is recommended for implementation in urban periphery areas and villages. The housing of migrant workers is encouraged to be included in the urban housing construction plan. However, the corresponding implementation is to be further investigated and confirmed.

This research employed a three-round survey (i.e., pilot survey, questionnaire survey, and a second round of interviews) to fill the knowledge gaps. The public housing provision was also included in the organized analysis of housing supply for migrant workers.

## **2.4 Affordable Housing Provision**

The study of the problem of housing settlement for migrant workers essentially comes down to the study of how to provide affordable housing for migrant workers. Many studies have examined affordable housing provision, which can be generally divided into four spectra: regulations (e.g., planning policies and housing schemes), financial

instruments, fiscal instruments, and stakeholders providing affordable housing.

Measures such as inclusionary zoning, betterment tax, planning bonuses, diversified housing suppliers, housing finance, and land supply initiatives have been proposed to increase affordable housing provision. From a planning perspective, Whitehead (2007) examined the conceptual basis and successful application of the land use planning approach in England, arguing that the planning approach should be implemented together with other methods, such as large-scale government financial support, to guarantee the success of affordable housing provision. In Australia, Berry (2003) examined the housing policy settings, made comparisons between several approaches aiming to mitigate the housing affordability problem, and found the consortium bond model to be the most cost-effective approach. In Hong Kong, Chiu (2007) found that the ownership of land and development rights, together with government commitment and priority in solving housing problems, enables the effective provision of affordable housing for half of the population. Planning tools are hardly necessary. From a financial perspective, Gibb and Whitehead (2007) clarified the incremental approach adopted by the UK government to restructure the housing finance and subsidy in 1975 to 2000 and investigated the outcomes and shortcomings.

In Mainland China, Mak, Choy, and Ho (2007) studied the housing market, housing policies, and overall housing conditions since the 1980s and found that the housing affordability problem is serious. Li and Zhang (2011) examined the interactions between state and private housing providers and found that the private sector is in a good position to provide housing for migrant workers. Wang et al. (2010) propose the urban village approach as an alternative method for housing migrant workers because of the good location, relatively safe rental tenure, and affordable amenities. This approach has the characteristics of no government support, flexibility in meeting diverse needs, balance between housing demand and supply through the market, affordability, and less emphasis on design standards. This method is suitable for accommodating migrant workers. However, the planning and design standards of buildings should be improved.

Although many studies on affordable housing provision have been made, research on how to provide affordable housing, particularly to migrant workers and especially from a holistic perspective, is limited. The present study aims to fill this knowledge

gap.

## **2.5 Summary of the Research Gap**

### **2.5.1 To Examine the Housing Demand and Housing Supply for Migrant Workers**

Previous research on migrant workers has largely focused on either the housing demand (e.g., demographic characteristics and housing preferences) or the housing supply (e.g., public housing system, housing choices, and housing conditions). Not many studies have examined the demand and supply aspects in totality. The needs of migrant workers and the kind of housing offered should be understood so that current resources can be utilized. A clearer understanding of housing inadequacies should be gained.

Residential satisfaction can reflect whether the housing supply can meet the demands of migrant workers to a large extent. However, studies particularly examining the residential satisfaction of migrant workers are rare. Previous research has focused mainly on the individual characteristics, spatial distributions, living conditions, and housing choices of migrant workers. The residential satisfaction of these workers is mentioned largely as a minor part in the research and through descriptive analysis. The underlying reasons have not been properly examined.

Housing affordability has seldom been analyzed from the migrant workers' perspective. The overall housing affordability of migrant workers is lower than that of local residents because of the former's lower income. However, because migrant workers belong to a special population group (e.g., low-income, lacking a sense of belonging to the locality, mobile, and saving-oriented), they have a particular housing consumption behavior. Thus, comparing the housing affordability of migrant workers with that of local residents is not significant. Instead, whether migrant workers can afford their current residences, the extent to which they can afford such residences, and the comparison between housing type and different income level should be examined.

Moreover, the comparison between the current residence and the expected residence of migrant workers can show whether the housing supply can meet the demands.

However, such a comparison was seldom done in previous research.

### 2.5.2 To Examine the Underlying Reasons for Housing Migrant Workers

From the housing demand side, only a limited number of studies have investigated the residential satisfaction and residential preferences of migrant workers. Most of these studies employed descriptive analyses, and the underlying reasons were not sufficiently examined. In this paper, the effects of demographic characteristics, life cycle factors, housing choices, and mobility characteristics were examined, as is the relationship between housing satisfaction, housing choices, and residential preferences, and the relationship between residential satisfaction and residential mobility.

### 2.5.3 To Examine All Housing Options Available to Migrant Workers

First, from the housing supply side, considerable research has focused on either the public sector or the private sector, for example, urban villages and dormitories. Studies on the combination of these housing options are rare. Residence in the hometown of the migrant workers is seldom included in the analysis.

Second, the housing path of migrant workers in China has seldom been studied. Aside from the current housing choices, previous housing choices and expected housing choices have to be examined in an organized manner.

Third, research on providing affordable housing particularly to migrant workers from a holistic point of view is limited.

### 2.5.4 To Verify and Supplement Previous Research on Migrant Workers in China

First, given the lack of officially released data on migrant workers in China and the fact that previous studies have been largely based on city-wide surveys, more empirical research is needed to verify and supplement the perspectives of demographic, mobility, and housing characteristics.

Second, factors concerning migrant workers have been examined in previous research, for example, the effects of the social security system, trade, spouse income, residence in their hometown, cognition, and expectation of the locality, among others.

Third, the corresponding implementation of relevant policies (e.g., public rental housing) were investigated further and confirmed with the interviews with the government officials and migrant workers.

## **2.6 Summary of the Chapter**

This chapter introduces the relevant terms used in this study. It reviews the literature on housing choices, living conditions, and residential satisfaction of migrant workers as well as housing policies, followed by the review of affordable housing provisions. Data from different sources are presented and compared. After each section of the review, the respective research gap is identified. The links between this study and previous ones, as well as the corresponding survey design, are presented at the end of each section. Lastly, the research gaps are elaborated and summarized.

The next chapter presents the analytical framework of this study in terms of research theories and research flowcharts.

### ***Notes:***

1. SEZ was established in 1980 to explore the market economy in China. Shenzhen was divided into two parts (Inside SEZ: Luohu, Yantian, Futian, and Nanshan districts; Outside SEZ: Bao'an and Longgang districts). Since July 1, 2010, the SEZ has been extended to the entire city.
2. CGSS is an annual national survey that has been conducted since 2003 by the People's University of China and the Hong Kong University of Science and Technology.

## **CHAPTER 3: RESEARCH DESIGN**

### **3.1 Scope of the Chapter**

This chapter introduces the design of the study in terms of relevant theories, analytical frameworks, and justification. It begins with an introduction of the relevant theories, followed by the theory employed in this study. The overall analytical framework of this study is presented, and three analytical sub-frameworks (i.e., housing demand, housing supply, and comparison between housing demand and supply) are explained. Lastly, the justification of the research design and the research flowchart are presented.

### **3.2 Relevant Theories**

This study aims to investigate how to provide more adequate and affordable housing for migrant workers in China. It has seven objectives, as stated in Chapter 1 (Section 1.4). In summary, the characteristics of migrant workers, their housing demand, their housing supply, and the balance between the housing demand and supply were examined. Theories pertinent to migration, stakeholders, and their relationship with housing provision, housing demand, and housing consumption behaviors were reviewed as follows.

#### **3.2.1 Laws of Migration**

Migration is defined as a “permanent or semi-permanent change of residence” (Lee, 1966). Most of the current research on migration stems from the pioneering work of Ravenstein (1889), who developed the concept of the laws of migration, which stipulate the following: 1) the majority of migrants move only a short distance; 2) migrants do not reach their destination localities directly but instead arrive there through a series of steps; 3) each migration stream tends to be accompanied by a compensating counterstream; 4) economic factors are the major cause of migration; 5) females are predominant among short-distance migrants; 6) residents from rural areas are more likely to move; and 7) migration increases along with the economic development of manufacturing and commerce. Lee (1966) further developed Ravenstein’s theory and explored the push-and-pull factors, that is, the attractive and unattractive features. These features are associated with the migrants’ place of origin,

destination, intervening obstacles (e.g., distance and immigration laws), and personal factors (e.g., intelligence and personality), respectively. Lee also proposed hypotheses on the volume of migration, the development of streams and counterstreams, and the characteristics of migrants. Rossi (1980) developed two sets of mobility indices: 1) mobility potential indices (e.g., household size, age, tenure preferences, and others) and 2) complaint indices (i.e., evaluations of dwellings and neighborhoods, and the extent to which perceived housing needs can be met).

### 3.2.2 Institutional Approach

The institutional approach (also called managerial perspective) emphasizes the effects of institutions such as the government, mortgage lending companies, and real estate agents. Sufficient attention should be given to the interplay between social and spatial constraints, which can be best understood by examining the activities of the “managers of society,” for example, landowners, builders, real estate agents, and mortgage companies (Cadwallader, 1992). These constraints determine the different access to various resources (e.g., housing) by migrants (Pahl, 1969). However, this approach has been criticized for regarding managerialism as a theory rather than a framework and for neglecting the relationship between managers and the general political economy context (Williams, 1978).

### 3.2.3 Neoclassical Economics Theory and the Behavioral Approach

Both neoclassical economic theory and the behavioral approach emphasize consumer preferences and the demand side of the economy (Cadwallader, 1992). The neoclassical economic theory suggests that labor moves in response to interregional wage differentials. The volume of migration will increase if the differential increases. It signals a shift from the emphasis on the production side of economic systems to a fuller consideration of consumer preferences. From the micro-level perspective, the behavioral approach is characterized by adopting individual or micro-level data. It is concerned with identifying the regularities in actual behaviors. It aims to understand individuals’ decision-making progress within a social psychological context. Both theories have been criticized for neglecting social restrictions (e.g., the housing market) on individual behaviors.

### 3.2.4 Housing Pathway Theory

The housing pathway is typically associated with housing career and housing ladder. Housing career refers to the sequence of residences occupied by a household during its history (Bolt & Kempen, 2002). The sequence of residences, that is, housing career, is usually hierarchical. Households usually migrate from a relatively lower-standard to a higher-standard dwelling. However, the order of the housing standard may be different because it depends on particular regions or periods. Households may move upwards or sideways or even downwards. Moreover, different households have different housing aspirations. The housing ladder is commonly used for this hierarchy (Bolt & Kempen, 2002). At the bottom of the housing ladder, the dwellings usually have poorer conditions and are more easily accessible. In the higher rungs of the ladder, the qualities of the dwellings are better but less accessible. Bolt and Kempen (2002) contend that natives and immigrants have different housing needs, housing preferences, and abilities to realize their housing aspirations. As a result, their housing careers may differ.

### 3.2.5 Network Approach

A number of researchers, such as Bortel and Elsinga (2007) and Czischke (2007), adopted the network approach to examine the organization and provision of social housing, which proved to be workable. This approach describes the patterns of relationships between interdependent public, semi-public, and private actors. The policy network refers to “a set of relatively stable relationships which are of non-hierarchical and interdependent nature linking a variety of actors, who share common interests with regard to a policy, and who exchange resources to pursue these shared interests, acknowledging that co-operation is the best way to achieve common goals” (Börzel, 1997).

### 3.2.6 Synthesis of Macro and Micro Approaches

The synthesis of the macro and micro approaches is suggested to most likely provide a unified yet flexible framework for investigating migration (Cadwallader, 1992). The macro approach is concerned with explaining the aggregate migration behavior by measuring the characteristics of the socioeconomic and physical environments (i.e., income, unemployment, and climate). The micro approach attempts to explain

migration in the context of the psychological decision-making process and is concerned with how individuals choose between alternatives.

### 3.2.7 Theories Adopted by This Study

To achieve the seven objectives stated in Chapter 1, the synthesis of macro and micro approach was adopted in this study. The network approach was used to examine how to improve housing affordability and adequacy for migrant workers. Stakeholders involved in the housing provision and their relationships were examined. The synthesis of macro and micro approaches relates to large-scale socioeconomic elements with individual characteristics, for example, demographic characteristics and housing preferences, in a holistic way. For instance, housing choice is not only related to micro-level factors such as housing preferences but also to macro-level factors such as institutional arrangements and government policies. Moreover, the housing career of migrant workers was explored by employing the survey data (e.g., previous residence, current residence, expected residence, and residential mobility plan) from Shenzhen, China. The findings will shed light on how to accommodate migrant workers properly and sustainably.

Other relevant theories serve a complementary function and explain the research findings. The laws of migration can largely explain the migration in China, and the institutional approach can explain the limited access of migrant workers to the urban housing system. The neoclassical economic theory and the behavioral approach can explain the incentives of migration and the housing demand of migrant workers.

## 3.3 Analytical Framework

### 3.3.1 Overall Framework

To synthesize the micro and macro perspectives, this study is composed of three parts (Figure 3.1), namely, housing demand and housing supply, comparison between housing demand and housing supply, and discussion and conclusion. In this regard, the overall analytical framework is constructed from the holistic point of view.

Part 1 (housing demand and supply) was conducted from the micro-level perspective. As stated in Chapter 1 (Section 1.6), the demographic characteristics of migrant workers, residential mobility history, housing choices, housing conditions, residential

preferences, and others were examined under the section entitled “Housing Demand.” Housing provision in the private and public sectors as well as housing in the migrants’ hometown were examined from the perspective of housing supply.

Part 2 (comparison) was also conducted from the micro-level perspective. The housing affordability for migrant workers, residential satisfaction, and comparison of current and expected housing were examined.

Part 3 (discussion and conclusion) employed the network approach, and it was conducted from the macro-level perspective. Network approach describes patterns of relationships between interdependent public, semi-public and private actors. It was employed to explore how to increase the affordable housing provision for migrant workers from the perspectives of stakeholders, housing subsidies, housing incentives, housing financing and institutional arrangement. Suggestions on providing more adequate and affordable housing for migrant workers in China were proposed.

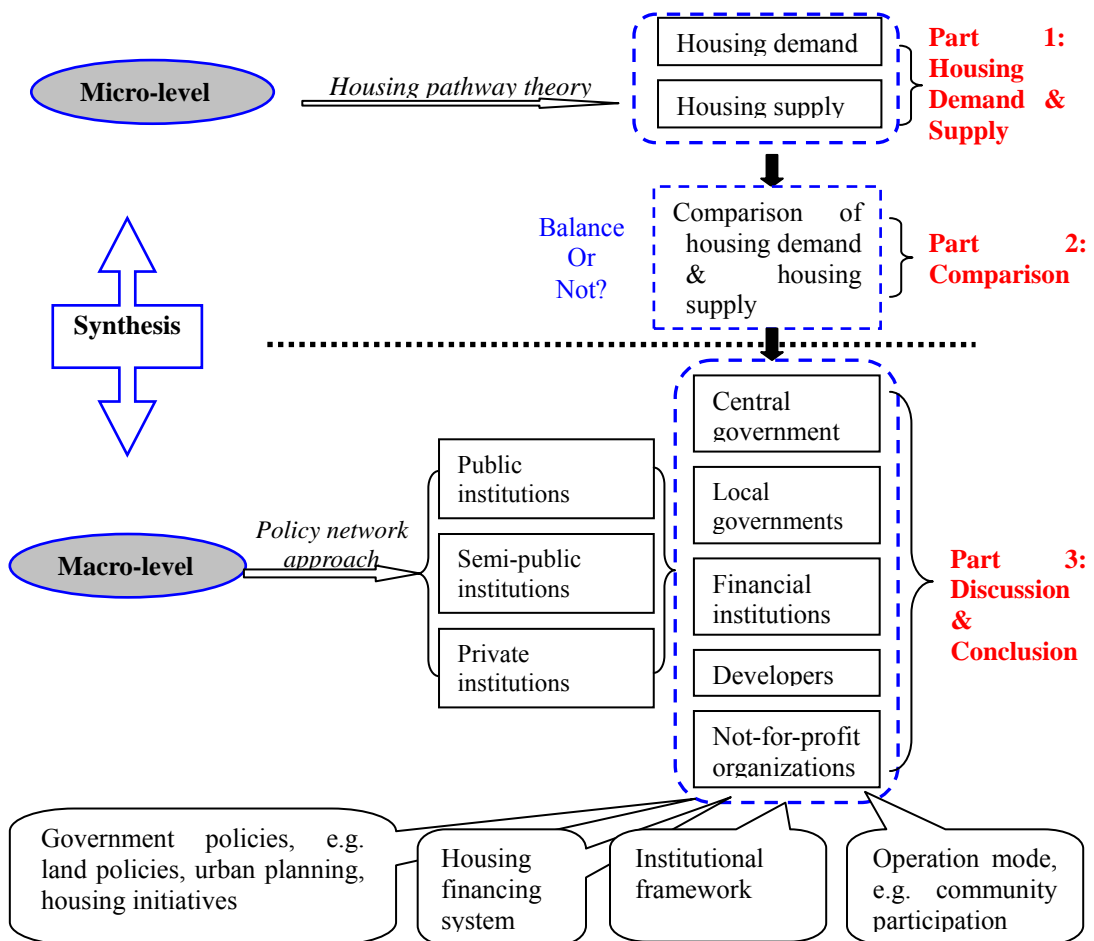


Figure 3. 1 Overall analytical framework

### 3.3.2 Analytical Sub-framework: Housing Demand

To better understand and cater to the housing needs of migrant workers, their demographic characteristics, cognitive level of the locality, residential mobility history, housing choices, main sources of housing funds, housing conditions, residential preferences, and housing expectations are presented and examined in Chapter 5. The factors affecting the housing choices of migrant workers were also explored. Four models of the demographic characteristics, mobility characteristics, cognition and expectation of the locality, and residential preferences, respectively, were constructed to test their respective contributions to migrant workers' housing choices. Figure 3.2 illustrates the analytical framework of the housing demands of migrant workers.

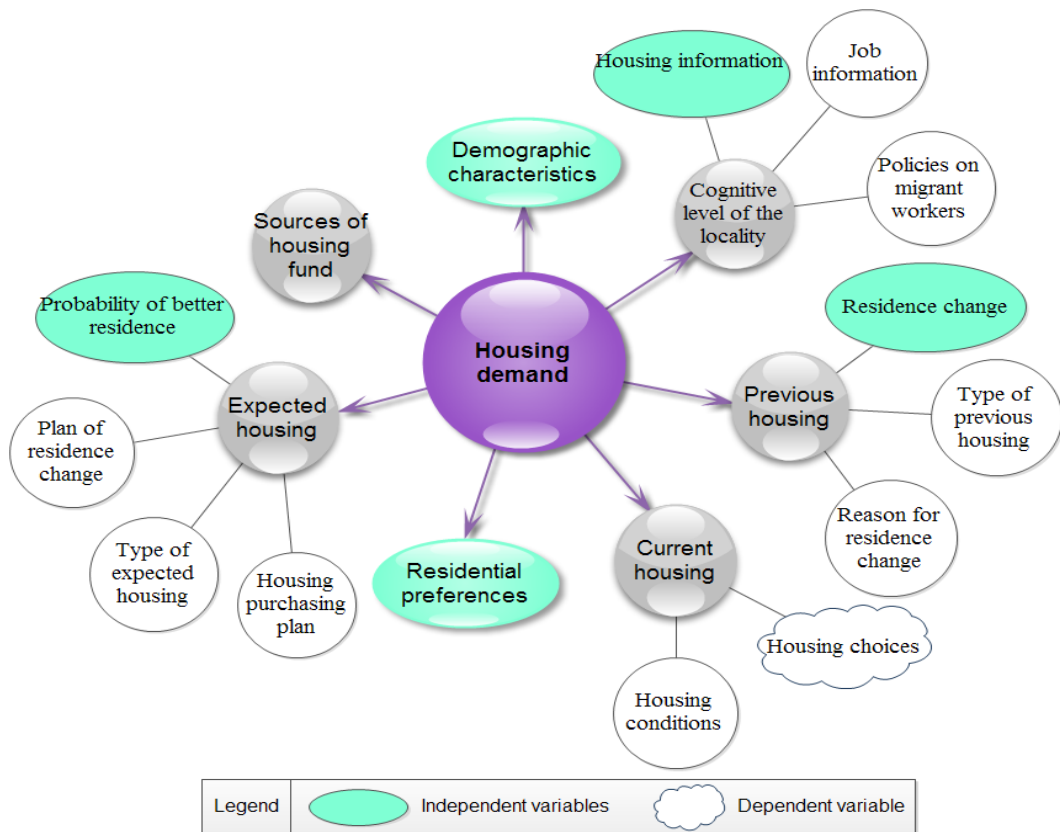


Figure 3. 2 Housing demands of migrant workers in China

### 3.3.3 Analytical Sub-Framework: Housing Supply

All housing available for migrant workers, including private and public housing, housing in the locality and hometown, and housing in urban and rural areas, are presented in Figure 3.3. Housing policies on migrant workers from both the central government and the local governments were examined. Aside from the different housing provisions, the stakeholders and their relationship with housing provision

were studied.

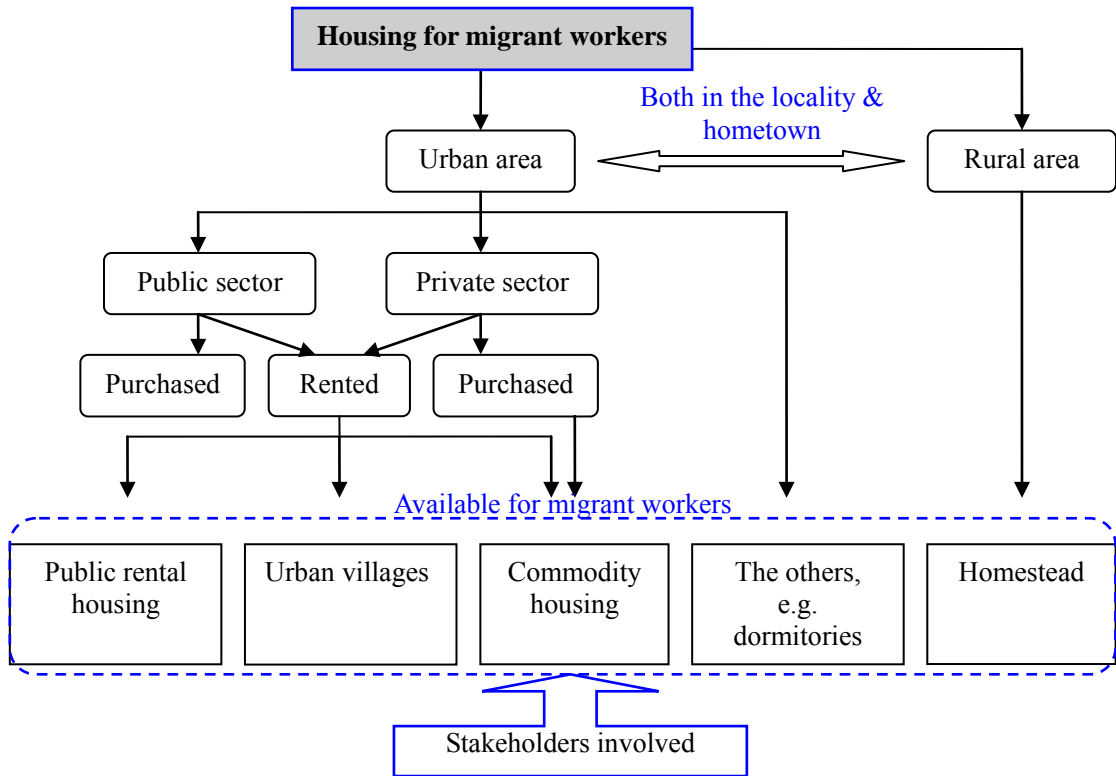


Figure 3. 3 Housing supply for migrant workers in China

### 3.3.4 Analytical Sub-Framework: Comparison between Housing Demand and Supply

To demonstrate whether housing supply can meet the demand of migrant workers, housing affordability, residential satisfaction, and expected housing were examined accordingly. Housing affordability was examined by calculating the affordability ratio of migrant workers. Residential satisfaction was shown. Moreover, three models (i.e., Model 1 on the general factors such as age, gender, and education; Model 2 on the specific factors such as social security, work mobility, and residential mobility; and Model 3 on the institutional factors such as the *Hukou* and Residence Card) were established to explore the factors affecting migrant workers' residential satisfaction. The ordinal regression technique was employed. Lastly, migrant workers' expected housing was compared with their current housing in terms of the proportion of housing occupancy or expectation.

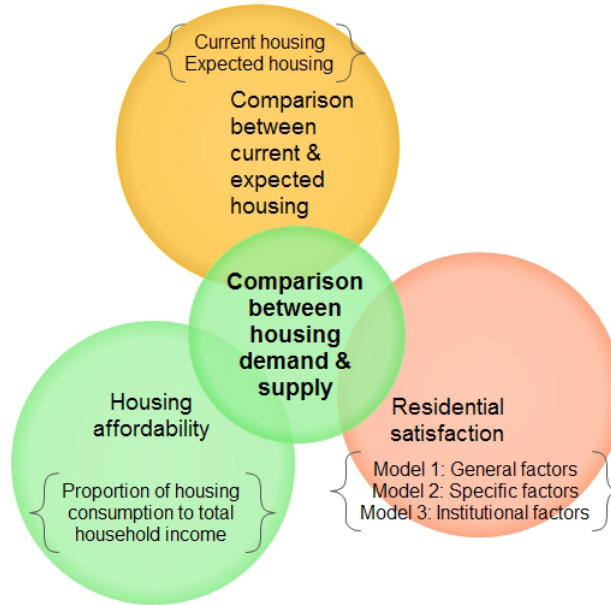


Figure 3. 4 Comparison between housing demand and supply

### 3.4 Justification of the Research Design

Considering the research purpose and the research objectives (Chapter 1), this study falls under the category of an exploratory research. Given the limited knowledge about housing settlements for migrant workers, the case study was employed as the research strategy to facilitate an in-depth investigation of this research topic. To collect the required data (i.e., firsthand and secondhand as well as in-depth and large-scale) as mentioned in the last section (i.e., Analytical Framework), both qualitative and quantitative techniques were used. The literature review, interview (i.e., both semi-structured and structured), and questionnaire survey were used to collect data. The research process and the corresponding research methods are presented in Figure 3.5.

The pilot interview has two purposes: to refine the research problems and prepare the questionnaire design, and to collect data pertinent to updated government policies, the corresponding implementation, and public housing provision. The pilot questionnaire survey aims to refine the questionnaire design, determine the practical conditions of migrant workers, and better facilitate the data collection of the second phase.

A questionnaire survey was employed to collect city-wide data. Chapter 4 explains the details of the implementation.

As the pilot interviews were conducted in 2009, and the questionnaire survey was

conducted in 2010, the current situation could change to a certain extent. Moreover, as the SEZ was cancelled on July 1, 2010, its influence on migrant workers (i.e., on their migration and housing consumption behavior) is uncertain. A verification survey is useful to obtain more valid information. The second round of interviews with government officials has three purposes: to verify the findings of the questionnaire survey, to look into the latest implementations of relevant policies, and to understand the possible measures that the government can take to address the housing issues of migrant workers. The interview with migrant workers has two purposes: to verify the findings of the questionnaire survey and to examine their responses to the latest policies, for example, urban renewal and the cancellation of the SEZ.

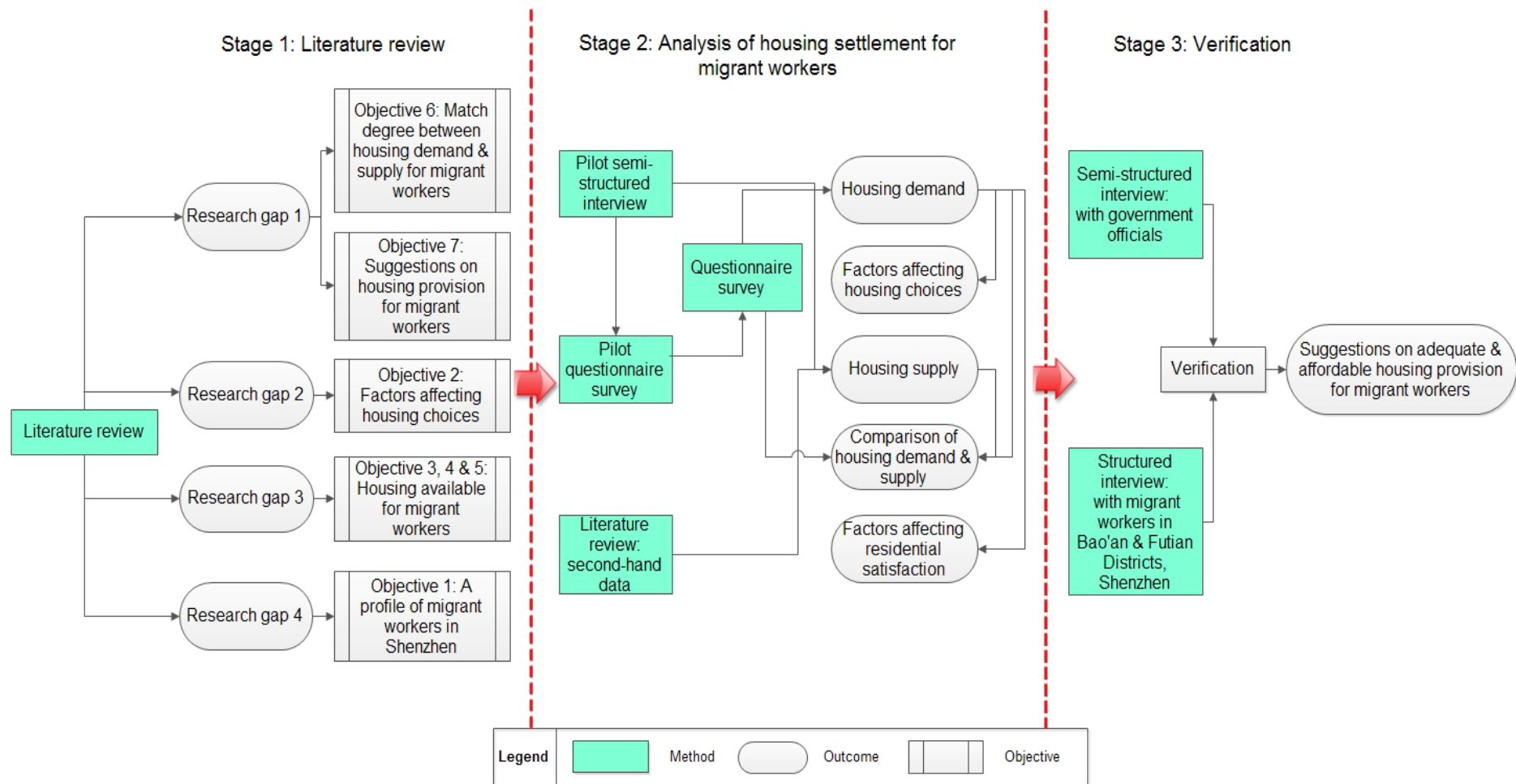


Figure 3. 5 Research flowchart

### **3.5 Summary of the Chapter**

This chapter reviews the theories related to this study. The synthesis of the macro and micro approaches is conducted. The network approach is used to propose solutions on the provision of more adequate and affordable housing for migrant workers. Other relevant theories, such as the laws of migration and the institutional approach, are used to explain the research findings.

In accordance with the synthesis of macro and micro approaches, the analytical framework of this study (Figure 3.1) is constructed with three parts: housing demand and housing supply, comparison between housing demand and supply, and discussion and conclusion. The overall analytical framework and the three sub-analytical frameworks are illustrated in Figures 3.1, 3.2, 3.3, and 3.4, respectively.

Lastly, this chapter presents the justification of the research design (Figure 1.4 of Chapter 1). The research flowchart is illustrated in Figure 3.5.

The next chapter explains the detailed implementation of the research methods.

## **CHAPTER 4: RESEARCH METHODS**

### **4.1 Scope of the Chapter**

This chapter explains the implementation of the corresponding research methods proposed in Chapter 3. It begins by introducing the study area of Shenzhen. The research methods employed by the pilot study are elaborated, that is, the semi-structured interview and the questionnaire survey, followed by the method of data collection (i.e., questionnaire survey at the city level). The tools for data analysis (i.e., logistic regression and factor analysis) are explained. Lastly, the implementation of verification, that is, the semi-structured interview with government officials and the structured interview with migrant workers, is discussed.

### **4.2 Study Area**

Shenzhen is selected as the study area for the case study for the reasons explained in Chapter 1 (Section 1.2.2). Shenzhen is a coastal city in Southern China, adjoining Hong Kong. It is a sub-provincial city of Guangdong Province. The SEZ was established in May 1980 as a trial run for China's reform and opening-up policy. The SEZ has direct jurisdiction over six districts (i.e., Luohu, Futian, Nanshan, Yantian, Bao'an, and Longgang) and two new zones (i.e., Guangming and Pingshan). Before July 1, 2010, the Luohu, Nanshan, Futian, and Yantian were included in the SEZ, but Bao'an, Longgang, Guangming New Zone, and Pingshan New Zone were left outside of it. The SEZ was approved by the central government to expand and cover all these districts and new zones from the aforementioned date (Shenzhen Government Online, 2012).

Guangming New Zone and Pingshan New Zone are not administrative-level districts. They were established by extracting several streets from the Bao'an and Longgang districts in 2007 and 2009, respectively. Thus, Shenzhen was divided into six survey areas for the purposes of this study. The two new zones are within the survey areas of Bao'an and Longgang. Figure 4.1 shows the geographical distribution of these six survey areas. Table 4.1 presents the details on the population, non-local population, proportion of non-local population, and area of each district according to the statistical yearbook.



Figure 4. 1 Administrative districts of Shenzhen  
 Source: modified from Oeee Net, 2010

Table 4. 1 Population and area of each district in Shenzhen

Districts	Luohu	Futian	Nanshan	Yantian	Bao'an	Longgang
<b>Population</b> (Unit: 10,000)	87.45	119.94	94.32	22.13	344.65	193.06
<b>Non-local population</b> (Unit: 10,000)	49.25	68.26	55.29	18.49	301.84	156.05
<b>Proportion of non-local population to population</b>	56.32%	56.91%	58.62%	83.55%	87.58%	80.83%
<b>Area</b> (Unit: km <sup>2</sup> )	78.36	78.80	182.00	72.63	733.00	844.07

Source: Shenzhen Statistical Yearbook 2009

### 4.3 Pilot Study

#### 4.3.1 Selection of Research Methods

As stated in Chapter 3 (Section 3.4), the purpose of the pilot study is as follows: 1) to refine the research questions; 2) to provide information for the questionnaire design; 3) to obtain the latest information about government policies on migrant workers, the corresponding implementation methods, and the public housing provision; 4) to obtain a better understanding of migrant workers and improve the questionnaire design; and 5) to refine the implementation of the questionnaire survey.

To achieve the first three purposes, the semi-structured interview was employed. Qualitative interviews can be broadly divided into three categories: unstructured, semi-structured, and structured interviews (Bloom and Crabtree, 2006). The semi-structured interview typically includes a set of predetermined open-ended questions as well as questions emerging from the dialogue between interviewers and

interviewees. Compared with the structured interview, the semi-structured interview is more flexible and is suitable to be employed as a technique to explore the respondents' perceptions and opinions on complicated issues. More information and clarifications can be obtained in this manner (Barriball & While, 1994). Moreover, it is tailor-made for each interviewee, which facilitates the understanding of the interviewee's background and opinions.

To obtain a better understanding of migrant workers and to refine the design and implementation of the questionnaire (as stated in the last two purposes), a pilot survey was conducted. From the perspective of questionnaire design, the pilot survey can test if the questions are intelligible and easy to answer. The content of the questionnaire (i.e., options for close-ended questions, the manner in which each question is phrased) can also be improved. By calculating the average time required for completion by the respondents, the length of the questionnaire can be modified. From the perspective of questionnaire distribution, experience about how to handle questionnaire survey can be gathered.

#### 4.3.2 Semi-structured Interview

Four semi-structured interviews were conducted with the Shenzhen Government and research institutions in 2009. Among the four interviews, two were conducted in February 2009 (one with the Shenzhen Property Management Institute, and the other with the Shenzhen Municipal Bureau of Land Resources and Housing Management). The third interview was conducted in March 2009 with Shenzhen University. The fourth one was with the Shenzhen Floating Population and Rental Housing Comprehensive Management Office in September 2009. For details, refer to Appendix 1 for the interviewee list (including interviewees in the stages of the pilot study and verification), Appendix 2 for the invitation letter sample of the first-round interviews, Appendix 3 for the sample of background information for the first-round interviews, and Appendix 4 for the sample of first-round interview questions.

#### 4.3.3 Questionnaire Survey

Based on the literature review and the pilot semi-structured interviews, a draft questionnaire was designed with both closed-ended and open-ended questions. The respondents are migrant workers who have stayed in Shenzhen for more than half a

year but do not have a local *Hukou*. These respondents most likely experience serious housing problems. To validate the draft questionnaire, a pilot questionnaire survey was conducted in the Futian district in March 2009. The reason for choosing this district as the pilot study area is that it is the administrative center of Shenzhen. Moreover, both the total population and the non-local population of Futian are the largest among the four districts inside the SEZ.

The sample size of the pilot questionnaire survey was 60. The sample size is determined by the requirement of the descriptive analysis, which is employed to provide a brief overview of the migrant workers in Shenzhen. Stratified sampling was employed. Trade practiced by the respondents (i.e., migrant workers' occupation categories) was selected as the sampling strata, similar to the survey of Li and Duda (2010) and Li and Zhang (2011). The trades employed in the questionnaire were summarized using the publications of the Urban Temporary Migrants' Housing Research Group (2005) and the National Bureau of Statistics of China (2003) as follows: 1) manufacturing industry; 2) construction industry; 3) transportation, warehousing, and postal industry; 4) wholesale and retail industry; and 5) hotel, catering, and other services industry. There are three reasons for choosing the trade category instead of the housing type as the sampling strata. First, there is no readily available sampling method of housing survey for migrant workers (Li & Duda, 2010; Li & Zhang, 2011), which makes it difficult to cover the full range of housing types. By employing the strata of trades, this difficulty can be overcome. Second, approaching migrant workers engaged in different trades can make the survey more representative. Third, it is an effective way to approach migrant workers by visiting them in their workplaces during breaks than visiting their residences, as sometimes they may not be at home.

#### **4.4 Data Collection**

Questionnaire survey was employed to collect the city-wide data of Shenzhen. To improve the reliability and validity, sampling method, sample size, questionnaire and implementation methods were carefully selected and designed for the survey. There are four types of errors (i.e., sampling error, coverage error, measurement error and non-response error) affecting the reliability and validity of the survey. Sampling and coverage errors can be reduced by choosing the appropriate sampling method and the

sample size. Measurement and non-response errors can be addressed through careful design of questions, questionnaires and implementation methods.

Based on the pilot questionnaire survey, the questions and corresponding options of the draft questionnaire were improved in accordance with the practical situations of the migrant workers in Shenzhen. The final design of the questionnaire was confirmed (Appendix 5). There are three types of measurement scales: nominal, ordinal, and interval. The variables of region and housing choice were measured with nominal scales, and residential satisfaction was measured with ordinal scales. Variables such as age and income employed interval scales. Dummy variables (with the value of 0 or 1) were employed to facilitate the data analysis. The detailed coding process is illustrated in Appendix 6 (i.e., the coding book of the questionnaire).

After confirming the design, the questionnaire survey was conducted in all the six districts of Shenzhen from March to August 2010. The sampling method was the same as that employed in the pilot questionnaire survey, that is, stratified sampling with trade as the sampling strata. The reasons for choosing this sampling method have been explained in Section 4.3.3. Ten experienced student helpers from Shenzhen University facilitated the questionnaire survey. Before conducting the survey, they were briefed to get familiar with the background information and the questionnaire, and divided into six groups. Each group was allocated with one survey district, according to which they were most familiar with. Each group was allocated with a different time period to conduct the survey so that the survey of each district could be administered by the author. The survey was conducted face to face. Respondents were first asked if they were non-local and how long they had stayed in Shenzhen to confirm their eligibility (i.e., staying in Shenzhen for no less than half a year and not holding local *Hukou*) for the survey. The questionnaires were filled by the surveyors for the respondents because of their relatively low level of education, and to make sure that the respondents understood all questions.

A total of 540 questionnaires were distributed with 450 valid responses. With the margin of error at 5% and the confidence level at 95%, the sample size of the survey should be at no less than 384 given the amount of floating population in Shenzhen at 12.1 million (actual number in 2009, according to the interview with Shenzhen Floating Population and Rental Housing Comprehensive Management Office), which

was calculated by using the sample size formula (i.e.,  $SS = \frac{Z^2 * (P) * (1 - P)}{C^2}$ ,  $Z = 1.96$ ,  $P = 0.5$ ,  $C = 5\%$ ). On the other hand, for regression analysis, the rule of thumb is that the sample size should be at least 10 times the number of independent variables (Fellows & Liu, 2008). This study has 36 variables (including the categories of nominal variables), indicating that at least 360 samples are needed. Therefore, the sample size of 540 with 450 valid responses is acceptable. The survey results are representative. The sample size of each district is determined by the corresponding proportion of its non-local population.

## 4.5 Data Analysis

### 4.5.1 Tools for Predicting Categorical or Ordinal Data

In this study, cross-sectional data were collected, and the factors influencing migrant workers' housing choice and residential satisfaction were explored. Given that the dependent variables, that is, housing choice (Figure 3.2) and residential satisfaction (Figure 3.4), are categorical data, specific categorical techniques were required.

Logistic regression is classified as a form of multiple regression (Field, 2009). The outcome variable is categorical, and the predictor variables may be continuous or categorical. As a result, this approach is appropriate for this study. The logistic regression model predicts the probability of an event occurring under a given circumstance or a combination of conditions. The value of the probability falls into the range of 0 ("The outcome will not occur") and 1 ("The outcome will certainly occur"). The principle behind logistic regression is similar to that of linear regression except that linear regression requires a linear relationship between variables. To overcome the problem of violating the assumption of linearity and express the non-linear relationship in a linear way, logarithmic transformation is required. The

linear equation of logistic regression is formulated as  $P(Y) = \frac{1}{1 + e^{-(b_0 + b_1 X_{1i} + b_2 X_{2i} + \dots + b_n X_{ni})}}$ ,

where  $p(Y)$  refers to the probability of  $Y$  occurring,  $e$  is the base of natural logarithms,  $b_n$  is the regression coefficients estimated using maximum-likelihood estimation, and  $X_n$  refers to the various predictors of the equation. Instead of  $R^2$ , which is used in linear regression to assess the fit of the model, log-likelihood statistic

was employed in the logistic regression to explain how much information could not be explained by the model. Another significant indicator of logistic regression is the odds ratio, which is presented by  $Exp(B)$  in SPSS output. It indicates the change in the odds resulting from a unit change in the independent variables.

Since the 1980s, longitudinal analysis has established its central role in social science research (e.g., the study of mobility and tenure choice). Setting events within certain contexts (e.g., the housing market), event history models (or hazard models) are typically employed to evaluate the influence of particular events in determining choices. They provide information about how individuals make decisions and the internal and external events that trigger those decisions. The aim of this method is to examine sequences of events and to model the intervals between the events, the number of events, and the probability of their occurrence, in relation to independent variables. As cross-sectional data instead of panel data were collected, the longitudinal model was not employed in this study.

To explore the indicators of migrant workers' housing choices (categorical variable), multinomial logistic regression was employed because several independent variables (with both categorical and continuous variables) had to be analyzed. As for the analysis of migrant workers' residential satisfaction, ordinal regression was adopted to explore the factors contributing to the satisfaction. The reason is that ordinal regression considers any inherent ordering of the levels in the variable (i.e., satisfaction degree), thus making full use of the ordinal information (Kleinbaum & Klein, 2002). Lu (1999) employed both the regression model and the ordinal logit model to analyze the residential satisfaction with the American Housing Survey data of Year 1989. Based on the analysis, the results from the ordinal logit model are more reliable because they consider the ceiling and floor effects instead of the subjective scores assigned to each of the levels.

#### 4.5.2 Factor Analysis

During the questionnaire survey, respondents were asked about their preferences for various housing aspects (e.g., housing cost, layout, appearance, usage area, and others). To examine the influence of preferences on migrant workers' housing choices and residential satisfaction, and to reduce the number of cells with the value of zero

(i.e., no cases fall under a particular situation or this situation did not occur among the respondents of the survey) during the logistic regression, the dimension of housing preferences had to be reduced. The underlying dimensions (known as factors or latent variables) of various housing aspects were explored.

Factor analysis explains the maximum amount of common variance in a correlation matrix using the smallest number of explanatory constructs (Field, 2009). Correlation coefficients between subsets of variables are measured to explore the underlying dimensions. Moreover, there are two types of factor analysis, namely, confirmatory factor analysis and exploratory factor analysis. This study aims to explore the housing preference data of migrant workers and to generalize the findings to this population. Thus, exploratory factor analysis was employed.

## **4.6 Verification**

### **4.6.1 Selection of Research Methods**

To verify the findings from Stage 1 ( Literature review) and Stage 2 ( Analysis of housing settlement of migrant workers), both semi-structured and structured interviews were employed. Semi-structured interviews were conducted with government officials, and structured interviews were conducted with migrant workers. To verify the information obtained from the government: 1) The interview questions with the government were divided into two parts, i.e., common questions and specific questions. Common questions were used for comparisons between different interviewees; 2) The findings from the questionnaire survey, the interviews with research institutes and migrant workers as well as relevant second-hand data (e.g., statistical data, literature) were taken into consideration.

As stated in Section 4.3.1, the semi-structured interview is suitable for exploring the perceptions and opinions of the respondents concerning complicated issues. There are three objectives to achieve through the semi-structured interview with government officials: 1) to compare the findings from the questionnaire survey with the records of the government, 2) to understand the rationale of policies for solving the problems of migrant workers, and 3) to determine if the government will take any action to accommodate migrant workers or improve their living conditions.

Compared with the semi-structured interview, the structured interview is less flexible. It is composed of predetermined questions exclusively, and the order of the questions is standardized. There are three reasons for employing this interview method with the interviewees consisting of 40 migrant workers. First, the purpose of this stage is to verify the findings of Stages 1 and 2. Detailed information about the migrant workers was obtained through the questionnaire survey. Thus, the amount of information obtained from structured interviews is sufficient. Second, as there are 40 interviewees with various backgrounds, it will be extremely difficult to explore all background information, and it will require more time to complete the entire survey if the semi-structured interview is employed. Lastly, given the fixed order of the questions, all 40 interviewees answered questions under the same context. This situation benefits the comparison of the responses in that more valid information can be obtained to verify the previous survey findings.

#### 4.6.2 Semi-structured Interview

From the macro aspect, the semi-structured interviews were conducted with two government agencies (i.e., the Shenzhen Comprehensive Management Office of Floating Population and Rental Housing and the Housing Security Division of the Shenzhen Real Estate Research Center) in December 2011 and March 2012, respectively. Based on the interview with the government officials, more targeted and constructive suggestions can be proposed. The details of the interviews are presented in Appendix 7 (sample of the invitation letter to the interviewees) and Appendix 8 (sample of background information). The interview questions are presented in Appendix 9.

#### 4.6.3 Structured Interview

From the micro perspective, structured interviews were conducted with migrant workers in the Bao'an and Futian districts in May 2012. Both close-ended and open-ended questions were included. The Bao'an and Futian districts were selected as the survey areas, each with 20 randomly selected interviewees. The reason for choosing these two districts is their representativeness, which can be elaborated in two aspects. First, the Bao'an district used to be located outside the SEZ, whereas the Futian District was inside the SEZ. Interviews from both districts can make the results

more representative. Second, between the two districts outside the SEZ, the population of Bao'an is larger than that of Longgang. Among all the four districts (i.e., Luohu, Futian, Nanshan, and Yantian) inside the SEZ, the population of Futian is the largest. All 40 interviewees were randomly selected on the street. Refer to Appendix 10 for the interview questions.

#### **4.7 Summary of the Chapter**

The logical and sequential arrangement of the use of different research methods at different stages is presented in Figure 3.5 (Chapter 3). This chapter introduces the study area and explains the implementation of the research methods. The reasons for choosing the methods for each research stage are explained. A pilot study is conducted through four semi-structured interviews (with government officials and research institutes) and a questionnaire survey in the Futian district. After confirming the questionnaire design, a city-wide questionnaire survey is employed to collect the data on migrant workers in Shenzhen. With regard to data analysis, both categorical data analysis techniques and dimension reduction techniques are adopted. Exploratory factor analysis is used to reduce the dimension of the residential preferences of migrant workers, which is later included in the analysis of housing choices and residential satisfaction. Multinomial logistic regression is used to analyze the housing choices of migrant workers, and ordinal regression is adopted to analyze their residential satisfaction. The findings are verified through semi-structured interviews with two government agencies and structured interviews with 40 migrant workers.

The next chapter examines the housing demand of migrant workers.

## CHAPTER 5: HOUSING DEMAND

### 5.1 Scope of the Chapter

The previous chapter demonstrated the methods adopted in this study. This chapter aims to examine the housing demand of migrant workers in a comprehensive manner (Figure 3.2 in Chapter 3). The analysis is not limited to their stated housing expectations (e.g., expected housing type and housing preferences). Relevant issues such as demographic characteristics, cognitive level of the locality, residential mobility history, and housing funds are also examined.

This chapter begins with a description of the demographic characteristics of migrant workers by employing the questionnaire survey data of Shenzhen, which include information on age, gender, education, duration of stay, social security, income, housing cost, remittance, relatives, friends or fellow villagers in the locality, mobility plan, job change, commuting time, size of enterprises, living space, and *Hukou*. The reasons for planning to return to their hometowns are also explored. Second, migrant workers' cognitive level of the locality is examined from three aspects: 1) main sources of housing information, 2) main sources of job information, and 3) concern level and cognitive level of the policies on migrant workers. Third, migrant workers' residential mobility history in Shenzhen and the reasons for the mobility are examined. Fourth, the current residences of migrant workers, specifically their housing choices and conditions, are described. Fifth, the main sources of housing funds for migrant workers are examined in terms of types and corresponding proportions. Sixth, migrant workers' housing preferences are illustrated through their rating of the importance of the different aspects of housing. Seventh, migrant workers' housing expectations are examined based on their indication of the possibility of finding a better residence, their residential mobility plan, and their expected housing and housing purchasing plan. Lastly, factors affecting migrant workers' housing choices are examined in accordance with four models. Factor analysis and multinomial logistic regression are employed in the data analysis.

## 5.2 Demographic Characteristics of Migrant Workers

### 5.2.1 Descriptive Analysis

According to the questionnaire survey in Shenzhen (Sections 4.2 and 4.4), the findings on the demographic characteristics (Table 5.1) of migrant workers are listed as follows:

- 1) The majority of the migrant workers are single, young males. The average age of the respondents is 29, which is consistent with the data in other studies. For example, the average age is 30 years old according to the CGSS, 32 for migrant workers in Taiyuan (Li et al., 2009), 27.6 for migrant workers in Guangzhou (Chan et al. 2003) and 29 for migrant workers in Shanghai (Wu, 2004). Male migrant workers account for 68.9%, which is consistent with the findings of Wu (2006), the China Labor Bulletin (2008), Li et al. (2009), and Wu (2004). Among the respondents, 54.2% are unmarried. Among the married respondents, 83.8% have children (i.e., 38.4/45.8). According to the CGSS, the percentage of unmarried migrant workers is 50.5% in Shenzhen, but the proportion of married migrant workers is higher at the national level and in other cities (e.g., Taiyuan, Beijing, and Shanghai).
- 2) A large number of the migrant workers have stayed in Shenzhen for a long time. Half of the respondents have been in Shenzhen for four years. On average, the duration of their stay is six years (Figure 5.1).

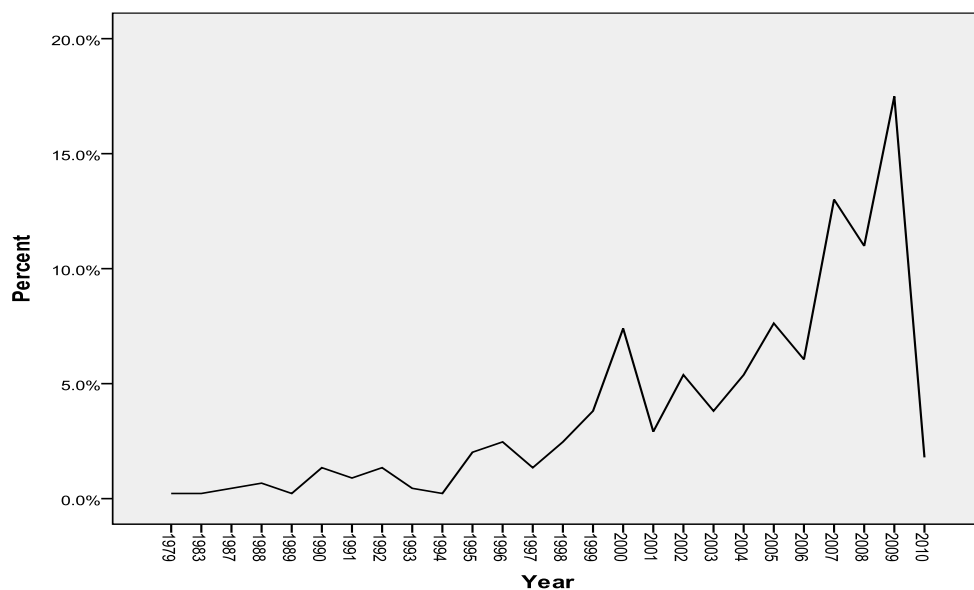


Figure 5. 1 Year of arrival in Shenzhen

Table 5. 1 Demographic characteristics of migrant workers in Shenzhen

Characteristics		Percentage		
		Male	Female	
1	Gender	68.9%	31.1%	
		Yes	No	
2	Marital status	45.8%	54.2%	
3	Children	38.4%	61.6%	
4	Family members in Shenzhen	30.2%	69.8%	
5	Social security in Shenzhen	42.7%	57.3%	
6	Local relatives & friends in Shenzhen	50.2%	49.8%	
7	Relatives & friends from hometown in Shenzhen	80.4%	19.6%	
		Yes	No/not sure	
8	Plan to work in other cities	20.9%	79.1%	
9	Residential mobility plan in coming 7 years	56.2%	43.8%	
10	Plan to return to hometown	38.0%	62.0%	
		Primary school or below	Middle school	College or above
11	Education	5.6%	80.4%	14.0%
		Scale: 1-10	Scale: 11-50	Scale: >51
12	Scale of the working unit	34.2%	31.3%	34.4%
		Very few	Some	Many
13	Amount of fellow villagers around	32.0%	38.0%	30.0%
		Mean		
14	Age	29		
15	Period of stay (Year)	6		
16	Period of working in current working unit	3		
17	Commuting time (Minute)	14		
18	Job change (Number)	2		
19	Household income (RMB/year)	36,966 (3081/month)		
20	Household expenditure (RMB/month)	1,930		
21	Remittance (RMB/month)	335		
22	Housing cost (RMB/ month)	428		
23	Proportion of housing cost to income	15.0%		
24	Housing usage area per capita (m2)	15		

3) Most migrant workers stay in Shenzhen alone without any family members. The percentage of the respondents with no family members in the locality is 69.8%.

4) Most migrant workers have middle school education, which is consistent with the findings of other studies (CGSS; Chan et al. 2003; Wu, 2004). Among the respondents, 80.4% have middle or high school education, and 14% have college education or higher.

5) More than half (57.3%) of the migrant workers are not covered by any social security in Shenzhen.

6) The average household income of migrant workers is significantly lower than the city's average level. According to the questionnaire survey, the average household income of the respondents is RMB 36,966 per year, which is slightly higher than the average per capita income of Shenzhen, that is, RMB 35,524 (Shenzhen Bureau of Statistics, 2011). Moreover, the income disparity among migrant workers is large. Their median income is RMB 25,000 per year (Figure 5.2), which is significantly lower than the average income and indicates a large income disparity among the migrant workers.

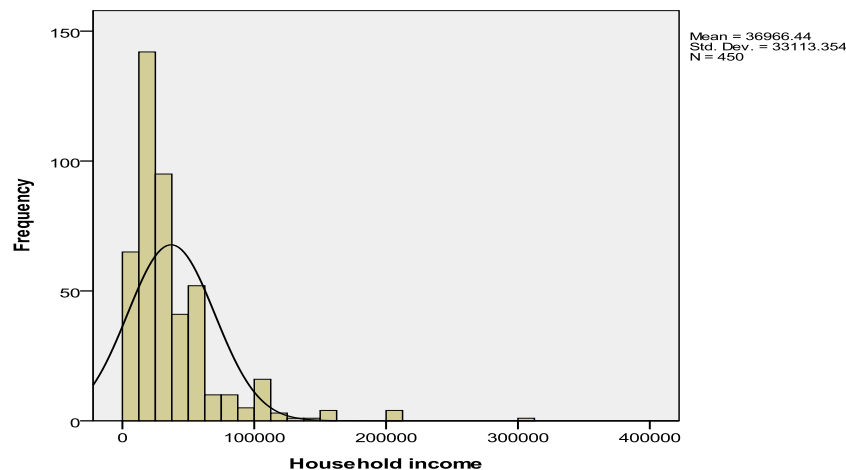


Figure 5. 2 Household income of migrant workers

7) Migrant workers in the locality are conservative in consumption. On average, the monthly household expenditure of the respondents is RMB 1,930. At the city level, the household per capita expenditure is RMB 2,491 per month.

8) For migrant workers, the housing cost ratio is higher than the average level in

Shenzhen. According to the questionnaire survey, the respondents spend approximately RMB 428 on housing every month, which accounts for 15% of their gross household income. At the city level, the average housing cost ratio is 7%.

9) Most of the migrant workers remit money to their family members in their hometowns on a monthly basis. The average remittance of the respondents is RMB 335 per month.

10) Most of the migrant workers have relatives, friends, or fellow villagers in the locality. Among the total number of respondents, 80.4% have relatives or friends from their hometowns. Two-thirds of them have fellow villagers living around the area.

11) A large number of the migrant workers have inter- or intra-city mobility plans in the future. According to the survey, 38% of the respondents plan to return to their hometowns, 20.9% plan to work in other cities, and 56.2% have a residence mobility plan within the next seven years.

12) Migrant workers tend to change jobs frequently. On average, the respondents have changed jobs twice and have been employed in their current workplace for three years.

13) Migrant workers usually reside near their workplace. On average, it takes 14 minutes for the respondents to arrive at work.

14) Most of the migrant workers work in small or medium enterprises. Among the respondents, 65.5% work in enterprises with less than 50 employees (scale of 1–10 employees at 34.2%, and scale of 11–50 employees at 31.3%).

15) The living space occupied by migrant workers is considerably smaller than that of local residents. According to our survey, the housing usage area of the respondents is 15 square meters per capita (about half of the average level of Shenzhen, i.e., 27 square meters per capita in 2010).

16) Most of the migrant workers come from the rural areas (consistent with the findings of the CGSS) and do not hold Residence Cards. According to the survey, 64.97% of the respondents hold rural *Hukou*, and 46.56% do not have Residence

Cards (Table 5.2). Those with rural *Hukou* but without Residence Cards account for 34.59% of the total.

Table 5. 2 Ownership of residence card and type of *Hukou*

	Without Residence Card	With Residence Card	Total
Rural <i>Hukou</i>	34.59%	30.38%	64.97%
Urban <i>Hukou</i>	11.97%	23.06%	35.03%
Total	46.56%	53.44%	100%

### 5.2.2 Reasons for Returning to their Hometowns

The respondents were asked why they plan to return to their hometowns in the near future (Table 5.3) or why they are unsure about their return (Table 5.4). They could make multiple choices among all listed reasons. “Cannot afford the daily expenditure in Shenzhen” is the most frequently indicated reason. Housing affordability is the second main reason, followed by “need to look after family members in their hometowns.” *Hukou* is the fourth most important reason, followed by marriage, retirement, children’s education, job opportunity, discrimination in the locality, illness, and low wage.

Table 5. 3 Reasons for planning to return to the hometown

Rank	Reasons	Proportion
1 <sup>st</sup>	Cannot afford the daily expenditure in Shenzhen	45.0%
2 <sup>nd</sup>	Cannot afford the housing expenditure in Shenzhen	42.1%
3 <sup>rd</sup>	Need to look after family members in the hometown	35.7%
4 <sup>th</sup>	No local <i>Hukou</i>	28.1%
5 <sup>th</sup>	To get married in the hometown	27.5%
6 <sup>th</sup>	Getting older	25.9%
7 <sup>th</sup>	For children’s education	22.8%
8 <sup>th</sup>	Better job opportunity in the hometown	22.2%
9 <sup>th</sup>	Hard to find a satisfying job	21.6%
10 <sup>th</sup>	Farming in the hometown	7.6%
11 <sup>th</sup>	Be discriminated in Shenzhen	7.0%
12 <sup>th</sup>	The others, like home sick	5.8%
13 <sup>th</sup>	Low wage in Shenzhen	1.2%

As for the reasons why they are not sure about returning, working opportunity is the

reason indicated by the majority of the respondents, followed by *Hukou*, income, housing ownership, and family members. For those who plan to return to their hometowns, relatively low affordability in the locality and family issues in their hometowns account for the most important reasons. For those who are not certain about returning, working opportunities largely determine their future residential location.

Table 5. 4 Reasons for unsure about the return

Rank	Reasons	Proportion
1 <sup>st</sup>	To be determined by the future work	87.2%
2 <sup>nd</sup>	To be determined by future <i>Hukou</i> status	11.0%
3 <sup>rd</sup>	To be determined by future income	6.4%
4 <sup>th</sup>	To be determined by housing ownership	3.7%
5 <sup>th</sup>	To be determined by whether family members will come to Shenzhen	2.8%

### 5.3 Cognitive Level of the Locality

#### 5.3.1 Main Sources of Housing Information

The highest percentage of migrant workers (36%) obtains housing information directly from employers. The second most common source of housing information is advertising posters (20.4%). The third main source is relatives or friends (19.8%). Advertising from newspapers, TV, and the Internet (15.8%), and information from estate agents (6.9%) constitute the fourth and fifth most common sources of housing information for migrant workers, respectively (Table 5.5).

Table 5. 5 Sources of housing information

Rank	Sources of housing information	Proportion
1 <sup>st</sup>	Working unit (dormitories)	36.0%
2 <sup>nd</sup>	Poster for rent or sale	20.4%
3 <sup>rd</sup>	Relatives or friends	19.8%
4 <sup>th</sup>	Newspaper, TV, internet	15.8%
5 <sup>th</sup>	Estate agents	6.9%
6 <sup>th</sup>	The others: no concern	1.1%

### 5.3.2 Main Sources of Job Information

Assistance from relatives or friends (45.6%) is the most important source of job information for migrant workers, followed by recruitment posters (17.3%), advertisements (14.9%), own business (12.7%), employment agencies (8.0%), and others such as recruitment activities (1.6%) (Table 5.6).

Table 5. 6 Sources of job information

Rank	Sources of job information	Proportion
1 <sup>st</sup>	Relatives' or friends' introduction	45.6%
2 <sup>nd</sup>	Recruitment poster	17.3%
3 <sup>rd</sup>	Advertisement (Newspaper, TV, internet)	14.9%
4 <sup>th</sup>	Own business	12.7%
5 <sup>th</sup>	Employment agency	8.0%
6 <sup>th</sup>	The others(e.g. recruitment activities)	1.6%

### 5.3.3 Concern Level and Cognitive Level of Policies on Migrant Workers

Most of the respondents show no concern for policies on migrant workers. Among the migrant workers, 22.4% indicate no concern, and 39.3% show occasional concern for the relevant policies, accounting for a total of 61.7%. Only 21.8% and 16.4% of them show “fair concern” and “much concern,” respectively (Table 5.7).

Table 5. 7 Concern for policies on migrant workers

Concern level	Proportion
No concern	22.4%
Occasional concern	39.3%
Fair concern	21.8%
Concern very much	16.4%

Regarding the cognitive level of relevant policies (Table 5.8), 43.8% of the migrant workers have not heard of any before, and 41.3% have some understanding. Only 14.9% are familiar with the policies (Familiar: 13.1%; Very familiar: 1.8%).

Table 5. 8 Cognitive level of policies on migrant workers

Cognitive level	Proportion
Not heard of before	43.8%
Some understanding	41.3%
Familiar	13.1%
Very familiar	1.8%

Among the migrant workers indicating no concern for relevant policies, 35.7% do not have any interest, 26.5% do not know how to obtain such information, 22.4% feel that they do not have enough time to gain access to the policies, 14.3% consider the policies with little effect, and 1% are not sure if they will stay in Shenzhen in the future (Table 5.9).

Table 5. 9 Reasons for no concern for policies on migrant workers

Rank	Reasons for no concern	Proportion
1 <sup>st</sup>	No interest	35.7%
2 <sup>nd</sup>	Not know that there are such policies or not know how to get access to such information	26.5%
3 <sup>rd</sup>	Too busy to get to know these policies	22.4%
4 <sup>th</sup>	The policies have little effects.	14.3%
5 <sup>th</sup>	Not sure if they will stay in Shenzhen in the future	1.0%

Migrant workers' channel of access to information is extremely narrow, mainly their employers (e.g., dormitories and recruitment posters) and relatives or friends. They have not made full use of the new media, such as the Internet, to obtain necessary information. As a result, they have a low level of cognition on the locality. Migrant workers also lack the interest to know the information, such as policies on migrant workers. Two reasons account for this behavior: 1) they consider the policies to have limited effect, and 2) they lack a sense of belonging to the locality. Another reason is the migrant workers' heavy workload and thus their lack of time to gain access to any information. Widening the channel for migrant workers is necessary to access various types of information (e.g., on jobs, housing, education, and others). Employers, communities, and the local government are encouraged to provide career training and further education to migrant workers. Policies on migrant workers should also be efficiently implemented.

## 5.4 History of Residential Mobility

Among all the respondents, 52.9% experienced residential mobility after arriving in Shenzhen. Among those with residential mobility, 28.2% changed their region of residence, for instance, from Luohu District to Futian District. To study the housing career (or housing ladder) of migrant workers, their previous residences were examined (Figure 5.3). Among the respondents, 20% used to live in free dormitories, 13.6% lived in rental housing in urban villages, 8.7% lived in rental commodity housing, 4.2% lived in rental housing provided by their employers, 3.8% lived in relatives' or friends' places, and 2.7% lived in purchased commodity housing or others.

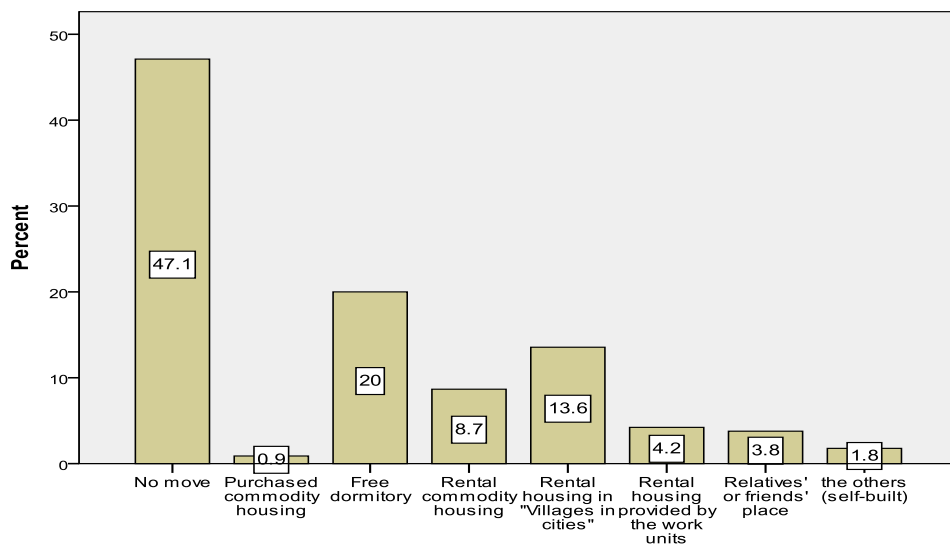


Figure 5. 3 Type of previous residence

Regarding residential mobility (Table 5.10), job change is the most important reason (33.6%). Among the respondents, 8% moved to reduce their housing expenditure, 7.6% moved to improve their living conditions, 2.2% moved because of household structure change, and 1.6% moved because of their children's education. Those who relocated because of a disagreement with the landlord or housing demolition account for 1.1%.

Based on the preceding analysis, more than half of the migrant workers have at least one residential mobility experience after arriving in Shenzhen. Most residential mobility occurs within the same district, indicating that mobility belongs to the short-distance category. Free dormitories and rental housing (especially in the

informal housing sector) play a critical role in accommodating migrant workers during their earlier stage of stay in the locality. Job hunting still seems to be the most important reason for migrant workers to move after their arrival in Shenzhen.

Table 5. 10 Reasons for residential mobility

Rank	Reasons for residential mobility	Proportion
1 <sup>st</sup>	Job change	33.6%
2 <sup>nd</sup>	To reduce the housing cost	8.0%
3 <sup>rd</sup>	To improve the living conditions	7.6%
4 <sup>th</sup>	Household structure change (e.g. marriage, birth of child)	2.2%
5 <sup>th</sup>	For children's education	1.6%
6 <sup>th</sup>	Others (e.g. contradiction with landlord, housing demolishing)	1.1%

## 5.5 Current Residence of Migrant Workers

### 5.5.1 Housing Choices

Dormitories and rental housing are the two most common housing choices of migrant workers (Ding, Qiu, & Wang, 2011). According to our survey, 44.57% of the respondents reside in free dormitories, 24.83% live in rental housing in urban villages, and 16.41% reside in rental commodity housing (Figure 5.4). Half of the rental housing is occupied by migrant workers in Shenzhen (Interview with the Shenzhen Floating Population and Rental Housing Comprehensive Management Office, September 2011). However, according to the CGSS, 84.6% of the migrant workers in Shenzhen live in rental housing provided by the private sector, and only 6.6% live in dormitories. The reason for the difference is the different sampling methods used. In the current study, stratified sampling was used, and industry (or trade) was employed as the sampling strata. The CGSS uses multistage sampling with four stages: city and county, street and town, neighborhood committee, and household.

Clearly, free dormitories can meet migrant workers' need for security, affordability, and convenience. Migrant workers living in purchased commodity housing account for only 3.77%. Purchased commodity housing ranks fifth among the seven housing choices, reflecting Wu's finding that the homeownership of migrants is less than 1% in Beijing and Shanghai (2004). Moreover, 96.90% of the respondents own residences in their hometowns.

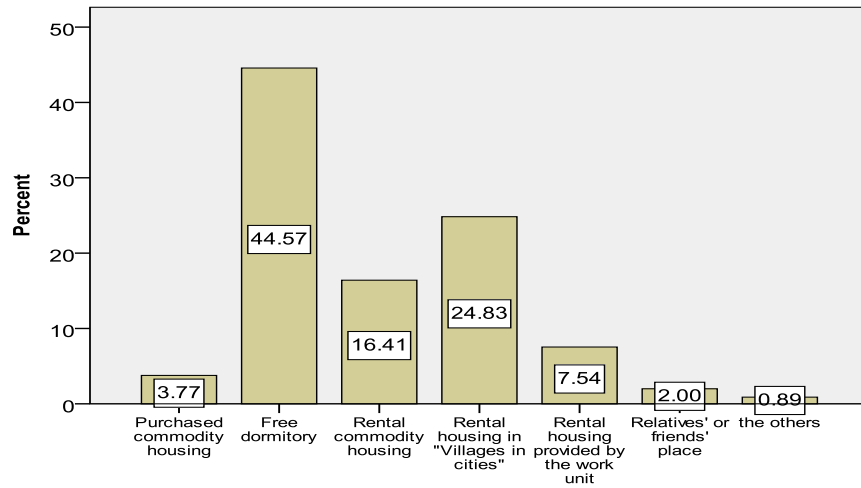


Figure 5. 4 Type of current residence

### 5.5.2 Housing Conditions

Table 5.11 summarizes the general housing conditions of the respondents as follows:

- 1) Overcrowding is a common problem. On average, the housing usage area per capita is 15.36 square meters, which is considerably lower than the average level of Shenzhen, that is, 27 square meters (Shenzhen Municipal Government, 2011). According to the UTMH Research Group (2005), the floor area per capita for migrant workers in Shenzhen is 13.26 square meters. Room sharing is common (Wang et al., 2010).
- 2) Housing facilities are relatively inadequate. Consistent with Wang's findings, 32.2% and 22% of the respondents share kitchens and washrooms with the others, respectively.
- 3) Almost 50% of the respondents do not enjoy security services (i.e., there is no security guard posted at the main entrance of the building or community).
- 4) Infrastructure such as schools and hospitals are nearby.
- 5) Dining and entertainment facilities are nearby, bringing convenience to the migrant workers in daily life.

Table 5. 11 Housing conditions of migrant workers

Housing characteristics	Average	
Number of bedrooms	2	
Number of living rooms	1	
How many people are there living in the house including yourself?	4	
Usage area of the residence (Unit: m2)	48.5	
Usage area per person (Unit: m2)	15.4	
	Yes	No
Separate kitchen	67.8%	32.2%
Separate wash room	78.0%	22.0%
Security guard at the main entrance of the building or community	50.7%	49.3%
School	70.7%	29.3%
Hospital	72.0%	28.0%
Library	31.8%	68.2%
Property management service	49.8%	50.2%
Catering and entertainment facilities	Many	12.7%
	Some	33.8%
	Fair	34.4%
	Very few	16.0%
	None	3.1%

Let us take the urban villages in Shenzhen, for instance. Figure 5.5 shows Gangxia Village in the Futian District, and Figure 5.6 shows Baishizhou Village in the Nanshan District. Buildings in urban villages are about six stories high. A person can easily get lost when visiting the villages for the first time because the building density is so high that the distance between two buildings is less than one meter. The upper space between two buildings is filled with tangles of wires, air conditioners, and clotheslines. Advertising posters for room rental are posted everywhere by landlords (Figure 5.7). Some units have one bedroom, and others have two to three bedrooms. The rental price ranges from RMB 300 to RMB 2,000 per month.



Figure 5. 5 Gangxia village  
*Source:* photo taken by the author



Figure 5. 6 Baishizhou Village  
*Source:* photo taken by the author



Figure 5. 7 Advertising posters for room rental in Baishizhou Village  
*Source:* photo taken by the author

Generally, the migrant workers' residence has advantages and disadvantages. The advantages are the good location, which means that migrant workers have easy access to their workplace, hospitals, and entertainment facilities, and the availability of employment opportunities everywhere. The disadvantages are the substandard housing design, which forces many residents to share washrooms or kitchens, and the lack of property services such as security (e.g., posting of a security guard at the main entrance of the building or community).

The provision of housing facilities or services (i.e., separate kitchens, washrooms, security services, and property management) for migrant workers is shown in Figure 5.8. "Very poor" refers to the absence of housing facilities or services. "Poor" refers to having only one housing facility or service. "Fair" refers to having two housing facilities or services. "Good" refers to having three housing facilities or services. "Very good" refers to having four housing facilities or services. Among the respondents, 6.9% do not have any facilities or services, 14.2% have one, 31.3% have two, 20.9% have three, and 26.7% have all the facilities and services.

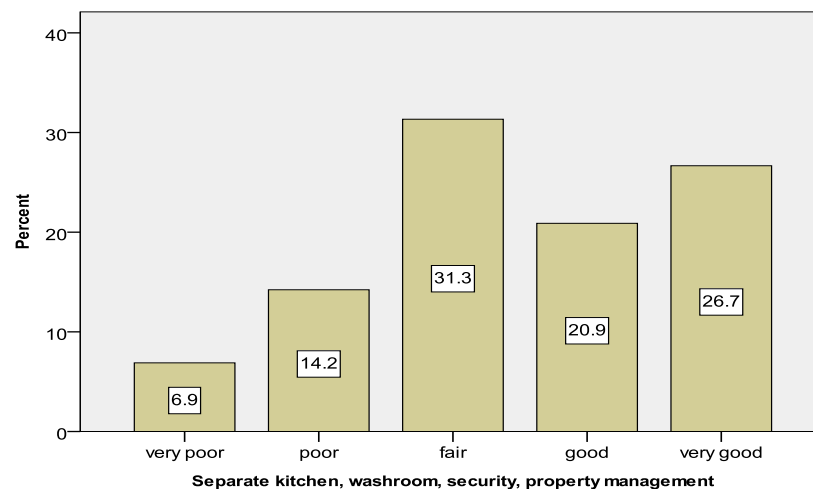


Figure 5. 8 Provision of housing facilities or services for migrant workers

## 5.6 Sources of Housing Funds

Although most of the migrant workers rent housing or live in free dormitories, they were still asked about the potential sources of funds to purchase housing (i.e., what will be your sources of housing funds if you purchase a residence). Majority of the funding (73.86%) comes from migrant workers' own savings, followed by parents' financial support (13.5%), mortgage loan (7.17%), money borrowed from relatives or

friends (2.79%), subsidy from the employer (0.37%), and the HPF (0.13%) (Table 5.12).

The funding sources of housing for migrant workers are limited. Therefore, migrant workers are relatively conservative in their approach to housing consumption (Section 5.2.1). On average, they spend approximately 15% of their gross income on housing cost per month.

Table 5. 12 Composition of housing funds

Sources of housing funds	Percentage*
Migrant workers' own savings	73.86%
Parents' financial support	13.50%
Mortgage loan	7.17%
Borrowing from Relative or friends	2.79%
Subsidies from the working unit	0.37%
Housing Provident Fund (HPF)	0.13%

\* *mean value*

## 5.7 Housing Preferences

The respondents were asked about their preferences in different housing aspects (ranging from 1 to 12), as shown in Table 5.13. The three most preferred aspects are security conditions, housing cost and transportation convenience, echoing the findings of Li et al. (2009), followed by usage area, community environment (e.g., greening and air quality), distance to workplace, infrastructure, property management, neighborhood, housing layout, housing appearance, and closeness to relatives and friends.

Migrant workers usually lack a sense of belonging to the locality. They put the least emphasis on “closeness to relatives and friends,” which is consistent with the findings of Opoku and Abdul-Muhmin (2010) that low-income consumers in Saudi Arabia do not deem “proximity to relatives” as a major issue. This finding can be partly explained by the availability of modern communication technologies and public transportation systems. “Closeness to relatives and friends” ranking the least can partly explain the research finding that 32% of the migrant workers living in the community without or with few fellow villagers and only 10.9% with many fellow

villagers around.

Table 5. 13 Preferences in different housing aspects

	Items	Average score (1~12) *
1	Security conditions	9.17
2	Housing cost	9.10
3	Transportation convenience	8.83
4	Usage area	8.72
5	Community environment, like greening and air quality	8.71
6	Distance to the work place	8.44
7	Infrastructure, like school and hospital	8.34
8	Property management	8.28
9	Neighborhood	8.19
10	Layout	7.79
11	Appearance	7.36
12	Closeness to relatives and friends	6.69

**Note:** \* Respondents were asked to score 12 housing aspects according to their priorities. The score ranges from 1 to 12.

## 5.8 Housing Expectations

### 5.8.1 Probability of Finding a Better Residence

Personal evaluation of the possibility of finding a better residence was included in the housing choice analysis. Migrant workers were asked to evaluate if they could find better accommodations in the near future (Figure 5.9). Most of the respondents are optimistic, that is, 10% are confident about finding a better residence, 36.7% consider it likely, 22.7% indicate a small possibility, and 12.4% indicate no possibility. Those who are unsure about the possibility account for 18.2%.

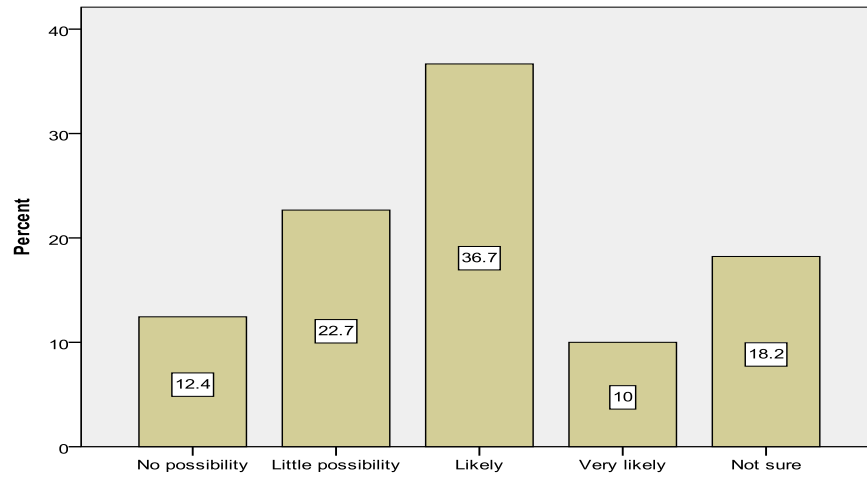


Figure 5. 9 Personal evaluation of the probability of finding a better residence

### 5.8.2 Residence Change Plan and the Expected Type of Housing

Among the respondents, 56.2% indicate a residential mobility plan in the next seven years. Among those who plan to change residences (Figure 5.10), 49.6% expect to purchase commodity housing, 15.8% expect to rent commodity housing, 11.9% plan to rent housing in urban villages, 10.8% plan to live in free dormitories, 5.8% intend to live in employer-provided rental housing, 5.4% expect to live in public rental housing, and the rest will live with relatives or friends.

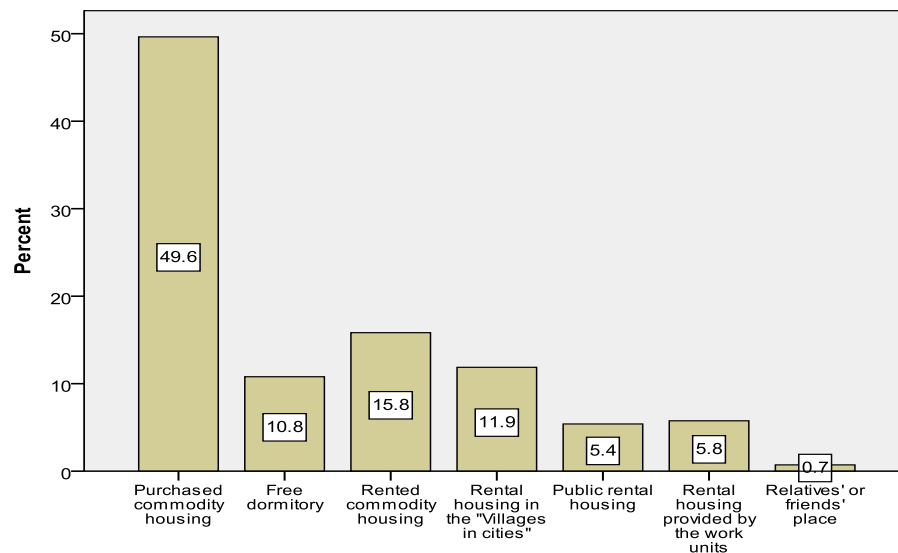


Figure 5. 10 Expected type of housing  
*Note:* among migrant workers who plan to change residences

### 5.8.3 Housing Purchasing Plan

Although 49.6% of the respondents with a residential mobility plan expect to live in purchased commodity housing, only 39.8% plan to actualize their plan in the next seven years. Of the total, 43.6% do not have a purchase plan, and 16.7% are not sure. Those who have a purchase plan intend to purchase a house within six years on average.

For the migrant workers who do not plan to purchase commodity housing in Shenzhen (Table 5.14), the three most important reasons are “high housing price” (71.6%), “plan to return to their hometowns,” (30.9%) and “without local *Hukou*” (22.1%). The other reasons are “plan to work in other cities” (4.9%), “low wage and insufficient savings,” “already own a residence in Shenzhen” (4.4%), and “already own a residence in their hometowns” (2.5%).

Table 5. 14 Reasons for not planning to purchase commodity housing in Shenzhen

Rank	Reasons	Proportion
1 <sup>st</sup>	High housing price	71.6%
2 <sup>nd</sup>	Plan to return to hometown	30.9%
3 <sup>rd</sup>	Without local <i>Hukou</i>	22.1%
4 <sup>th</sup>	Plan to work in other cities	4.9%
5 <sup>th</sup>	Low wage & insufficient savings	4.4%
6 <sup>th</sup>	Already own a residence in Shenzhen	4.4%
7 <sup>th</sup>	Already own a residence in hometown	2.5%

For those who are uncertain whether to purchase or not, their reasons are shown in Table 5.15. The most common reason is low affordability (45.8%), followed by “not sure about future personal development” (42.4%), “plan to return to their hometowns in the future” (6.8%), “have not considered yet” (3.4%), and “to be determined by other family members” (1.7%).

In summary, migrant workers prioritize personal security, cost, and convenience as the most important criteria in choosing their residence. Most of them believe that they can find a better residence in the future. Purchased commodity housing, rental commodity housing, and rental housing in urban villages are the three housing types that migrant workers are most likely to choose in the future. However, not all migrant workers who

plan to move into purchased commodity housing will actually actualize their plans within the next seven years. Those who have a plan will purchase commodity housing within six years on average. For those who do not have a plan and those who are not sure about the housing purchase, their most important reasons for doing so are affordability problems, mobility, and uncertainty about the future.

Table 5. 15 Reasons for uncertain whether to purchase commodity housing or not in Shenzhen

Rank	Reasons	Proportion
1 <sup>st</sup>	Low affordability	45.8%
2 <sup>nd</sup>	Not sure about future personal development, e.g. job, marriage, children, etc.	42.4%
3 <sup>rd</sup>	Plan to return to their hometowns in the future	6.8%
4 <sup>th</sup>	Have not considered yet	3.4%
5 <sup>th</sup>	To be determined by other family members	1.7%

## 5.9 Factors Affecting Migrant Workers' Housing Choices

### 5.9.1 Overview

Multinomial logistic regression was conducted to explore the factors affecting migrant workers' housing choices and the effects. To generate a more meaningful analysis, the housing choices (i.e., free dormitories, rental housing in urban villages, rental commodity housing, rental housing provided by employers, purchased commodity housing, relatives' or friends' place, and others) were grouped into three categories: commodity housing, dormitories, and urban villages. "Free dormitories" and "rental housing provided by employers" are classified under "dormitories." Housing tenure was not included in the analysis. Purchased commodity housing and rental commodity housing are combined into the housing option of "commodity housing." The reason is that only 17 out of the 450 respondents live in purchased commodity housing, according to the questionnaire survey. Those who live with their relatives or friends or in other residences were not included in the analysis because they were only 13 of them out of the 450 respondents.

Four models were developed to test the following four hypotheses:

H1: Demographic characteristics significantly affect migrant workers' housing choices.

H2: Mobility characteristics significantly affect migrant workers' housing choices.

H3: Cognition and expectation of the locality contribute significantly to migrant workers' housing choices.

H4: Residential preferences significantly affect migrant workers' housing choices.

Housing in urban villages was selected as the reference category because the CGSS found that 48.7% of the migrant workers in Shenzhen live in urban villages. It is interesting to explore the factors influencing migrant workers to choose commodity housing or dormitories instead of rental housing in urban villages, and the extent to which they influence the workers' decisions. The forward stepwise method was used to sort out significant interactions between any two variables included in each model. Factor analysis was adopted to extract the factors of residential preferences in Model 4.

### 5.9.2 Model 1: Demographic Characteristics

Demographic characteristics, namely, trade, education, income, spouse income, age, marital status, and presence of children as well as the interactions between any two variables were examined to predict the housing choices of migrant workers (Table 5.16). Through the stepwise procedure, no interaction effects could be added or removed. Four variables, that is, age, education, income, and trade, are significant at the 95% or above confidence level. Model 1 is significant at the 99% confidence level, indicating that it improved significantly based on the null model (i.e., with intercept only). The pseudo R-squared statistic (Cox & Snell: 0.21; Nagelkerke: 0.24) seems relatively low. However, it is the norm in logistic regression, and it does not assess the goodness of fit of the model (Hosmer & Lemeshow, 2000). The pseudo R-square statistic only makes sense when compared with another one of the same type in the same data and in predicting the same outcome.

Unlike in urban villages, as the age of migrant workers increases from “younger than 30” to “30–40” and from “30–40” to “older than 40,” the change in the odds of living in commodity housing is 1.90. In other words, older migrant workers are more likely to live in commodity housing than do younger migrant workers. Migrant workers with higher education are also more likely to live in commodity housing. The odds ratio change is 1.32 for each increase in education level, for example, from middle school

to high school (see Appendix 6 for the “Coding book of the questionnaire”).

Table 5. 16 Model 1: Housing choices of migrant workers (Demographic characteristics)

	95% Confidence Interval for Odds Ratio							
	Commodity housing vs. urban villages				Dormitories vs. urban villages			
	B(SE)	Lower	Odds Ratio	Upper	B(SE)	Lower	Odds Ratio	Upper
Intercept	<b>-2.94 **</b> (0.98)				<b>2.52**</b> (0.80)			
1.1 Income scale	0.18 (0.18)	0.84	1.2	1.7	<b>-0.64***</b> (0.16)	0.38	0.53	0.72
1.2 Age range	<b>0.64 *</b> (0.29)	1.08	1.9	3.35	-0.21 (0.25)	0.5	0.81	1.33
1.3 <i>NOT</i> married	0.57 (0.58)	0.57	1.77	5.5	0.76 (0.47)	0.85	2.15	5.42
1.4 Spouse <i>NOT</i> have income	-0.06 (0.39)	0.44	0.94	2.02	0.31 (0.34)	0.71	1.36	2.62
1.5 Trade:								
<b>Model 1</b> <i>Manufacturing</i>	-0.92 (0.49)	0.15	0.4	1.04	-0.16 (0.35)	0.43	0.85	1.68
<i>Construction</i>	0.00 (0.53)	0.35	1	2.82	<b>0.99*</b> (0.44)	1.14	2.68	6.27
<i>Transportation, warehousing and postal industry</i>	0.50 (0.48)	0.65	1.65	4.21	0.44 (0.42)	0.69	1.56	3.51
<i>Whole sale and retail</i>	0.27 (0.41)	0.59	1.31	2.93	-0.39 (0.36)	0.34	0.67	1.36
1.6 <i>NO</i> children	0.14 (0.56)	0.39	1.15	3.43	-0.09 (0.47)	0.37	0.92	2.3
1.7 Education	<b>0.28 *</b> (0.13)	1.04	1.32	1.69	-0.07 (0.11)	0.75	0.93	1.16

**Note:**

1. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ;
2. Pseudo  $R^2 = .21$  (Cox & Snell), .24 (Nagelkerke). Model  $\chi^2(20) = 103.01$ ,  $p < .001$ ;
3. Income scale (RMB/ per year): below RMB10,000, 10,000-20,000, 20,000-50,000, 50,000-100,000, above 100,000;
4. Age range:  $\leq 30$ , 31-40,  $> 40$ ;
5. Reference category of “Trade”: Hotel, catering and other services industry

As the income of migrant workers increases, migrant workers are less likely to live in dormitories than in urban villages. With each increase in the income scale, the change in the odds of living in dormitories (compared with living in urban villages) is 0.53. Moreover, migrant workers in the construction industry are 2.68 times more likely to live in dormitories (compared with living in urban villages) than those in the hotel, catering, and other services industry.

### 5.9.3 Model 2: Mobility Characteristics

Characteristics particularly concerning mobility, namely, history of mobility, period of stay in Shenzhen, family members in Shenzhen, plan to return to their hometowns, plan to work in other cities, type of *Hukou*, and residence in their hometowns, as well as the interactions between any two variables were examined in Model 2 (Table 5.17). The interaction variable between the history of mobility and family members in Shenzhen and that between the history of mobility and plan to work in other cities are significant. The other significant variables are the type of *Hukou*, plan to return to their hometowns, family members in Shenzhen, and residence in their hometowns. Model 2 is significant at the 99% confidence level.

The type of *Hukou*, plan to return to their hometowns, and the interaction variable between the history of mobility and family members in Shenzhen are significant in predicting migrant workers' decision to live in commodity housing (compared with living in urban villages). Urban migrant workers are 2.12 (i.e.,  $1/0.47$ ) times more likely to live in commodity housing than are rural migrant workers. The migrant workers without any plan to return to their hometowns (or are unsure about it) are 2.09 times more likely to live in commodity housing than those planning to return to their hometowns. If migrant workers are used to changing residences in Shenzhen and have more family members in the locality, the probability of them living in commodity housing is larger.

Family members in Shenzhen and residence in their hometowns are significant in predicting migrant workers' decision to choose dormitories over living in urban villages. Migrant workers with more family members in Shenzhen are less likely to live in dormitories. The odds change is 0.56 for an increase of one more member. Moreover, migrant workers who own houses in their hometowns are 4.17 (i.e.,  $1/0.24$ ) times more likely to live in dormitories than those who do not.

Table 5. 17 Model 2: Housing choices of migrant workers (Mobility characteristics)

		95% Confidence Interval for Odds Ratio							
		Commodity housing vs. urban villages				Dormitories vs. urban villages			
		B(SE)	Lower	Odds Ratio	Upper	B(SE)	Lower	Odds Ratio	Upper
<b>Model 2</b>	Intercept	-0.39 (0.55)				<b>1.87***</b> (0.48)			
	2.1 Number of family members in Shenzhen	0.21 (0.14)	0.94	1.23	1.61	<b>-0.57***</b> (0.16)	0.41	0.56	0.78
	2.2 <i>NO</i> residence in hometown	-0.90 (0.75)	0.1	0.41	1.76	<b>-1.44*</b> (0.71)	0.06	0.24	0.95
	2.3 <i>NO</i> plan to work in other cities	-0.77 (0.52)	0.17	0.46	1.29	-0.05 (0.43)	0.41	0.95	2.22
	2.4 <i>NO</i> history of residential mobility in Shenzhen	0.41 (0.85)	0.29	1.51	7.97	0.71 (0.66)	0.56	2.03	7.42
	2.5 <i>RURAL Hukou</i>	<b>-0.75*</b> (0.31)	0.26	0.47	0.86	-0.19 (0.27)	0.49	0.83	1.41
	2.6 <i>NO</i> plan to return to hometown	<b>0.74*</b> (0.34)	1.08	2.09	4.03	0.30 (0.27)	0.8	1.35	2.28
	2.7 Period of stay in Shenzhen	0.05 (0.03)	0.99	1.05	1.10	-0.05 (0.03)	0.91	0.96	1.01
	2.8 <i>NO</i> history of residential mobility *								
	Number of family members in Shenzhen	<b>-0.40*</b> (0.20)	0.45	0.67	1.00	0.17 (0.22)	0.78	1.19	1.81
	2.9 <i>NO</i> history of residential mobility *								
	Plan to work in other cities	0.56 (0.85)	0.33	1.75	9.15	-1.06 (0.64)	0.1	0.35	1.21

**Note:** \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; Pseudo  $R^2 = .20$  (Cox & Snell), .22 (Nagelkerke). Model  $\chi^2(18) = 93.17$ ,  $p < .00$

#### 5.9.4 Model 3: Cognition and Expectation of the Locality

The main sources of housing information, local relatives or friends, and the possibility of finding a better residence as well as their interactions were examined in Model 3 (Table 5.18). The interaction between local relatives or friends and the possibility of

finding a better residence is significant at the 95% confidence level. Moreover, the main sources of housing information and local relatives or friends are significant at the 99% confidence level. Model 3 is significant at the 99% confidence level. The pseudo R-squared statistic (Cox & Snell: 0.45; Nagelkerke: 0.52) is significantly higher than that of Model 1 (Cox & Snell: 0.21; Nagelkerke: 0.24) and Model 2 (Cox & Snell: 0.20; Nagelkerke: 0.22).

Table 5. 18 Model 3: Housing choices of migrant workers (Cognition and expectation of the locality)

		95% Confidence Interval for Odds Ratio							
		Commodity housing vs. urban villages				Dormitories vs. urban villages			
		B(SE)	Lower	Odds Ratio	Upper	B(SE)	Lower	Odds Ratio	Upper
Model 3	Intercept	0.75 (1.41)				-1.24 (1.37)			
	3.1 Possibility to find a better residence	-0.13 (0.18)	0.62	0.88	1.24	0.32 (0.18)	0.96	1.38	1.98
	3.2 Main sources of housing information:								
	<i>Newspaper, TV, internet</i>	0.66 (1.37)	0.13	1.93	28.3	1.37 (1.29)	0.32	3.94	49.32
	<i>Estate agents</i>	0.59 (1.39)	0.12	1.81	27.68	0.08 (1.34)	0.08	1.09	15.12
	<i>Relatives or friends</i>	-0.07 (1.35)	0.07	0.93	13.14	-0.10 (1.28)	0.07	0.91	11.09
	<i>Poster for rent or sale</i>	-0.95 (1.35)	0.03	0.39	5.52	-0.63 (1.28)	0.04	0.53	6.48
	<i>Working unit (dormitories)</i>	0.13 (1.50)	0.06	1.13	21.49	<b>3.95**</b> (1.34)	3.75	51.88	718.79
	3.3 NO local relatives or friends	<b>-2.73***</b> (0.83)	0.01	0.07	0.33	0.06 (0.77)	0.24	1.07	4.83
	3.4 NO local relatives or friends * Possibility to find a better residence	<b>0.57*</b> (0.26)	1.06	1.76	2.94	-0.04 (0.24)	0.60	0.96	1.54

**Note:**

1. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ;
2. Pseudo  $R^2 = .45$  (Cox & Snell), .52 (Nagelkerke). Model  $\chi^2(16) = 261.35$ ,  $p < .001$ ;
3. Reference category of "Main sources of housing information": The others: no concern

Migrant workers with relatives or friends in Shenzhen are 14.29 (i.e.,  $1/0.06$ ) times more likely to live in commodity housing than in urban villages compared with those who do not have such relationships. For migrant workers who do not have any relatives or friends in the locality, a higher rating of the possibility of finding a better residence indicates a greater likelihood of living in commodity housing. The odds ratio is 1.76. If employers provide dormitories, migrant workers are most likely to live there.

### 5.9.5 Model 4: Residential Preferences

Residential preferences for different housing aspects, namely, security conditions, housing cost, transportation convenience, usage area, community environment (e.g., greening and air quality), distance to workplace, infrastructure (e.g., school and hospital), property management, neighborhood, layout, appearance, and closeness to relatives and friends, were examined in Model 4.

Table 5. 19 Factor analysis of residential preferences

Items	Rotated factor loadings						
	P1	P2	P3	P4	P5	P6	P7
1. Infrastructure, like school and hospital	.67	.09	-.13	.28	.08	.38	.10
2. Community environment, like greening and air quality	.75	.21	-.02	.09	-.04	.28	.25
3. Neighborhood	.79	.17	.06	.23	-.04	.07	.16
4. Property management	.83	.21	.10	.10	.23	-.02	-.08
5. Security conditions	.82	.15	.25	-.04	.08	-.00	.09
6. Closeness to your relatives and friends	.24	.12	.08	.93	.11	.00	.11
7. Layout	.25	.80	-.00	.05	-.02	.33	.02
8. Appearance	.23	.87	.10	.13	.12	.06	.13
9. Usage area	.18	.34	.23	-.02	.14	.82	.04
10. Distance to the working place	.11	.08	.11	.11	.93	.11	.22
11. Transportation convenience	.22	.13	.21	.13	.26	.05	.87
12. Housing cost	.13	.07	.92	.07	.11	.16	.17
Eigenvalues	3.27	1.70	1.07	1.06	1.06	1.04	.97
% of variance	27.24	14.18	8.89	8.87	8.81	8.64	8.11
Cronbach's $\alpha$	.88	.78					

**Note:** Respondents were asked to rate the importance of different aspects of a residence. The scores range from 1 to 12.

### 1) Factor analysis

Factor analysis was employed to extract the factors of residential preferences (Table 5.19). Principal component analysis was used with orthogonal rotation (varimax). To explain 85% of the variances, seven factors were extracted (i.e., P1: Community; P2: Layout and appearance; P3: Cost; P4: Closeness to relatives or friends; P5: Distance to workplace; P6: Usage area; and P7: Transportation). The value of the KMO measure is 0.88, which indicates good sample adequacy. Correlations between items are sufficiently large. Both P1 and P2 have high reliabilities, with Cronbach's  $\alpha > .7$ .

### 2) Multinomial Logistic Regression

After conducting factor analysis, seven groups of factor scores were calculated. These groups were included in Model 4 for logistic regression analysis (Table 5.20). P2 (Layout and appearance) and P5 (Distance to workplace) are significant at the 95% confidence level. The interaction between P2 (Layout and appearance) and P7 (Transportation) and that between P1 (Community) and P3 (Cost) are also significant at the 95% confidence level. Model 4 is significant at the 99% confidence level. The value of the pseudo R-square statistic is the lowest among the four models.

First, the more emphasis migrant workers put on distance to working place, the more likely they live in dormitories and commodity housing than in urban villages, with odds ratios of 1.50 and 1.37, respectively. Second, the more migrant workers emphasize the layout and appearance of the residence, the more likely they live in commodity housing (odds ratio: 1.41) and dormitories (odds ratio: 1.28). Third, the more emphasis migrant workers put on the combination of layout, appearance, and transportation convenience, the less likely they will live in commodity housing or dormitories. Finally, if emphasizing the combined effects of community and housing cost, migrant workers tend to live in dormitories than in urban villages (odds ratio: 1.36).

Table 5. 20 Model 4: Housing choices of migrant workers (Residential preferences)

		95% Confidence Interval for Odds Ratio							
		Commodity housing vs. urban villages				Dormitories vs. urban villages			
		B(SE)	Lower	Odds Ratio	Upper	B(SE)	Lower	Odds Ratio	Upper
<b>Model 4</b>	Intercept	-0.13 (0.15)				<b>0.83***</b> (0.12)			
	4.1 Transportation preference	-0.15 (0.15)	0.64	0.86	1.16	-0.18 (0.13)	0.65	0.84	1.08
	4.2 Distance to working place preference	<b>0.32*</b> (0.15)	1.03	1.37	1.83	<b>0.41**</b> (0.12)	1.19	1.5	1.9
	4.3 Cost preference	-0.10 (0.15)	0.67	0.91	1.22	-0.12 (0.13)	0.69	0.89	1.13
	4.4 Community preference	-0.19 (0.15)	0.61	0.83	1.11	-0.08 (0.13)	0.72	0.92	1.18
	4.5 Layout & appearance preference	<b>0.35*</b> (0.15)	1.05	1.42	1.91	<b>0.25*</b> (0.12)	1.01	1.28	1.62
	4.6 Closeness to relatives or friends preference	0.08 (0.15)	0.81	1.09	1.45	0.10 (0.12)	0.87	1.11	1.41
	4.7 Usage area preference	0.01 (0.15)	0.75	1.01	1.35	-0.13 (0.12)	0.69	0.88	1.12
	4.8 Layout & appearance * Transportation preference	<b>-0.29*</b> (0.14)	0.57	0.75	0.99	<b>-0.26*</b> (0.11)	0.62	0.78	0.97
	4.9 Community * Cost preference	0.23 (0.14)	0.96	1.26	1.66	<b>0.31**</b> (0.12)	1.08	1.36	1.72

**Note:** \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; Pseudo  $R^2 = .8$  (Cox & Snell), .9 (Nagelkerke). Model  $\chi^2(18) = 36.93$ ,  $p < .001$ .

### 5.9.6 Summary of Factors Affecting the Housing Choices of Migrant Workers

Based on the construction of the four models, all hypotheses (i.e., H1, H2, H3, and H4) are supported. The significant variables influencing the housing choices of migrant workers are summarized, as shown in Figure 5.11. The “+” sign indicates that the variable has a positive effect on the housing choice, and the “-” sign indicates a negative effect. The variables of the different significance levels (i.e., 95%, 99%, and

99.9%) are highlighted, respectively, with different shapes in Figure 5.11. Among the four models, the variances explained by Model 3 (cognition and expectation of the locality) is the largest at 45% to 52%, followed by Model 1 (demographic characteristics) at 21% to 24%, Model 2 (mobility characteristics) at 20% to 22%, and Model 4 (residential preferences) at 8% to 9%.

The findings (including both significant and non-significant variables) are summarized as follows:

- 1) Migrant workers with higher income are more likely to live in commodity housing and urban villages.
- 2) As migrant workers get older, they are most likely to live in commodity housing, followed by urban villages and dormitories.
- 3) Among all the five trades, migrant workers in the construction industry are most likely to live in dormitories than in urban villages. Those in the manufacturing industry are most likely to live in urban villages, and those in the transportation, warehousing, postal, wholesale, and retail industries are most likely to live in commodity housing.
- 4) A higher education level indicates a greater likelihood of living in commodity housing, followed by urban villages and dormitories.
- 5) The more family members are in the locality, the greater is the likelihood of living in commodity housing, followed by urban villages and dormitories.
- 6) For migrant workers who do not have their own residence in their hometowns, the dormitory is the least possible housing choice.
- 7) The most common housing choice of migrant workers with rural *Hukou* is the urban villages and that of migrant workers with urban *Hukou* is commodity housing.
- 8) The plan to return significantly affects the housing choices of migrant workers. If they do not plan to return to their hometowns, they usually live in commodity housing.

9) If migrant workers used to changing their residences in the locality and have many family members nearby, they are more likely to live in commodity housing.

10) Migrant workers who obtain housing information mainly from estate agents are more likely to live in commodity housing. Those who obtain housing information from relatives, friends, or advertising posters are more likely to live in urban villages. Those whose main source of housing information is their workplace are more likely to live in dormitories.

11) Migrant workers who have local relatives or friends in the locality are more likely to live in commodity housing.

12) Migrant workers without local relatives or friends but with a positive evaluation of the possibility of finding a better residence are more likely to live in commodity housing.

13) The greater emphasis placed by migrant workers on “distance to workplace” indicates a greater likelihood of living in dormitories. The more they emphasize the layout and appearance of a residence, the more likely they will live in commodity housing. More emphasis placed on the combination of layout, appearance, and transportation convenience indicates a greater likelihood of living in urban villages. Migrant workers who prefer a combination of community and cost are more likely to live in dormitories than in urban villages.

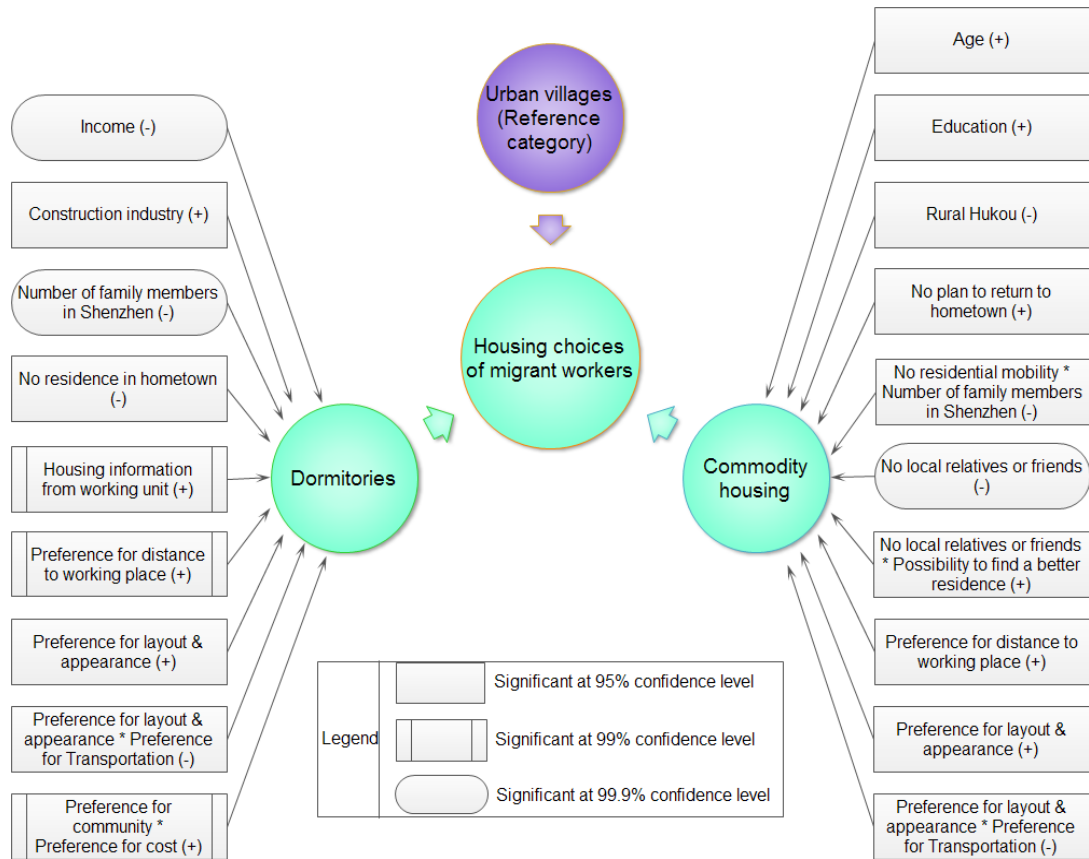


Figure 5. 11 Significant variables influencing housing choices of migrant workers

## 5.10 Summary of the Chapter

This chapter analyzes the housing demands of migrant workers from a comprehensive perspective. From the aspect of demographic characteristics, migrant workers are mostly young, single, and male. The majority of migrant workers come from rural areas. Almost half of them do not hold Residence Cards. Most of them received middle school or high school education. On average, they have stayed in Shenzhen for six years. However, more than half are not covered by the social security system in Shenzhen, and their average income is significantly lower than the average level in the city. The income disparity among migrant workers is large. Most of them have fellow villagers living nearby. They are conservative in consumption, and most of them remit money to family members in their hometowns every month. They usually live near their workplace. Migrant workers' average living space per capita is approximately half that at the city level, but their housing cost ratio is significantly higher than that at the city level. Moreover, they tend to change jobs frequently. They are mobile both at the inter- and intra-city levels mainly because of low affordability in the locality, *Hukou* status, and job opportunities. The findings on the demographic

characteristics of migrant workers from the questionnaire survey are largely consistent with those of other studies.

In terms of the cognitive level of the locality, relatives and friends, working units, and posters are the three most important sources of housing and employment information for migrant workers. Moreover, migrant workers have low concern for and low familiarity with the local policies. Widening the channel for migrant workers to gain access to various types of information is necessary. Career training and further education should be provided by employers, communities, and/or the local government. More policies to solve the problems of migrant workers should be promulgated and actualized.

In terms of previous residence, more than half of the migrant workers have experienced residential mobility upon arrival in Shenzhen. Free dormitory, rental housing in urban villages, and rental commodity housing are the three most common residences they used to prefer before moving into their current residence. Job change, the need to reduce housing cost, and the need to improve housing conditions are the three most important reasons for residential mobility. Most incidences of residential mobility fall under the short-distance category. Free dormitories and rental housing (especially in the informal housing sector) play a crucial role in accommodating migrant workers during the early stage of their stay in the locality.

In terms of current residence, free dormitories, rental housing in urban villages, and rental commodity housing are the three most common housing choices among migrant workers. However, according to other studies, the proportion of rental housing in urban villages occupied by migrant workers is larger than that in dormitories, which is caused by the different sampling methods used. Moreover, most of the migrant workers have homes in their hometowns. In general, the residence of migrant workers is usually located in areas with a large number of job opportunities and with convenient access to their workplace, infrastructures, and entertainment facilities. However, overcrowding is a common problem, and housing facilities are inadequate. The sources of housing funds for migrant workers are relatively limited (i.e., their own savings and financial support from parents), which may be another reason for their conservative housing consumption behavior. Migrant workers place the greatest emphasis on personal security, low housing cost, and transportation

convenience among all the aspects of housing.

In terms of expected residence, a number of migrant workers are optimistic about finding a better residence. More than half of them indicate residential mobility in the next seven years. Purchased commodity housing is their most expected type of residence, followed by rental commodity housing and rental housing in urban villages. However, not all migrant workers who plan to move into purchased commodity housing will actually do so. The main reasons are affordability problems, mobility, and uncertainty about the future.

Lastly, the factors affecting the housing choices of migrant workers are analyzed. All four hypotheses (i.e., H1: demographic characteristics; H2: mobility characteristics; H3: cognition and expectation of the locality; and H4: residential preferences) are supported. Among all four models, Model 3 (i.e., cognition and expectation of the locality) explains the highest proportion of variances in the housing choices of migrant workers, followed by Model 1 (i.e., demographic characteristics), Model 2 (i.e., mobility characteristics), and Model 4 (i.e., residential preferences). In other words, the combination of the possibility of finding a better residence, the main sources of housing information, and having relatives or friends in the locality best explains the various housing choices among migrant workers.

After examining the housing demands of migrant workers in this chapter, the next chapter examines the housing supply for migrant workers (both in the public and private housing sectors) to compare between housing demand and supply in Chapter 7.

## **CHAPTER 6: HOUSING SUPPLY**

### **6.1 Scope of the Chapter**

After exploring the housing demands of migrant workers in the last chapter, this chapter examines the housing supply in accordance with Figure 3.3 (Chapter 3). Both firsthand data (based on the structured interviews with government officials and research institutes and the questionnaire survey) and secondhand data (based on government publications, policies, publications of private real estate research institutes, etc.) were collected for the study. This chapter begins with an overview of housing policies on migrant workers, which echoes the contents of Section 2.4.6, and the relevant implementation strategies. Second, housing supply from the public sector is examined. Specifically, public rental housing, which is available to migrant workers at the policy level, is discussed. The respective volumes and proportions of various public housing provisions in Shenzhen are analyzed. Third, housing supply in the private sector is examined, especially rental housing in urban villages. Fourth, residence in the migrant workers' hometowns, a special source of housing for migrant workers, is briefly examined. Finally, the advantages and disadvantages of the housing supply for migrant workers are discussed.

### **6.2 Housing Policies on Migrant Workers and the Implementation Strategies**

#### **6.2.1 Overview of Housing Policies on Migrant Workers**

As examined in Section 2.4.6 of Chapter 2, both the central government and local governments have promulgated policies to address the housing problems of migrant workers. At the national level, relevant policies in terms of views, recommendations, and measures have been introduced by the State Council and relevant ministries (e.g., Ministry of Construction and the Ministry of Housing and Urban–Rural Development) since 2006. In terms of housing stocks, dormitories (e.g., facilitated in industrial zones and in redeveloped urban villages by the local government or constructed by the employers on the land for their own use), rental housing (provided by indigenous villagers in the urban periphery areas), and public rental housing have to be provided to migrant workers. In terms of monetary subsidy, employers are encouraged to provide monetary subsidy to their employees if the latter arrange their own

accommodations. Proper urban planning in the peripheral areas should be conducted. The urban housing construction plan and the HPF are encouraged to include migrant workers in their coverage.

Policies have been introduced by the local governments to include migrant workers in the urban housing system (in terms of urban housing construction plan and public rental housing) and to make good use of urban villages through comprehensive environmental remediation. For instance, Shenzhen is the city with the highest proportion (approximately 77%) of migrant workers in China. It faces the most prominent difficulty in accommodating migrant workers, and it plans to include low-income migrant workers in the public rental housing gradually (Shenzhen Government, 2007). According to its housing construction plan (Shenzhen Government, 2006), the Shenzhen government emphasizes that public rental housing should provide security to both local and non-local residents. Public rental housing in Shenzhen mainly has three sources: 1) investment and construction by the government; 2) proportionate construction by private developers, which requires them to reserve 10% to 15% of the total construction floor area for public rental housing and transfer the property rights to the government; and 3) confiscated illegal buildings.

### 6.2.2 Implementation of the Housing Policies on Migrant Workers

In Chongqing, the local government allows the floating population to purchase affordable housing and rent low-rent housing. For example, the Jiangnan Apartment in Changsha City (the capital of Hunan Province), it belongs to the category of low-rent housing. It was provided especially for rural migrant workers in 2004. However, problems emerged in the policy implementation. First, local governments failed to fully consider the practical conditions of migrant workers. For example, the Jiangnan Apartment in Changsha was completed in 2004, but no one moved in until September 2005 for three reasons: 1) the apartment targets rural migrant workers only, but many of these workers prefer to live in dormitories because of the low cost associated with living and transportation; 2) the location is not preferable; and 3) the approval procedure is too complicated (e.g., approval requires a labor contract, which migrant workers engaged in temporary work do not have); and 4) the apartment has a dormitory layout without adequate facilities for family use, further reducing its

advantages compared with dormitories. The second problem is the lack of systematic policies on construction, taxation, and circulation.

Regarding the policy implementation in Shenzhen, according to the interviews with several government officials and research institutions (Appendix 11), although policies have been promulgated to include migrant workers in public rental housing, these policies are yet to be implemented. The public housing policies focus mainly on the local residents (i.e., those with local *Hukou*). Specific measures for migrant workers to apply for public housing are yet to be examined because a significant number of migrant workers are in Shenzhen; thus, a substantial period of time is needed to identify the proper application criteria (Interview with Shenzhen Property Management Institute, February 2009). Highly educated migrant workers or those with specific skills can live in the “talents’ apartment,” which is part of the public rental housing system. The layout and living area of these apartments are better than the average public rental housing. The rent is higher accordingly but lower than that of the private sector (Interview with Municipal Bureau of Land Resources and Housing Management, February 2009). If the other migrant workers (e.g., poorly educated and with no specific working skills) cannot access dormitories facilitated in industrial zones, then they have seek help from the private housing sector. Facilitated dormitories are developed in industrial zones by the government and rented to the corresponding enterprises. Huawei Technologies Co., Ltd. is one example. The number of dormitories to be allocated is determined by the corresponding scale of the enterprises.

## **6.3 Housing Supply from the Public Sector**

### **6.3.1 Overview of Public Housing Provision in Shenzhen**

In Shenzhen, the public housing system is composed mainly of low-rent housing, public rental housing, economically affordable housing (i.e., “Jingji Shiyong Housing”), affordable commodity housing (i.e., “Anjuxing Shangpin Housing”), and subsidized housing according to the “Regulations of public housing in Shenzhen” promulgated by the Shenzhen government in 2011. Low-rent housing will be included in the system of public rental housing. The provision of economically affordable housing will be reduced and gradually abolished in the future. The public housing

system of Shenzhen will consist of three components, namely, public rental housing, affordable commodity housing, and subsidized housing. Affordable commodity housing is developed mainly by the private enterprises. The development of economically affordable housing and public rental housing is led mainly by the government. Affordable commodity housing is similar to capped-price housing (i.e., “Xianjia Housing”). However, the target groups and the way to obtain the ownership of these two kinds of housing are different. The application criteria for affordable commodity housing are significantly stricter than those of capped-price housing. For instance, the applicants should pay the medical insurance for at least five years before they can apply for the affordable commodity housing in Shenzhen according to the “Interim management measures of affordable commodity housing construction and management in Shenzhen” (Shenzhen Government, 2011). Moreover, resale of property in the market is prohibited within the first 10 years of occupation unless it is sold to the government. Owners can apply to obtain full property rights after 10 years. The details can be found in the policy “Interim management measures of affordable commodity housing construction and management in Shenzhen” promulgated by the Shenzhen Government in April 2011.

Among all kinds of public housing, except for “talents’ apartment” and affordable commodity housing that are available for migrant workers with certain specialties (identified by the government), migrant workers are included in the public rental housing system only at the policy level. In Shenzhen, public rental housing is composed mainly of housing stocks and newly built housing (Table 6.1). For facilitated constructions in the commodity housing area, total construction area, flat area, number of flats, layout, construction standards, and handover or repurchase issues should be confirmed in the contract with private developers. For housing stocks, the selection criterion is to satisfy adequately the need for “owner-occupied” use. For newly built housing, the floor area per flat is limited to less than 50 square meters. The layout can be one single room, one living room with one bedroom, and one living room with two bedrooms. Moreover, the flats are decorated by the developers following “cost-effective” and “environment-friendly” principles. Tenants are not allowed to change the original decoration, use, or structure.

Table 6. 1 Composition of public rental housing in Shenzhen

<b>1. housing stocks</b>	1.1 Confiscated housing by the government
	1.2 Purchased housing from the market by the government
	1.3 Rented housing from the market by the government
<b>2. newly built housing</b>	2.1 Government's direct investment and construction
	2.2 Certain proportion of commodity housing construction
	2.3 Certain proportion of urban or rural redevelopment
	2.4 Flats or dormitories in industrial zones

**Source:** Shenzhen Municipal Bureau of Land Resources and Housing Management (2008)

In Shenzhen, the gross amount of public housing provision increased steadily from 2006 to 2008. The same is also true for public rental housing. However, the provision decreased dramatically since 2008, although the proportion of public rental housing was still on the rise (Figures 6.1 and 6.2). The proportion of public rental housing provision increased from zero in 2006 to 69.4% in 2010. In 2009, the proportion reached approximately 80%. Low-rent housing was provided only in 2007 at a slim proportion (i.e., 0.5%). The proportion of economically affordable housing provision is on a decreasing trend.

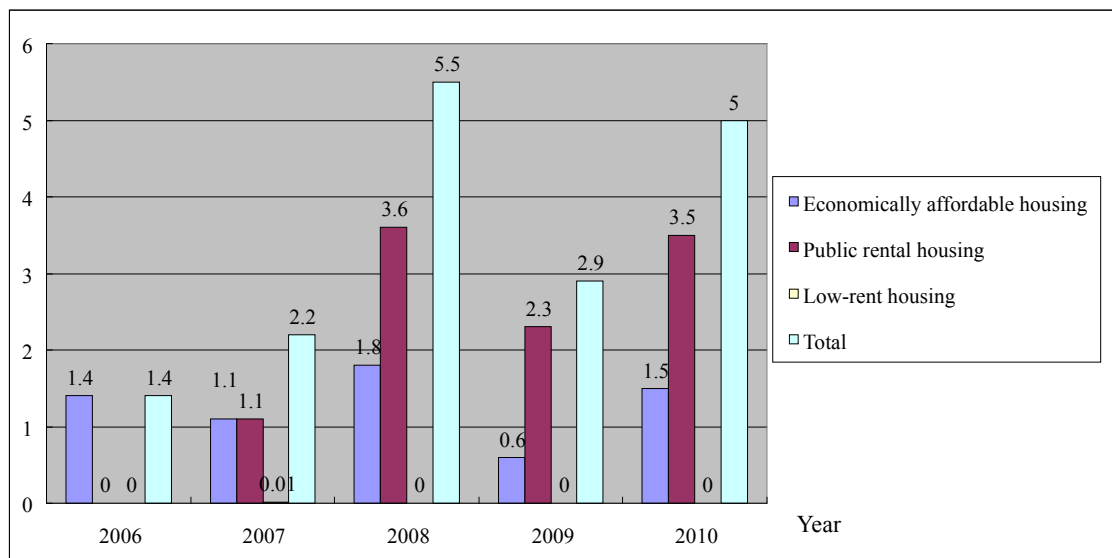


Figure 6. 1 Annual public housing provision in Shenzhen (2006-2010)  
(Unit: 10,000 flats)

**Source:** Shenzhen public housing development plan (2011-2015)

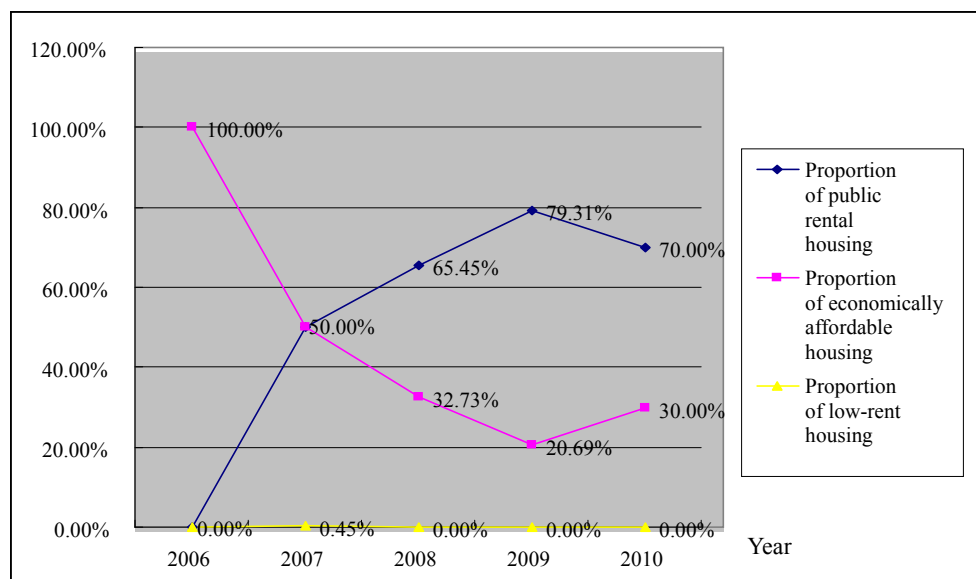
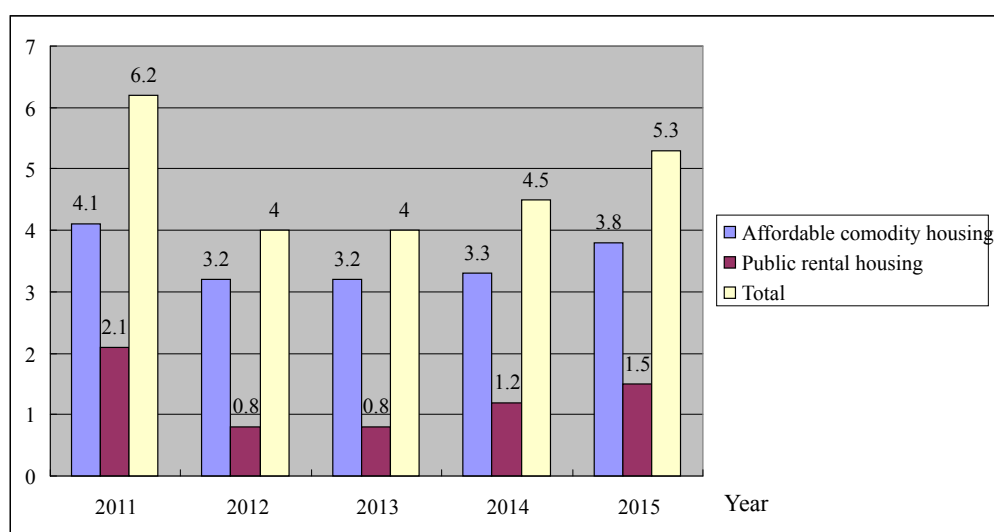


Figure 6. 2 Composition of public housing provision in Shenzhen (2006-2010)

*Source:* Shenzhen public housing development plan (2011-2015)

Beginning in 2011, affordable commodity housing was included in the public housing provision in Shenzhen (Figure 6.3), and it will form a major part of the total public housing provision (Figure 6.4).

Figure 6. 3 Public housing construction plan of Shenzhen (2011-2015)  
(Unit: 10,000 flats)*Source:* Shenzhen public housing development plan (2011-2015)

**Note:** Economic affordable housing is included into the category of affordable commodity housing.  
Low-rent housing is included into public rental housing.

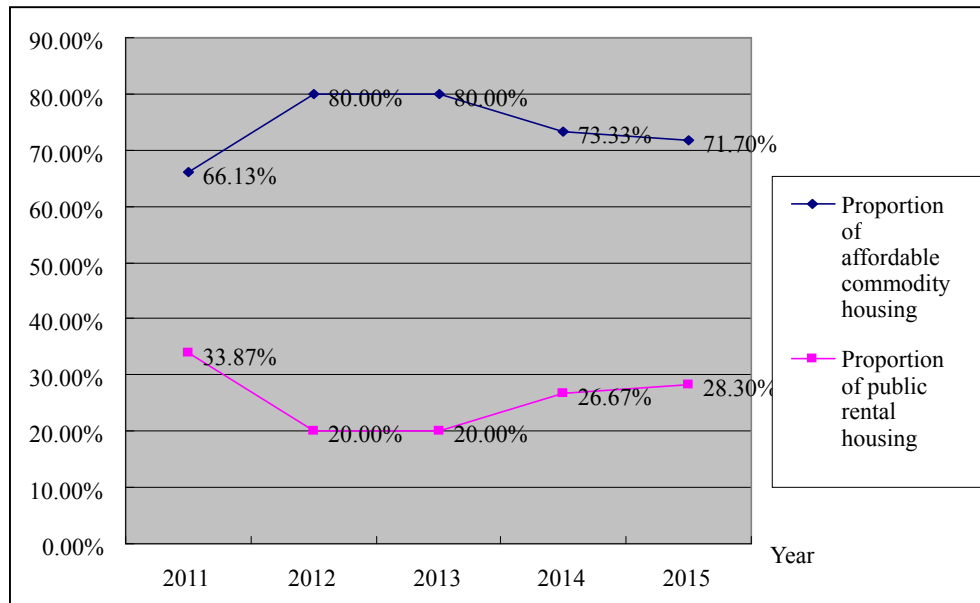


Figure 6. 4 Composition of public housing provision in Shenzhen (2011-2015)

*Source:* Shenzhen public housing development plan (2011-2015)

### 6.3.2 Mode of Public Rental Housing Provision in Shenzhen

Public rental housing is provided to households with urgent housing needs because these households cannot afford accommodation in the private sector. This kind of housing is the first step for these households toward self-owned accommodations. Public rental housing was introduced based on the comfortable housing and low-rent housing system in China. Housing stocks are developed by the government and rented or purchased by the target group in accordance with reasonable standards. The target group is the low-income households with housing difficulties. The government introduces preferential policies to this kind of public housing. However, the layout, flat area, and rent are strictly constrained (Shenzhen Municipal Bureau of Land Resources and Housing Management, 2008). According to an interview with the Shenzhen Municipal Bureau of Land Resources and Housing Management, the reasons for developing public rental housing are as follows: 1) it refers to the experience of Hong Kong; 2) the size of the non-local population in Shenzhen is significantly larger than that of the local residents, which is a special case in China; 3) the income disparity is relatively large in Shenzhen; and 4) it strengthens the housing provision in Shenzhen.

**a. Organizations Responsible for Public Rental Housing**

According to the “Regulations of public housing in Shenzhen” (Shenzhen Government, July 13, 2011), the Housing Authority and the Bureau of Housing and Construction are mainly responsible for public housing provision in Shenzhen. The Housing Authority is responsible for the consideration, coordination, guidance, and decision making on housing security issues in Shenzhen. Bureau of Housing and Construction is in charge of the implementation, supervision, and management. Other departments, such as the Development and Reform Commission and the Planning and Land Resources Commission, play a supporting role in housing security tasks.

Under the Bureau of Housing and Construction, the Policy and Regulation Division is responsible for drafting and modifying guidelines or ordinances on housing reform and then for submitting them to higher authorities for approval. This division also proposes legislation plans. The Housing Reform Division and the Housing Security Division are responsible for implementing national and provincial legislation and policies on housing reform. The Housing Reform and Development Division is responsible for the operation, maintenance, demolition, compensation, and implementation of public housing. Moreover, it serves as the executive arm of the Housing Committee, management committee of HPF, and the Housing Reform Office. The Housing Security Division is the executive arm of the Housing Security Office. It is responsible for formulating housing plans and construction standards, executing public housing programs (including redevelopments and renovations), and overseeing the implementations.

**b. Rent Determination**

Public rental housing in Shenzhen consists of two parts, namely, cost and slight profit. These parts are equivalent to a certain proportion of the rent of private housing in the same region and of the same type. Relevant housing security authorities can adjust the rent if necessary with the approval of the Housing Committee.

**c. Relevant Policies**

In Shenzhen, mainly three kinds of policies exist on public rental housing. One is in

the form of planning, such as the “Shenzhen public housing development plan.” The second is in the form of views and interim measures, such as “Several views on further promoting the housing security in Shenzhen” and “Interim measures of public rental housing management in Shenzhen.” The third is in the form of regulations, namely, “Regulations of public housing in Shenzhen.”

#### **d. Financial Resources and Arrangement**

In Shenzhen, the following seven kinds of financial resources exist for developing public rental housing: 1) appropriations allocated by the Financial Bureau, 2) no less than 10% of the land premium, 3) income from public rental housing and facilities, 4) government debt, 5) investment and financing from the private sector, 6) donations, and 7) other funds approved by the municipal government. Moreover, the income and cost of public rental housing should be managed separately.

### **6.4 Housing Supply from the Private Sector**

Private sector housing constitutes a major part (i.e., 68% in 2009) of the housing stocks in Shenzhen. According to the Urban Planning, Land, and Resources Commission of Shenzhen Municipality (2011), the total housing provision was 0.41 billion square meters in 2009, and it was composed of commodity housing (25%), public housing (6.2%), self-built housing by enterprises and individuals (10%), urban villages (43%), and dormitories facilitated in industrial zones and others (15.8%). Commodity housing and urban villages account for the largest part. According to the interviews, rental commodity housing and urban villages play a major role in accommodating migrant workers, as indicated in the Shenzhen housing construction plan for 2011 to 2015 (Shenzhen Government, 2011),

#### **6.4.1 Commodity Housing**

According to the Centaline Group (2010), the construction area of firsthand residential commodity housing in Shenzhen has continued to decrease each year since 2004. The provision is unevenly distributed, with greater provision in Bao'an and Longgang districts. These two districts used to be outside the Shenzhen SEZ before July 1, 2010. The sales price increased from RMB 6,500 per square meter to RMB 22,000 per square meter during the period of 2004 to 2010. The average price of

secondhand residential housing increased from RMB 5,000 per square meter to RMB 19,000 per square meter within the same period. Moreover, according to Shenzhen government (2011), the land provision for housing construction decreased because of the limited land resource available in the period of 2006 to 2010.

The rental price of residential housing generally exhibits a rising trend, except for the period of the global financial tsunami. As shown in Figure 6.5, the overall rent (including housing in urban villages) increased by approximately 24% from RMB 32.5 per square meter to RMB 42.5 per square meter from the first quarter of 2009 to the second quarter of 2011. According to Figure 6.6, the rental price of ordinary commodity housing (including both firsthand and secondhand housing) has increased by approximately 20% since 2002 (excluding luxury commodity housing). According to an interview with the Shenzhen Floating Population and Rental Housing Comprehensive Management Office, the overall supply of rental housing in Shenzhen increased from 0.2 billion square meters to 0.32 billion square meters from 1999 to 2009.

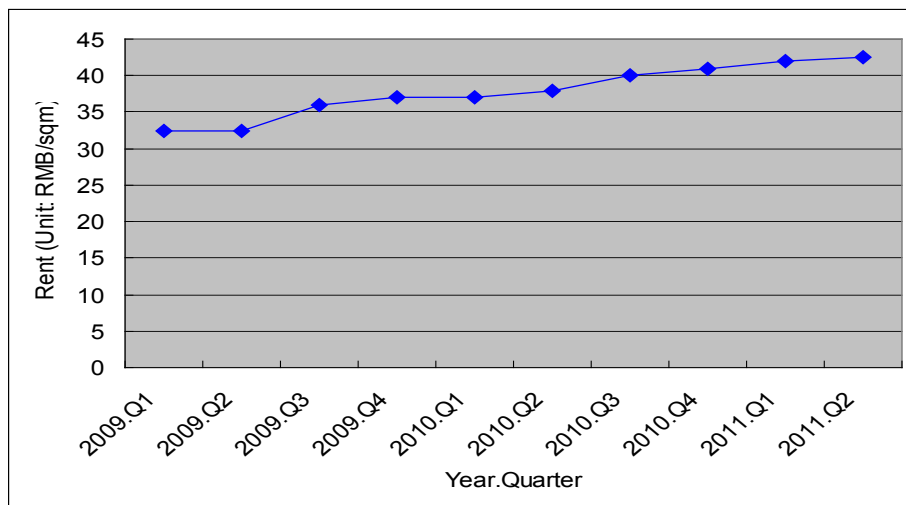


Figure 6. 5 Overall rent (including housing in urban villages) in Shenzhen (2009-2011)  
(Year 2009.Q1-2011.Q2)

**Source:** Interview with an official of Shenzhen Floating Population and Rental Housing Comprehensive Management Office (September 24, 2009); Shenzhen rental information network ([http://www.szanju.net/news\\_more.jsp?uri=news&code=HYXW&pageNo=1](http://www.szanju.net/news_more.jsp?uri=news&code=HYXW&pageNo=1))

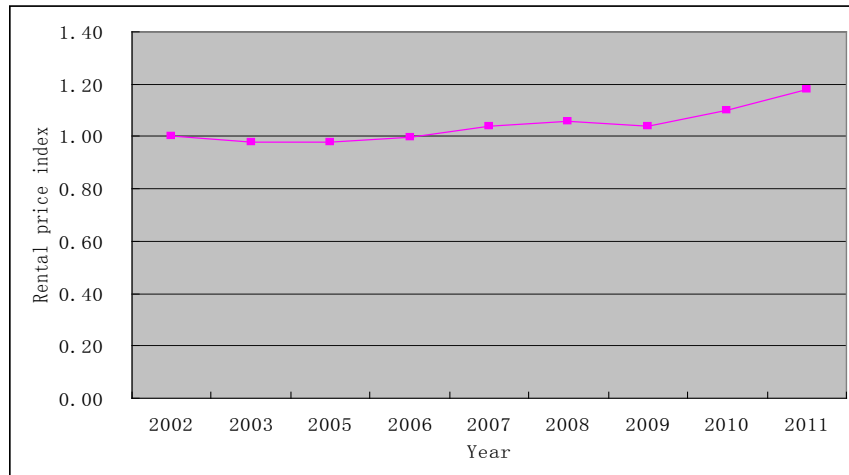


Figure 6. 6 Rental Price Index of ordinary commodity housing in Shenzhen (2002-2011)  
(Fixed base index)

**Source:** Shenzhen Bureau of Statistics

(<http://www.sztj.com/main/xxgk/tjsj/tjyb/index.shtml?catalogId=14311>)

#### 6.4.2 Rental Housing in Urban Villages

Urban villages contribute the largest housing stocks (43% in 2009) in Shenzhen. The housing supply in urban villages is increasing because of redevelopment (Interview with the Shenzhen Floating Population and Rental Housing Comprehensive Management Office, September 2009). Although the property rights are not stable (Tian, 2008), the use of urban villages is an effective and realistic way to accommodate migrant workers in the absence of government housing support. It also serves as transitional housing while migrant workers search for better accommodations. Urban villages of Shenzhen were formed in the 1980s and developed in the 1990s, and have been under redevelopment since 2003. The current spatial and construction pattern of urban villages was not yet established then. By 2004, 320 urban villages were constructed in Shenzhen with a total land area of 93.5 km<sup>2</sup>, accounting for 18% of the urban buildings in Shenzhen. In the Longgang and Bao'an districts, urban villages provide the main resource of rental housing (Shenzhen Rental Housing Comprehensive Management Office, 2009).

Aside from several news articles, no official data have been released on the rental price of urban villages. According to an interview with the Shenzhen Floating Population and Rental Housing Comprehensive Management Office, the rental price of urban villages inside the SEZ stabilized after the financial tsunami, and the letting rate decreased slightly (modest decline). As for the urban villages outside the SEZ, the

rental price decreased steadily by 30%, and the letting rate decreased slightly. Thus, as the price of commodity housing increases, the rent in urban villages increases as well. Another reason for the rent to increase in urban villages is redevelopment. Two methods are used to renovate urban villages, namely, comprehensive reform and comprehensive improvement. In the first method, all buildings are demolished, and migrant workers are driven out. Figure 6.7 presents the comprehensive reform of Dachong Village in Nanshan District, which is the largest urban renewal project in Shenzhen. After the demolition, high-end commodity residential housing, commercial facilities, and public housing will be constructed. Another example is Caiwuwei Village in Luohu District, which also employs the first method. Kingkey Financial Center (KK100) was then developed. On March 4, 2012, the time that the photograph was taken (Figure 6.8), a few buildings were still to be demolished (left portion of the photo). After the demolition, all buildings in Caiwuwei Village will be replaced by newly built commercial property with the aim of forming a new financial and commercial core in Luohu District. In the second method, landlords may offer higher prices after the living environment and facilities are improved. For example, in Caiwuwei Village, both the letting rate and rental price have increased because of the improvement of several buildings.



Figure 6. 7 Dachong Village in Nanshan District  
(photo taken by the author on March 4, 2012)



Figure 6. 8 Caiwuwei Village in Luohu District  
(photo taken by the author on March 4, 2012)

Table 6. 2 Urban villages in Shenzhen (2004)

	No. of urban villages	Area	Construction area	No. of buildings	Floors	Building density	Floor Area Ratio
Luohu District	35	235.68	647.94	1.24	5.20	0.53	2.75
Futian District	15	195.62	669.14	0.90	6.20	0.55	3.42
Nanshan District	29	291.21	720.58	1.68	4.60	0.54	2.47
Yantian District	12	77.60	101.20	0.41	2.90	0.45	1.3
Bao'an District	138	4428.01	4311.35	16.54	2.90	0.33	0.97
Longgang District	91	4120.88	4111.56	14.12	3.00	0.33	1.00
Total	320	9349.00	10,561.77	34.89	4.13	0.46	1.99

**Source:** “Outline of master plan of transforming urban villages in Shenzhen”, Shenzhen research institute of urban planning and design

**Note:** Unit of area: 10,000 square meters; Unit of buildings: 10,000

Regarding the planning of urban villages in Shenzhen, both building density and floor area ratio (FAR) have exceeded the urban planning standards of Shenzhen. Table 6.2 summarizes the characteristics of urban villages in Shenzhen. As stated in “Shenzhen urban planning standards and guidelines” issued by the Shenzhen government (2004), the standard building density is 0.25 to 0.32 for multi-story buildings, and the standard FAR is 1.5 to 1.8. Four districts (i.e., Luohu, Futian, Nanshan, and Yantian),

which used to be inside SEZ, have a higher building density and FAR than those of the other two districts (i.e., Bao'an and Longgang).

### **6.5 Housing in the Hometowns**

Most of the migrant workers have residences in their hometown, which are mainly low-rise self-built buildings for family use. According to the questionnaire survey, 96.9% of the migrant workers have residences in their hometowns. The residences are generally either self-built bungalows, self-built low-rise buildings (usually two to three stories high), or purchased commodity housing. Self-built low-rise buildings comprise the largest percentage (43.8%), followed by self-built bungalows (36.2%), purchased commodity housing (15.8), self-built and purchased residences (3.9%) and others (0.2%). As regards the usage of the residences, 87.4% are for family use, 9.4% are empty, 2.3% are for rent, and the others are for storage use.

Almost 10% of the residences in the hometowns of migrant workers are left empty. The fundamental reason is that migrant workers lack a sense of belonging to the locality (i.e., Shenzhen). They experience difficulty in becoming fully involved in the locality without any guarantee of housing, medical care, education, endowment, or unemployment insurance from the local government. Many of them, especially the rural migrant workers, will eventually return to their hometowns.

### **6.6 Stakeholders Involved in Housing Provision for Migrant Workers**

After examining the available housing options for migrant workers, the relevant stakeholders involved in the housing provision for this population group will be considered. As stated previously, dormitories and rental housing are the two most common choices for migrant workers. From the perspective of the policy network approach, mainly two groups of stakeholders are involved. The first group is composed of public agencies such as the central government and local authorities (both in urban and rural areas). The other group includes private actors such as private developers, enterprises, financial agencies, and consultancy agencies.

Dormitories are provided by employers or sometimes by the local government. Large-scale enterprises tend to construct dormitories for their employees or rent from the private market (Li & Duda, 2010). Local governments construct dormitories in

industrial zones and then rent these out to relevant enterprises to attract investment and accommodate the large number of migrant workers in the city.

Generally, two kinds of rental housing markets exist in the world: dual rental market and unitary rental market. China belongs to the former category, in which rental housing is further divided into non-profit and for-profit. The public sector housing in China is generally composed of four types, namely, economically affordable housing, low-rent housing, capped-price housing, and public rental housing, which are generally funded, managed, and owned by the local governments. The exceptions are proportionate constructions by developers in particular projects, which will be transferred to local governments after a certain number of years of operation. Public housing is generally not available for migrant workers, except in the following situations: 1) public rental housing tailor-made for talents, fresh college graduates, and high-technology industry workers; 2) public housing illegally rented out by the landlords; and 3) public housing legally rented out by the landlords after obtaining full property rights. For-profit housing is composed of commodity housing and rental housing in urban villages. Special attention should be given to urban villages that play a major role in accommodating migrant workers as discussed previously. Urban villages constitute a sub-housing market that addresses the shortcomings of the formal housing market and the inefficiency of the public housing system in accommodating low-income migrants. The housing providers are stock cooperative companies of each urban village. The stock cooperative companies are established to manage and operate the buildings in urban villages. All shareholders are local villagers, and some of the employees are recruited outside.

In the process of housing development, local governments are not only policy producers (e.g., policies, regulations, and guidelines) but also facilitators. Policies, such as construction standards and application qualifications, are established for private developers and migrant workers. Preferential fiscal policies are promulgated to stimulate private enterprises to construct more affordable housing. Local governments also provide direct and indirect funds for affordable housing construction. Direct capital injection comes from revenue and rent income. Indirect funds include government loans and premium-exempted land provision. Local governments also construct dormitories in industrial zones as ancillary facilities. Rented, purchased, and

confiscated housing are included in government-provided affordable housing stocks.

However, the government capability of fund provision is limited, and thus the participation of private developers is highly essential. As mentioned previously, the government has promulgated preferential fiscal policies to stimulate the investigation and construction of dormitories and public housing in the private sector. Employers who recruit a large number of migrant workers are encouraged to provide dormitories for their employees. Private developers are required to facilitate a proportion of public rental housing when developing commercial properties in certain areas. After a certain number of years of operation, the ownership of the public rental housing will be transferred to the government. Urban villages are also important resources for accommodating migrant workers.

## **6.7 Evaluation of the Housing Supply for Migrant Workers**

### **6.7.1 Advantages**

Many policies on solving the housing problems of migrant workers have been promulgated by the central government and local governments. These policies are constructive in terms of increasing the sources of housing available for migrant workers (e.g., dormitories, rental housing leased by indigenous villagers, and public housing), strengthening the urban planning of periphery areas, and making efficient use of HPF.

Public housing provision has five advantages. 1) Migrant workers are eligible for public rental housing at the policy level in China, although the practical implementation should be examined because the policy was implemented in July 2012. 2) The sources of housing stocks and housing financing for public rental housing are rich. 3) The volume of public housing provision is generally in accordance with a rising trend in Shenzhen. 4) Both the amount and the proportion of public rental housing provision in Shenzhen increased from 2006 to 2010. 5) A new kind of public housing, affordable commodity housing, is being introduced in Shenzhen. It is available for migrant workers with specific talents. The provision will be developed in the coming years.

Regarding housing supply in the private sector, the housing provision from urban

villages is the largest among the housing stocks in Shenzhen. In the absence of government housing support, rental housing in urban villages can effectively accommodate migrant workers at low cost and high convenience.

Most of the migrant workers have residences in their hometowns, which serve as backup accommodation if they leave the locality.

From the stakeholder perspective, bringing private developers into the public housing provision is efficient. Moreover, the establishment of stock cooperative companies in rental housing provision and management in urban villages can further standardize the rental housing provision.

### 6.7.2 Disadvantages

The implementation of dormitories and public housing provision for migrant workers is not satisfactory because of the following factors: 1) The practical situation of migrant workers tends to be neglected, such as housing preferences (i.e., low cost and convenience), simple approval procedure, and family structure. 2) Systematic policies (e.g., policies on construction, taxation, housing circulation, etc.) are needed. 3) The policy implementation is delayed. For instance, in Shenzhen, although migrant workers are included in the public rental housing scheme, most of them are not eligible to apply. Only migrant workers with specific talents, as identified by the government, can apply for “talents’ apartments” or affordable commodity housing. 4) The proportion of public rental housing provision has decreased from 2011 to 2015. Affordable commodity housing will become a major part of public housing provision in Shenzhen in the coming years.

Housing provision in the private sector has three disadvantages. 1) The overall rental price in Shenzhen is in accordance with a rising trend. 2) A significant number of urban villages face comprehensive reform, that is, redevelopment into commercial properties. A significant number of migrant workers will be forced to move out. Although there were respectively 20.9% and 38% of the respondents of the questionnaire survey indicating to work in other cities or return to their hometowns in the future, their status of living during the stay in the locality still should be paid attention to. Rental housing in urban villages is one of the most important housing

resources for migrant workers besides dormitories. 3) The building density of urban villages is significantly higher than that of the urban planning standards of Shenzhen, which not only results in inadequate living facilities and poor living conditions but also threatens the personal safety of the residents.

Many residences in the migrants' hometowns are left empty, which is a waste of resources.

From the respect of stakeholders involved in housing provision, more stakeholders should be included, possibly through housing associations, to increase the housing provision for migrant workers.

## **6.8 Summary of the Chapter**

This chapter summarizes the housing supply for migrant workers in Shenzhen in the public and private sectors. The residences in the migrant workers' hometowns are discussed as well. The advantages and disadvantages of the different kinds of housing supply are evaluated.

The next chapter compares the housing demands of (i.e., findings from Chapter 5) and the housing supply for migrant workers.

## **CHAPTER 7: COMPARISON BETWEEN HOUSING DEMAND AND SUPPLY FOR MIGRANT WORKERS**

### **7.1 Scope of the Chapter**

After examining the housing demand (Chapter 5) and the housing supply (Chapter 6) of migrant workers in Shenzhen, Chapter 7 aims to examine whether the housing supply can satisfy the housing demand from two perspectives, objective and subjective. The chapter begins by discussing the objective aspect by examining the housing affordability of migrant workers by calculating their housing cost ratio. In discussing the subjective aspect, the residential satisfaction of migrant workers is examined according to three aspects, namely, overall satisfaction (i.e., compared with the residences in their hometown), satisfaction with different housing aspects (i.e., not considering the residences in their hometown), and satisfaction with different types of housing. Moreover, factors affecting the overall residential satisfaction of migrant workers are explored. Lastly, the current housing provision and the housing expectation of migrant workers are compared, combining the objective and subjective aspects.

### **7.2 Housing Affordability of Migrant Workers**

#### **7.2.1 Housing Cost Ratio of Migrant Workers**

Housing affordability refers to the challenge for each household to balance housing and non-housing expenditures with income constraints. This concept is different from affordable housing. Housing affordability is not a feature of housing; instead, it is a relationship between housing and people (Stone, 2006). Housing affordability can be measured in different ways, such as relative measures, subjective approaches, family budget standard approaches, ratio approach, and residual income approach. Selecting which approach can best measure housing affordability is subject to extensive debate. The ratio approach has been established the longest and enjoys the widest recognition; thus, we employed this approach for the study. The rationale behind this approach is that if a household spends more than a certain percentage of its income on housing, it will encounter difficulties in paying for other necessities.

As previously stated in Section 5.2.1 (Chapter 5), the average housing cost ratio of the respondents is 15% according to the questionnaire survey. Based on the perspective of different housing types (Figure 7.1), migrant workers who purchase commodity housing pay the lowest proportion of income for housing (14.3%). Migrant workers who rent dormitories pay the second lowest (21%). Commodity housing renters pay the third lowest (22.3%). Renters in urban villages pay the highest proportion of income (27.4%). Wang et al. (2010) found that, on average, migrants living in urban villages of Shenzhen spend 24% of the total household income on rent, and nearly 25% of them spend more than 30% of their income on housing consumption.

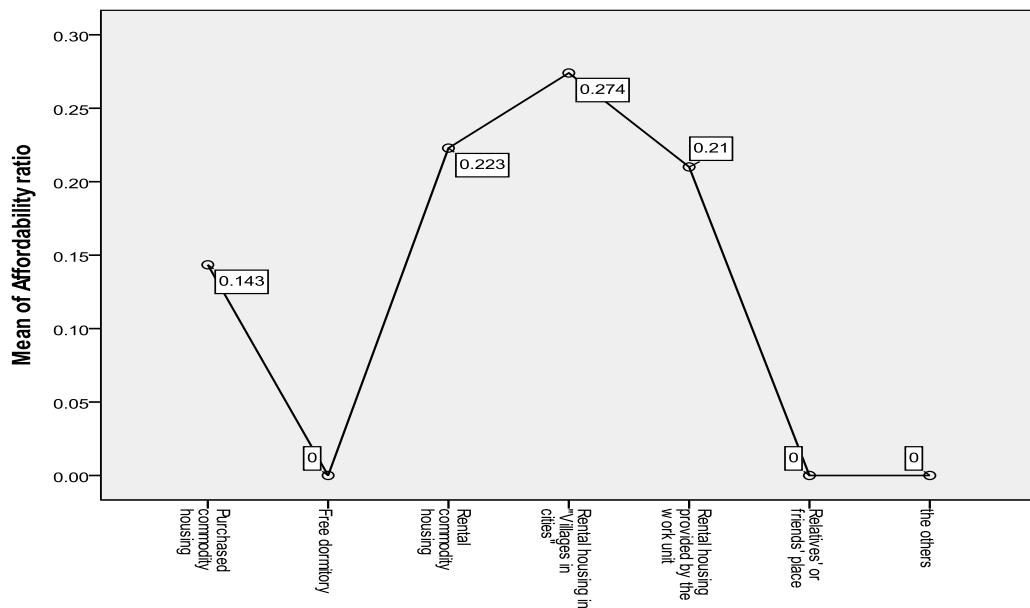


Figure 7. 1 Housing cost ratio of different housing types

### 7.2.2 Examination of Housing Affordability Problems

Three ways can be used to examine whether housing affordability problems exist: “30% of gross income” threshold, “30/40” rule, and “30/10-40” rule. In this study, these strategies were used to examine whether migrant workers experience housing affordability problems.

#### 1) “30% of gross income” threshold

This strategy is a typical measure of housing affordability (Beer, Kearins & Pieters, 2007; Mostafa, Wong & Hui, 2005; Yates, 2008). If households spend more than 30% of their income on housing, they will suffer from housing stress. In this study, all kinds of housing cost ratios are below 30%.

## 2) “30/40” rule

According to this method, if households in the bottom 40% of the income distribution spend more than 30% of their income on housing, the housing will be unaffordable. By employing the “30/40” rule, we find that, on average, the housing cost ratio is 14.48% for the bottom 40% migrant workers of the income distribution. Their average housing cost is RMB 152 per month. Among these migrant workers, 55.60% of them live in free dormitories. As a result, the average housing cost of RMB 152 per month is underestimated to a certain extent.

## 3) “30/10-40” rule

According to Nepal, Tanton, and Harding (2010), the “30/40” rule is most suitable to measure housing stress. If households are classified within the bottom 10% to 40% based on income distribution and spend more than 30% of their income on housing, they are defined as being under housing stress. Using this method, we find that the housing cost ratio is 15.32% for the 10% to 40% bottom-income migrant workers. Among these migrant workers, 53.10% live in free dormitories, and 62.90% pay zero housing cost.

Migrant workers living in rental housing of urban villages spend the highest proportion of their income on housing. Moreover, the housing cost ratio of the migrant workers in the bottom 40% of the income distribution (15%) is slightly higher than that of those higher-income migrant workers (13%). These two findings can be explained by the definition of housing affordability, that is, the relationship between housing and people. Three aspects are considered to examine whether housing is affordable, namely, residents, housing standards, and duration of affordability. High-income migrant workers can choose to live in purchased commodity housing while spending a relatively low proportion of their income. Low-income migrant workers have to spend a higher proportion of their income on rental housing with poor conditions.

From the objective perspective, migrant workers can generally afford their current residences by calculating their housing cost ratio (less than 30% of the gross income). However, given the relative characteristic of housing affordability (relative to housing

standards and income), migrant workers possibly compromise living standards to avail of affordable residences. Moreover, at the city level, the average housing cost ratio is 7% (Section 5.2.1, Chapter 5) in Shenzhen, which is significantly lower than that of migrant workers.

### 7.3 Residential Satisfaction of Migrant Workers

Residential satisfaction of migrant workers is explained through the following three perspectives, with data collected from the questionnaire survey to examine whether current residences satisfy the housing demands of migrant workers from the subjective point of view: 1) overall residential satisfaction with the current residence compared with that with the residence in the hometowns, 2) satisfaction with different housing aspects while not considering the residence in the hometowns, and 3) satisfaction index of different housing choices (both weighted and unweighted).

#### 7.3.1 Overall Residential Satisfaction

Compared with the residence in the hometown, migrant workers are not as satisfied with their current residence (Figure 7.2). The largest proportion indicates neutral satisfaction with the current residence. Among them, 38% indicate dissatisfaction with the current residence, larger than those indicating satisfaction (23.8%).

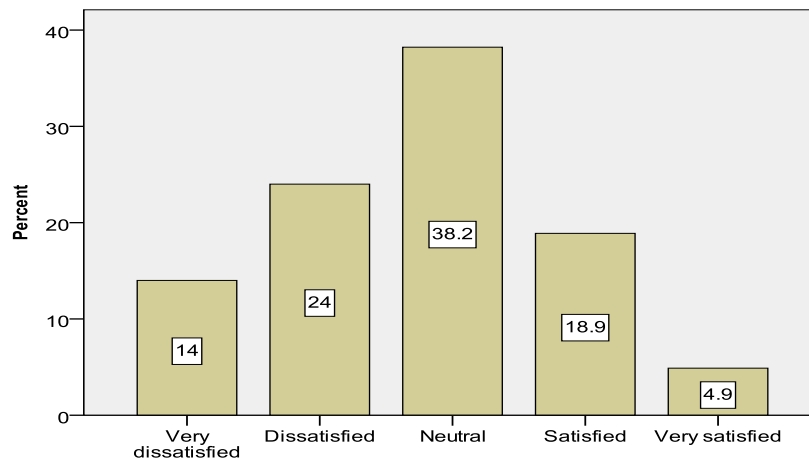


Figure 7. 2 Overall residential satisfaction of migrant workers  
(Compared with the residence in the hometown)

The following three hypotheses on the factors affecting the overall residential satisfaction of migrant workers are examined:

H1: General factors (e.g., age, gender, education, etc.) significantly affect the degree to which migrant workers are satisfied with their current residence.

H2: Specific characteristics pertaining to migrant workers (e.g., social security, work mobility, residential mobility, etc.) have a significant effect on their residential satisfaction.

H3: Institutional factors (i.e., *Hukou* and Residence Card) significantly affect the residential satisfaction of migrant workers.

Three models (Table 7.1) were established to test these hypotheses. Ordinal regression analysis was employed, and the category of “satisfied” was set as the baseline. According to the questionnaire survey, the majority of the respondents are dissatisfied. As a result, negative log-log link function was used. The contributions of the three models were compared using the pseudo R-squared statistic.

The dependent variable is residential satisfaction with “1” indicating “dissatisfied,” “2” indicating “neutral,” and “3” indicating “satisfied.” Model 1 includes the general factors as the independent variables. Model 2 includes the specific characteristics of migrant workers and the general factors as the independent variables. Model 3 includes not only the general factors and specific characteristics but also institutional factors as independent variables.

### **Model 1: General factors**

This study used city-wide panel data on the migrant workers. The general factors include the following: 1) demographic characteristics: age, gender, education, tenure, income, duration of residence, marital status, household size, dependent children, and residential mobility experience; 2) housing characteristics: crowding ratio, unit size, housing conditions (e.g., dining space), and proportion of housing cost to income; and 3) neighborhood characteristics: index of friends and relatives and housing location.

Model 1 is significantly better than the null model (with intercept only). The

following three variables are significant at the 99% confidence level. 1) Housing facilities and services: This variable is calculated based on whether residents have use of a separate kitchen, separate washroom, security services, and property management. It ranges from 1 (no access) to 5 (access to all four facilities and services). The relationship is positive, in accordance with other research. 2) Number of family members in Shenzhen, which corresponds to “household size” in other studies: This variable is also positively related to residential satisfaction. However, the relationship is negative according to a study by Mohit et al. (2010) on public housing in Malaysia. The difference can be explained by the specific characteristics of migrant workers and their housing consumption mode. The more the family members are, the higher the household income, which can alleviate housing stress. Moreover, the presence of more family members may increase the sense of belonging to the locality. 3) Region: Migrant workers living outside the SEZ (which corresponds to “suburbs” in other studies) tend to rate higher their levels of residential satisfaction, echoing the findings of Speare (1974) and Deane (1990) but not those of Lu (1999). The reason may be that housing outside the SEZ (with monthly housing cost at RMB 373) is more affordable than that inside the SEZ (with monthly housing cost at RMB 513) for migrant workers.

### **Model 2: Specific characteristics of migrant workers**

Based on Model 1, given the specific characteristics of migrant workers, the following variables were included in Model 2: 1) Job (i.e., trade, scale of working unit), 2) housing type, 3) fellow villagers nearby, 4) social security (i.e., either in Shenzhen or in the hometowns), 5) work mobility plan, 6) residential mobility plan, 7) plan to return to the hometowns, and 8) residential preferences (i.e., community preference, housing preference, convenience, and cost preference).

Model 2 improved significantly based on Model 1. The pseudo R-squared statistic (Cox & Snell: 0.23; Nagelkerke: 0.26) is significantly higher than that of Model 1 (Cox & Snell: 0.15; Nagelkerke: 0.17). Five variables are significant at the 99% confidence level. Aside from the housing facilities and services and the number of family members in Shenzhen, the number of fellow villagers around, plan to work in other cities, and residential mobility plan are all significant. As the number of fellow villagers increases, the residential satisfaction levels increase as well. This situation

occurs partly because the sense of belonging is highly significant to the migrant workers. Although the preference for “closeness to relatives and friends” is ranked the lowest by migrant workers, the score is still 6.69 out of 12. Migrant workers who do not plan to work in other cities or move to another residence tend to feel more satisfied, a result reported in the residential mobility literature (i.e., residential dissatisfaction may lead to residential mobility).

### Model 3: Institutional characteristics

Based on Model 2, the institutional variables, namely, *Hukou* (urban vs. rural) and possession of a Residence Card, were included in Model 3. However, neither *Hukou* nor Residence Card was proved to be significant. The pseudo R-squared statistic is the same as that in Model 2.

Table 7. 1 Three models: Overall residential satisfaction of migrant workers

Independent variables		Model 1	Model 2	Model 3
General	Housing adequacy: usage area per person	.01	.00	.00
	Housing facilities & services	.27**	.25**	.26**
	Age	.00	-.02	-.02
	Period of stay in Shenzhen (SZ)	.00	-.00	-.00
	Household income	-2.95E-6	-2.68E-6	-2.66E-6
	Education	-.19	-.11	-.12
	Number of family members in SZ	.21**	.21**	.21**
	Number of dependent children	-.19	-.14	-.14
	Proportion of housing cost to income	-.25	-.34	.34
	Tenure (Not own)	-.53	-.46	-.46
	Region (Outside the SEZ)	.36**	.25	.25
	Gender (Female)	.09	.11	.11
	Marital status (Not married)	.35	.26	.26
	Residence change history in SZ (No)	.08	.06	.07
	Relatives friends from hometown (No)	.13	.25	.27
	Local relatives friends (No)	.07	.14	.15
Migrant workers	Trade (Reference category: accommodation, catering and other services)			
	1. Manufacturing		.18	.17

Independent variables		Model 1	Model 2	Model 3
	2. Construction		.39	.40
	3. Transportation, warehousing and postal industries		-.25	-.26
	4. Whole sale and retail		.17	.17
	Scale of working unit		-.10	-.10
	Housing type (Reference category: relatives & friends' place)			
	1. Purchased commodity housing		.34	.34
	2. Dormitory		-.00	-.02
	3. Rental commodity housing		-.24	.23
	4. Rental housing in urban villages		-.19	-.21
	Amount of fellow villagers around		.16**	.16**
	Social security in hometown (No)		-.16	-.16
	Social security in SZ (No)		-.09	-.08
	Plan to work in other cities (No/not sure)		.43**	.44**
	Residential mobility plan (No/not sure)		.33**	.32**
	Plan to return to hometown (No/not sure)		.10	.10
	Residential preferences:			
	Factor 1: community		-.02	-.02
	Factor 2: housing		.02	.01
	Factor 3: convenience & cost		.09	.09
<b>Institutional</b>	<i>Hukou</i> (Rural)			-.06
	Residence card (Not own)			-.04

**Note:** Model 1: Pseudo R<sup>2</sup>=.15 (Cox & Snell), .17 (Nagelkerke). Model X<sup>2</sup>(20)=68.51p <.001; Model 2: Pseudo R<sup>2</sup>=.23 (Cox & Snell), .26 (Nagelkerke). Model X<sup>2</sup>(34)=109.62. p <.001; Model 3: Pseudo R<sup>2</sup>=.23 (Cox & Snell), .26 (Nagelkerke). Model X<sup>2</sup>(36)= 109.85. p <.001. \*\*p <.01.

In summary, migrant workers with access to more housing facilities and services tend to feel more satisfied. Migrant workers with more family members and fellow villagers in Shenzhen also tend to feel more satisfied. According to Model 2, those residing outside the SEZ tend to feel more satisfied with their residences than those residing inside the SEZ maybe because of the relatively lower housing price outside the SEZ. These findings are highly consistent with those of previous research (Section 2.3.4 of Chapter 2).

The other variables examined in the research on residential satisfaction (of all the residents) by other researchers, such as age, education, marital status, gender,

household income, and period of stay, are not significant. The reason is that migrant workers are a special group of the population. The demographic differences within this group are not that obvious. For example, according to our survey, 66% of the respondents are below 30 years old, 54.22% are unmarried, 61.6% have no children, 68.9% are male, 74% have a household income between RMB 10,000 and RMB 50,000 per year, and 57% arrived in Shenzhen after year 2005.

Aside from the general variables examined in previous research, particular factors such as social security, residential preferences, *Hukou*, and Residence Card were examined in this study, but they are not significant in affecting the residential satisfaction of migrant workers. Migrant workers without social security tend to feel less satisfied with their residence. The higher the emphasis migrant workers place on the community, the lower the level of satisfaction they feel with regard to the residence. The more they emphasize convenience and cost, the more satisfied they tend to feel about their current residence. The relationship between preference for housing facilities and the overall residential satisfaction is also positive, although the odds ratio is smaller than that of the preference for convenience and cost. Migrant workers with urban *Hukou* or with a Residence Card tend to feel more satisfied with their current residence. Although these two institutional factors are not significant in this regression analysis, *Hukou* is significant in affecting the living conditions of the floating population (Jiang, 2006).

The relationship between residential satisfaction and mobility (i.e., residence change history in Shenzhen, plan to work in other cities, residential mobility plan, and plan to return to their hometowns) was also examined. Migrant workers who do not have a residence change history in Shenzhen tend to feel more satisfied with the current residence (although this factor is not significant), which is consistent with the finding that “mobility in the past 12 months” negatively affects residential satisfaction to a certain extent (as discussed in the literature review in Section 2.3.4). Migrant workers who feel more settled (i.e., do not plan to work in other cities or are not sure; have no residential mobility plan or are not sure; or have no plan to return to their hometowns or are not sure) tend to experience higher levels of residential satisfaction.

### 7.3.2 Satisfaction with Different Housing Aspects

Migrant workers are generally neutral as regards different housing aspects except for transportation convenience and distance to the workplace (Table 7.2), according to the questionnaire survey. Wu (2002) published similar findings; most migrant workers are neutral or feel good about their housing conditions. More than half of the respondents are satisfied with “transportation convenience” (ranked third among all 12 residential preferences) and “distance to the working place” (ranked sixth among all 12 housing preferences). However, migrant workers are not satisfied with usage area (ranked fourth) and community environment (ranked fifth), consistent with the findings of Wu (2004). The respondents are also not satisfied with “distance to relatives and friends” (ranked 12th). Usage area and community environment are highly prioritized by migrant workers. Thus, more attention should be given to improve these two housing aspects. Secure housing conditions and low housing cost, which are the two most valued housing aspects, can generally satisfy the needs of migrant workers.

Table 7. 2 Satisfaction levels with different housing aspects

Ranks #	Housing aspects	Dissatisfied	Neutral	Satisfied	Total
1st	Security	21.50%	42.00%	36.50%	100%
2nd	Housing expenditure	18.20%	44.20%	37.60%	100%
3rd	Transportation convenience	11.60%	36.20%	52.30%	100%
4th	Usage area	28.20%	44.90%	26.90%	100%
5th	Community environment, like greening and air quality	29.30%	42.90%	27.80%	100%
6th	Distance to the working place	11.30%	33.10%	55.60%	100%
7th	Infrastructure, like school, hospital, etc.	17.40%	49.30%	33.30%	100%
8th	Property management	22.20%	55.10%	22.70%	100%
9th	Neighbourhood	22.90%	49.30%	27.80%	100%
10th	Layout	18.20%	54.90%	26.90%	100%
11th	Appearance	22.00%	54.90%	23.10%	100%
12th	Distance to your relatives and friends	28.50%	46.70%	24.90%	100%

**Note:** Not take the residence in the hometown into consideration; # Ranks of migrant workers housing preferences

### 7.3.3 Satisfaction Index of Different Housing Choices

Regarding the respective satisfaction indices of the different housing choices,

weighted and unweighted indices were calculated, exhibiting similar results. Migrant workers feel the most satisfied living in purchased commodity housing, which is confirmed by the comparison between current and expected residences in the next section, followed by others (self-built), rental commodity housing, relatives' or friends' place, free dormitory, and employer-provided rental housing. Migrant workers feel the least satisfied living in urban villages. This finding is consistent with that of Li and Duda (2010) in that migrants are more satisfied with employer-provided housing than with private rental housing.

Table 7. 3 Satisfaction index of different housing choices

Type of the current residence	Weighted Satisfaction Index	Satisfaction Index
1. Purchased commodity housing	.49	.72
2. the others (self-built)	.45	.65
3. Rental commodity housing	.41	.64
4. Relatives' or friends' place	.41	.63
5. Free dormitory	.41	.63
6. Rental housing provided by the work unit	.41	.62
7. Rental housing in urban villages	.38	.60

**Note:** Weighted satisfaction Index =  $\sum_{i,j} \frac{S_i * P_j}{5 * 12 * 12}$ ; Satisfaction index =  $\sum \frac{S_i}{5 * 12}$  ( $i=1, \dots, 5$ ,  $j=1, \dots, 12$ ;  $S_i$  refers to satisfaction level with the 12 housing characteristics;  $P_j$  refers to the score which is marked by the migrant workers according to their subjective housing preference.)

## 7.4 Comparison between Housing Demand and Housing Supply for Migrant Workers

### 7.4.1 Comparison between the Current and the Expected Housing of Migrant Workers

Comparing the current and expected residences of migrant workers (i.e., the next residence to move to if there is a residential mobility plan), the ranks of the three most favorable residences are significantly different from those of their three most common current residences. For example, “purchased commodity housing” ranks first as the expected residence, but it ranks only fifth as the current residence (Table 7.4). We have reached the following conclusions. First, the selection criteria of migrant workers for the current residence are largely determined by housing cost and

convenience. Second, as time goes by, the priority will switch to the residence with such characteristics as comfort and sense of belonging. Third, although no migrant workers currently live in public rental housing in Shenzhen, 5.4% of the correspondents express willingness to live there.

Table 7. 4 Current and expected housing of migrant workers

Housing types	Current residence		Expected residence	
	Proportion	Rank	Proportion	Rank
1. Free dormitory	44.57%	1st	10.79%	4th
2. Rental housing in urban villages	24.83%	2nd	11.87%	3rd
3. Commodity rental housing	16.41%	3rd	15.83%	2nd
4. Rental housing provided by the working unit	7.54%	4th	5.76%	5th
5. Purchased commodity housing	3.77%	5th	49.64%	1st
6. Relatives' or friends' place	2.00%	6th	0.72%	7th
7. The others, e.g. self-built housing, shelter	0.89%	7th	0	8th
8. Public rental housing	0	8th	5.40%	6th

#### 7.4.2 Comparison between Housing Supply and the Characteristics of Migrant Workers

The current housing supply can partially satisfy the housing demand of migrant workers in terms of housing cost ratio and residential satisfaction if housing conditions are not considered. The housing supply and the characteristics of migrant workers are compared (Table 7.5).

Considering the demographic characteristics, housing preferences, and housing supply for migrant workers, dormitories and rental housing are two of the most suitable housing choices for migrant workers in this stage. These choices arise from three influencing factors. First, migrant workers prefer secure conditions, low housing costs, and transportation convenience the most. Dormitories are provided for free or with nominal rent. They are usually located inside the industrial zones or near the enterprises. Rental housing in urban villages boasts of reasonable prices and premier locations. Rental commodity housing can be shared among several persons. The security conditions are usually above average. Second, most migrant workers are young, single males staying in Shenzhen by themselves. They do not demand a large living space (i.e., housing layout) compared with those who live with their whole

family. Third, migrant workers are mobile even after arriving in the locality. Dormitories and rental housing can better cater to their mobile lifestyle. Moreover, public rental housing, which is regarded as the standard residence by some migrants, is available in cities such as Chongqing. For highly educated migrant workers or those engaged in the high-technology industry, “talent apartments” are available. Their residence in their hometown provides backup accommodation for migrant workers.

Table 7. 5 Comparison between housing supply and the characteristics of migrant workers

	Housing supply	Comparison	Characteristics of migrant workers
1. Dormitories	Free or nominal rent	Match	Low income; preference for low housing cost; saving-oriented
	Close to working place	Match	Preference for convenience
	Layout for collective-use	Match	Most young & single; most without family members in Shenzhen; mobile
	About 15.8% of the total housing provision in Shenzhen	Match	Common housing choice
2. Rental housing in urban villages	Reasonable price	Match	Low income ; preference for low housing cost; ; saving-oriented
	Well located	Match	Preference for convenience
	More working opportunities around	Match	Job-hunting oriented
	About 43% of the total housing provision in Shenzhen	Match	Common housing choice
	Under redevelopment	Match to some degree	Preference for community environment (match); low-income migrant workers will be crowded out (not match)
	Increasing rent	Not match	Low income; preference for low housing cost
	Small & medium size layout	Match to some degree	Preference for usage area (not match); most young & single (match)
	Relatively poor conditions, in secure property rights, not in accordance with the urban planning	Not match	Preference for housing security and community environment

Housing supply		Comparison	Characteristics of migrant workers
3. Commodity housing	Price increasing	Not match	Low income; preference for low housing cost; more difficult to afford most expected housing; limited sources of housing fund
	Better living conditions	Match	Preference for housing security, community environment, infrastructure, property management, etc.
4. Public housing	Public rental housing	Match to some degree	Only migrant workers with specific talents are included
	Affordable commodity housing	Match to some degree	Only migrant workers with specific talents are included; for sale only
5. Housing in the hometown	Mainly low-rise self-built building for family use	Match	Back-up accommodation

However, housing supply has its disadvantages, as elaborated in Section 6.7 (Chapter 6). For instance, the supply of rental housing in urban villages is decreasing because of demolition and redevelopment. Overcrowding is also a serious problem. Buildings are not consistently constructed according to the urban planning standard of Shenzhen. The rental price is increasing. Although commodity housing is the standard housing expected by migrant workers, affording it is becoming more difficult. Both the sale and rental price of commodity housing have increased rapidly. Most of the migrant workers are not included in public rental housing in practice, except for those with certain talents identified by the government. Affordable commodity housing is available only for local residents and non-local talents (identified by the local government) to purchase.

## 7.5 Summary of the Chapter

This chapter examines whether the housing supply can satisfy the housing demand of migrant workers in terms of housing affordability, residential satisfaction, and comparison between housing supply and the characteristics of migrant workers.

Although migrant workers can generally afford their current housing in terms of the relatively low housing cost ratio, the relative characteristic of “affordability” should be considered. Factors such as housing standards, household income, and personal

choices should be considered. For instance, if the migrant workers residing in urban villages choose to live in purchased commodity housing, they will experience financial difficulty. Thus, commodity housing purchasers spend a lower percentage of total household income on housing consumption than renters (including renters in urban villages). However, the low housing cost ratio of migrant workers can be present because migrant workers do not intend to spend a significant amount of their income on housing. On average, they spend 15% of their income on housing (RMB 428/month), which can be explained by their being vulnerable and mobile as well as by their lack of a sense of belonging to the locality.

From the subjective point of view, the largest proportion of migrant workers indicates neutral satisfaction with their current residence compared with the residence in their hometown. Regarding their satisfaction with different housing aspects, migrant workers can generally be satisfied by transportation convenience and manageably short distance to their workplace. Most migrant workers indicate neutral satisfaction with housing security. They feel especially dissatisfied with community environment and usage area (about half of the average level of Shenzhen). Regarding the satisfaction with the different kinds of housing, purchased commodity housing is most satisfying for migrant workers. By contrast, rental housing in urban villages is the least satisfying.

The next chapter verifies the findings in Chapter 5 (i.e., housing demand), Chapter 6 (i.e., housing supply), and this chapter (i.e., comparison of housing demand and supply for migrant workers). The possible actions to provide more adequate and affordable housing for migrant workers are discussed. Relevant issues on migrant workers in China are examined as well.

## **CHAPTER 8: DISCUSSION**

### **8.1 Scope of the Chapter**

This chapter verifies the findings on the housing demand of migrant workers (Chapter 5), housing supply (Chapter 6), and the comparison between housing demand and supply for migrant workers (Chapter 7) to put forward suggestions on how to provide more adequate and affordable housing for migrant workers in China and to discuss other relevant issues.

This chapter is developed as follows. First, it verifies the findings from the first-round interviews and the questionnaire survey elaborated in the previous chapters and provides supplementation and explanations. Second, it puts forward suggestions on how to increase affordable housing in China. Third, it discusses other relevant issues on migrant workers in China such as remittances to the hometowns and effect on the Chinese society.

### **8.2 Verification, Supplementation, and Explanations**

Second-round interviews were conducted to verify the findings from the first-round interviews (Appendix 11) and the questionnaire survey. The second-round interviewees include 2 government officials (Appendix 12) and 40 migrant workers (Appendix 13). Refer to Chapter 4 (Research Methods) for the implementation of the two-round interviews and the questionnaire survey.

#### **8.2.1 Common findings**

Generally, the findings of the second-round interviews are consistent with the previous findings on migrant workers in Shenzhen (Table 8.1).

##### **1) Gender**

The proportion of male migrant workers (~70%) is greater than that of female migrant workers in Shenzhen.

##### **2) Age**

Migrant workers are young (28-29) on average.

Table 8. 1 Findings in common (First-round interview, questionnaire survey and second-round interview)

Items		Findings in common
1	Gender	Male: about 70%
2	Age	Average age: 28-29
3	Education	Middle school
4	<i>Hukou</i> & residence card	a. Rural <i>Hukou</i> : 65%; b. Residence card: more than 50%
5	Period of stay	Average: 6 years
6	Marital status	Single: 56%
7	Family members in Shenzhen	a. with family members: 31% (among all migrant workers); b. With children: 40% (among married migrant workers); c. With spouse: 68% (among married migrant workers)
8	Residential mobility history in Shenzhen	a. More than 50% used to change the residence; b. Most migrant workers move within the same district.
9	Housing career (housing ladder)	a. From free dormitory or relatives' or friends' place, to rental housing in urban villages, to rental commodity housing, to purchased commodity housing (upward move); b. Always urban villages or commodity rental housing (sideway move) c. From commodity rental housing to urban villages; from urban villages to dormitories (downward move)
10	Mobility plan	Quite a number of migrant workers plan to return to hometown or work in other cities.
11	Sources of housing information	"Notices posted outside the residence"; introduction by relatives or friends.
12	Sources of job information	Introduction by relatives or friends
13	Cognitive level of relevant policies	Not familiar with relevant policies (e.g. housing, <i>Hukou</i> , etc.)
14	Coverage level of public housing on migrant workers	At the policy level

### 3) Education

Most migrant workers received at least middle school education. The number of migrant workers with a higher educational level is also increasing.

### 4) *Hukou* status and Residence Card

Most migrant workers come from the rural areas. The right of migrant workers to a Residence Card is yet to be given, which will not only benefit the collection of data on migrant workers but also facilitate public services for these workers. About 65% of the migrant workers hold a rural *Hukou*. More than half of the migrant workers own a Residence Card. Migrant workers with a rural *Hukou* but without a Residence Card account for the largest proportion of the migrant workers.

### 5) Period of stay

The average length of stay of migrant workers in Shenzhen is six years.

### 6) Marital status

About 56% of the migrant workers are single.

### 7) Family members

Most migrant workers (69.8%) stay in Shenzhen alone, without any other family members. Many migrant workers usually leave their family (i.e., children and spouse) in their hometowns. Among the married migrant workers, about 91% have children, but only about 40% have children in Shenzhen; 68% have spouses in Shenzhen.

### 8) Residential mobility history

More than half of the migrant workers have changed residences since their arrival in Shenzhen. According to the second-round interviews, 36 out of 40 migrant workers have residential mobility experience in the locality. The residential changes range from 0 to 15 times (average: 4 times; median: 3 times) since the migrants' arrival in Shenzhen. On average, the migrants have stayed in Shenzhen for six years.

Although most migrant workers have changed residences in the past, most of them move within the same district (i.e., short-distance mobility). According to the interviews with the 40 migrant workers, 72% of those with residential mobility experience have always stayed inside or just outside the SEZ; most of them even

stayed in the same district (i.e., Bao'an or Futian District). These observations are consistent with the findings from the questionnaire survey (i.e., only 28.2% of the respondents changed their regions of residence).

The overwhelming reason for the residential mobility of migrant workers is job change or the requirements of the enterprises, followed by the desire for lower housing cost and intention to improve housing conditions. The other reasons are family needs (e.g., household structure change and stay with relatives or friends), children's education, dispute with landlord, and housing demolition.

#### 9) Housing path

The usual housing path of migrant workers from arrival in Shenzhen is free dormitory or a relative or friend's place, rental housing in urban villages, rental commodity housing, and finally purchased commodity housing, which can be partly explained by the factors in housing choice (e.g., age, income, family members, and plan of returning to hometown; Chapter 5). This progression is especially true of migrant workers who have changed residences in Shenzhen many times (e.g., 10 times).

By contrast, some migrant workers always choose the same type of residence (i.e., rental housing in urban villages and rental commodity housing), although they have changed residences in the locality many times (sometimes up to 10 times). Rental housing in urban villages is the most usual housing choice. The most important reason for moving from an urban village to another is to live closer to work, followed by the desire for lower housing cost, desire for a bigger flat or for improvement of living conditions, demolition and redevelopment, contract termination, and living closer to relatives. Demolition or redevelopment is an important reason for migrant workers living in urban villages. As to rental commodity housing, the most important reason is to live closer to work.

An "adverse housing path" also exists. Some migrant workers move from rental commodity housing to rental housing in urban villages or from urban villages to free dormitory mainly because of job change or housing cost reduction. This phenomenon usually occurs to newly arrived migrant workers who have changed residences for only one or two times.

#### 10) Mobility plan

Many migrant workers plan to move again in the near future. The proportion of those planning to return to their hometowns is larger than that of those planning to work in other cities. The three most important reasons for the plan of migrant workers to return to their hometowns are high cost of living in the locality, the sense of belonging to their hometowns, and the expectation of better personal development in their hometowns.

#### 11) Sources of housing information

Migrant workers not accommodated by employers, relatives, or friends usually look for housing information through a relative or friend or through “notices posted outside the residence to be leased.”

#### 12) Sources of job information

Relatives and friends play an important role in helping migrant workers find jobs in the locality. Most migrant workers have relatives, friends, or fellow villagers in the locality.

#### 13) Cognizance of relevant policies

Most migrant workers are not familiar with policies concerning housing, *Hukou*, or Residence Cards.

#### 14) Public housing coverage of migrant workers

Although migrant workers in Shenzhen are included in public rental housing in policy, they are excluded from the system in practice, except in the provision of “talents’ apartments” to migrant workers with high education or specific expertise.

### 8.2.2 Divergences and supplementation

The findings of each survey (summarized in Table 8.2) have notable divergences and supplementations as elaborated as follows.

#### 1) Trade and type of current residence

According to the two rounds of interviews with government officials and migrant workers (Appendices 11-13), the main housing type chosen by migrant workers is rental housing in urban villages instead of dormitories. According to the first-round

interview with Mr. Hou (Section Chief of the Shenzhen Comprehensive Management Office of Floating Population and Rental Housing), migrant workers occupy more than half of the total rental housing in Shenzhen. About 70% to 80% of migrant workers rent housing in the private sector, including rental housing in urban villages. According to Mr. Zheng, migrant workers mainly reside in rental housing in urban villages or in dormitories in industrial zones.

The differences may have been caused by the sampling method and the industry structure in Shenzhen, consistent with Mr. Hou's observation that the type of housing occupied by migrant workers depends on the industry structure of Shenzhen. The trend is that more migrant workers move to commodity housing because the high-technology and service industries in Shenzhen are gradually taking over, replacing the industrial and construction industries (Appendix 11). According to the multinomial logistic regression analysis (Chapter 5), the migrant workers of the construction industry are more likely to live in dormitories than in urban villages, those of the manufacturing industry are more likely to live in urban villages, and those of the transportation, warehousing, postal, and wholesale and retail industries are more likely to live in commodity housing, either rented or purchased.

Table 8. 2 Divergences between the findings and supplementations

Divergences and supplementations				
Items	First-round interview	Questionnaire survey	Second-round interview with government officials	Second-round interview with migrant workers
1 Most common type of housing	Rental housing in urban villages	Dormitory	Rental housing in urban villages	Rental housing in urban villages
2 Medium-income	n/a	RMB 2,083/month	RMB 3,000-6,000/month	n/a
3 Most prioritized housing aspects	n/a	Security, housing cost & convenience	Security, housing cost & convenience	Environment
4 Housing conditions	n/a	With separate kitchens: 67.8%	With separate kitchens: 85%	n/a
		With separate washrooms: 78%	With separate washrooms: 90%	

Divergences and supplementations					
Items		First-round interview	Questionnaire survey	Second-round interview with government officials	Second-round interview with migrant workers
5	Consumption behavior of migrant workers vs. local residents	n/a	Migrant workers are conservative in terms of housing cost & sources of housing fund.	No difference	n/a
6	Housing satisfaction	n/a	a. Satisfied: convenience (transportation convenience & distance to work place)	a. Reason for neutral satisfaction or dissatisfaction: high housing price	a. Satisfied: convenience (transportation convenience & distance to work place)
			b. Not satisfied: environment, distance to relatives and friends	b. Not satisfied: safety, housing cost & transportation convenience	b. Not satisfied: environment, distance to relatives and friends
7	Impact of the cancellation of SEZ	n/a	n/a	a. People are more willing to live outside the SEZ. b. The rent outside the SEZ increases. c. Integration of public services inside & outside the SEZ d. Little impact on floating population e. Housing demand outside the SEZ increases	Seldom any impact on the daily life
8	Local <i>Hukou</i> application	n/a	n/a	n/a	No plan to apply for local <i>Hukou</i> : 70%
9	Impact of urban renewal	n/a	n/a	a. Rent increases.	a. No impact: 67.5%
				b. Migrant workers move out. c. Optimize the population structure of Shenzhen	b. Increasing housing price: 32.5%
10	Effects of the government macro-control	n/a	n/a	a. Housing price decreases. b. Housing transaction decreases.	n/a

Divergences and supplementations				
Items	First-round interview	Questionnaire survey	Second-round interview with government officials	Second-round interview with migrant workers
			c. Housing market in urban villages is almost not affected.	
11 Relevant policies	a. “Talent apartments” for high-tech & high-educated migrant workers b. No record of public rental housing rented to migrant workers	n/a	a. “Talent apartments” for high-tech & high-educated migrant workers b. No record of public rental housing rented to migrant workers	n/a
12 New characteristics of migrant workers	n/a	n/a	a. Amount change b. Education level change c. Differences between older-generation & younger-generation migrant workers	n/a

The questionnaire survey employed the stratified sampling method, with trade as the sampling criterion. Generally, all five trades (i.e., manufacturing; construction; transportation, warehousing, and postal; wholesale and retail; and hotel, catering, and other service industries) are evenly covered in terms of the sample size from each industry. Thus, disregarding the effect of different industries, the usual housing choices of migrant workers are free dormitory (44.4%), rental housing in urban villages (24.9%), rental commodity housing (16.4%), employer-provided rental housing (7.6%), purchased commodity housing (3.8%), relative or friend’s place (2.0%), and other types (0.9%).

The second-round interviews with migrant workers used simple random sampling. Among the 40 interviewees from the Bao’an and Longgang Districts, 45.0% are engaged in wholesale and retail; 30.0% in accommodations, catering, and other services; 17.5% in manufacturing; 5.0% in construction; and 2.5% in the transportation, warehousing, and postal industries. Thus, considering the effects of the different industries, the usual housing choices of migrant workers are rental housing

in urban villages (62.5%), free dormitory (15.0%), rental commodity housing (15.0%), and purchased commodity housing (7.5%), consistent with Mr. Hou's observation: rental housing in urban villages is the most usual housing choice of migrant workers, followed by relative or friend's place, rental commodity housing, employer-provided rental housing, free dormitory, purchased commodity housing, and other types. According to Mr. Hou, the construction area of urban villages accounts for half of the total construction area of Shenzhen. About 90% of the housing in urban villages is rented.

Therefore, rental housing in urban villages, free dormitory, and rental commodity housing are the three most popular housing types among migrant workers. Which type of housing has the highest proportion (i.e. free dormitory or rental housing in urban villages) actually depends on industry structures. For instance, migrant workers of the construction industry usually live in employer-provided free dormitories, whereas those of the wholesale and retail industry usually live in rental housing.

## 2) Income

According to Mr. Hou, the median income of migrant workers in Shenzhen is RMB 3,000-6,000 per month per capita, and the income of physical laborers is RMB 2,500 per month on average, with both incomes higher than the findings of our survey (i.e., medium income = RMB 2,083; average income = RMB 3,081) and those of the 2011 publication of the Shenzhen Bureau of Statistics (i.e., average income level of Shenzhen = RMB 2,698).

The differences may be due to the different survey methods. Integrating the findings of the different sources, the average income of migrant workers in Shenzhen is around RMB 3,000 per month per capita.

## 3) Residential preferences

A comparison of the different surveys reveals that migrant workers put more emphasis on the living environment than on security, housing cost, and convenience as time passes. According to our questionnaire survey and the second-round interviews with government officials, the most prioritized housing aspects are security, housing cost, and convenience; environment ranks fifth in priority. However, the 40 migrant worker-interviewees indicate different preferences. In general, these workers indicate

environment as the first priority (35%), followed by convenience (30%), including both transportation convenience and distance to working place, and housing cost (15%); only three interviewees answered security as their first priority.

#### 4) Housing conditions

According to Mr. Hou, apartments in urban villages are mostly small units (i.e., with one bedroom and living room), which are easier to lease. Migrant workers also tend to rent commodity housing with two bedrooms and one living room. For housing with limited property rights, one apartment can be equipped with five bedrooms. The per capita living area of Shenzhen was 28.00 m<sup>2</sup> in 2010, almost twice the living area of migrant workers (15.36 m<sup>2</sup>). Overcrowding is a common housing problem of migrant workers.

According to Mr. Hou, the living conditions of migrant workers in Shenzhen are better than those in our findings. About 85% of migrant workers live in houses with separate kitchens and 90% in houses with separate washrooms, especially in urban villages. These figures are relatively higher than those in our survey (67.8% with separate kitchens and 78% with separate washrooms). The proportion of migrant workers who can enjoy safety and security services is higher than the questionnaire finding of 50.7%.

The differences may have been caused by the different types of housing occupied by migrant workers. According to the questionnaire survey, most migrant workers live in free dormitories, whereas according to Mr. Hou, most live in rental housing in urban villages. Free dormitories are usually characterized by poor living conditions, consistent with Mr. Hou's observations: "The proportion of those living in dormitories with separate kitchens and washrooms is relatively lower," and "urban villages are usually equipped with security services" (i.e., security guard at the main entrance of the community).

#### 5) Housing consumption of migrant workers

According to Mr. Hou, migrant workers usually spend about a third of their income on housing and another third on food. According to the questionnaire survey, migrant workers in rental housing in urban villages spend 27.4% of their income on housing, those in rental commodity housing spend 22.3% of their income on the same, those in

employer-provided rental housing spend 21.0%, and those in purchased commodity housing spend 14.3%. The average monthly household expenditure of the respondents is RMB 1,930, with a housing cost of RMB 428.

Migrant workers can generally afford their current residence. However, housing standards and family strategies should be considered. Migrant workers, who are saving-oriented, usually do not spend much money on housing consumption, including on the improvement of their housing conditions. The main purpose of mobility is to seek jobs and earn money. Migrant workers are vulnerable and mobile, and they lack a sense of belonging to the locality, often changing jobs. On average, the respondents have changed jobs twice since their arrival in the locality. A better job opportunity (with higher wage or better prospects), especially for young migrant workers, can significantly stimulate residential mobility. Future work is the most important reason (87.2% of the respondents) why migrant workers are not sure about returning to their hometowns. Future work and income combined is the only reason why migrant workers are not sure about future residential mobility (according to the second-round interview with migrant workers). Job change is also the most important reason for migrant workers' previous residential mobility. Conversely, cost reduction is greatly emphasized by migrant workers, ranking the second and third most important reason for residential mobility, according to the questionnaire survey and the second-round interviews with migrant workers, respectively. Housing cost is also the second most prioritized housing aspect by migrant workers.

The longer migrant workers stay in the locality, the more emphasis they put on housing conditions and environment. The improvement of living conditions is the second and third most important reason for the previous residential mobility of migrant workers according to the second-round interviews and the questionnaire survey, respectively. Usage area and community environment are ranked the third and fourth most important housing aspects, respectively, according to the questionnaire survey. According to the second-round interviews, usage area and community environment are the most important reasons why migrant workers plan to change their residence. Environment is also the housing aspect most prioritized by the 40 interviewees.

As Mr. Hou observed, no differences exist between the consumption behavior of local

residents and that of migrant workers. However, according to the questionnaire survey, such differences do exist. Migrant workers are relatively conservative not only in terms of spending much money on housing but also in terms of choosing potential sources of housing fund: they depend mainly on their own savings and their parents' financial support for a commodity housing purchase. Moreover, migrant workers usually choose residences near their work. On average, the respondents take 14 minutes traveling to work from their residence.

Migrant worker factors (e.g., mobility characteristics and the cognition and expectation of the locality) affect housing choice, according to the multinomial logistic regression analysis (Chapter 5). For example, with more family members in the locality, the current residences of migrant workers are more likely to be commodity housing, followed by urban villages and dormitories. Rural migrant workers are most likely to reside in rental housing in urban villages, whereas urban migrant workers are most likely to reside in commodity housing. Migrant workers with no plans to return to their hometowns or those used to changing residences in the locality and having family members there are more likely to reside in commodity housing. Moreover, such factors as relatives or friends in the locality, main source of housing information, and possibility of finding a better residence are related to the housing choices of migrant workers.

#### 6) Housing satisfaction of migrant workers

According to Mr. Hou, migrant workers are either neutral about or dissatisfied with their residences mainly because of the high price, and they are usually dissatisfied with the safety, housing cost, and transportation convenience.

However, according to the questionnaire survey and second-round interviews (Table 8.3), the current residences of migrant workers largely satisfy the workers' requirements of reasonable price, safety, and convenience. However, environment and distance to relatives and friends (although ranked last among all 12 housing aspects) are not so satisfying.

Table 8. 3 Findings on housing satisfaction of migrant workers (from questionnaire survey &amp; second-round interviews)

		Questionnaire survey		Second-round interviews	
		Satisfied	Dissatisfied	Satisfied	Dissatisfied
Most satisfying	Transportation convenience	52.3%	11.6%	65.0%	20.0%
	Distance to work	55.6%	11.3%	52.5%	15.0%
Most dissatisfying	Environment	27.8%	29.3%	28.0%	43.0%
	Distance to relatives and friends	24.9%	28.5%	32.5%	40.0%
With higher proportion of satisfaction than dissatisfaction	Housing cost	37.6%	18.2%	42.5%	25.0%
	Security	36.5%	21.5%	38.0%	28.0%

Migrant workers are usually dissatisfied with their current residence in the locality compared with their hometown residence, considering the latter as much better than the former. According to the satisfaction index of the different types of residences, purchased commodity housing, the most expected housing type, can mostly satisfy the workers' housing needs, following the residential satisfaction models (Chapter 7), which show that housing ownership can make migrant workers more satisfied.

#### 7) Effect of SEZ closure on migrant workers

The SEZ was shut down on July 1, 2010. Most (90%) of the interviewees consider the closure of the SEZ to have not much effect on their daily lives. The remaining 10% observed that housing price increased as a result of the closure.

Regarding the effect of the SEZ closure on local *Hukou* application, 65% of the migrant workers do not know if the closure will facilitate local *Hukou* application, and 22.5% do not think that it will.

According to Mr. Hou, people are more willing to live in Longgang and Bao'an District (which are not a part of the SEZ) because they can enjoy better facilities and services there, such as improved planning, convenient transportation, and good environment. Moreover, rent outside the SEZ is increasing.

According to Mr. Zheng, the SEZ was closed down to support the integration of

public services inside and outside the SEZ, including encouraging non-local residents who satisfy relevant conditions to apply for the local *Hukou*. However, the closure does not have a substantial effect on the floating population, which is mainly determined by the adjustment of the industrial structure. In terms of housing consumption, housing demand outside the SEZ is increasing. The rental price of low-end housing, especially in well-located urban villages, is increasing as well, albeit still much lower than that of houses inside the former SEZ. Housing price increased for two reasons: the operation of Subway No. 5, which caused the increase in the rental price of houses (inside or outside the SEZ) along the subway, and the closure of the SEZ. Mr. Zheng also observed that first-hand commodity housing was mainly built outside the SEZ because of the land shortage inside the SEZ. The increase in sale price has slowed down, but rent continues to rise.

#### 8) Local *Hukou* application

Among the 40 interviewees, 70% do not plan to apply for the local *Hukou*. The reasons are similar to those of the respondents who plan to return to their hometowns: high cost of living in the locality, high housing price, own residence, arable land in the hometown, better social benefits and personal development, high pressure, and difficulty in finding a satisfying job in the locality. For those who plan to apply, they appreciate the benefits of the local *Hukou* such as a stable life, a good job, and better education for their children.

#### 9) Effect of urban renewal on migrant workers

Among the 40 interviewees, 67.5% indicate no change in their daily lives brought about by the urban renewal. The others observed that the urban renewal caused the housing price increase.

According to Mr. Hou, rent in urban village housing increased significantly after the redevelopment of the urban villages, citing the example of Gangxia Village. Rent in the housing surrounding the area increased by RMB 300 per flat per month since the redevelopment of Gangxia Village in 2008. The proportion of migrant workers dropped significantly after the redevelopment, and the workers moved to farther areas.

According to Mr. Zheng, if demolition is employed as the method of redevelopment, the rent in urban villages will reach the market price level. Migrant workers have to

leave their residence if all urban villages are demolished. The urban renewal of Shenzhen will gradually optimize the population structure by attracting highly educated and technologically savvy non-local people who can afford the high housing price, crowding out the rest of the non-local population.

According to the first-round interviews (Appendix 11), all interviewees agreed that those who could not afford the increasing rent should be excluded from Shenzhen because the number of migrant workers is so large that Shenzhen cannot accommodate all of them.

#### 10) Effects of the macro-control of the central government on the housing market

According to the second-round interviews, the housing price from the center of Shenzhen to its outskirts decreased in 2011 under the tight macro-control of the central government. Consequently, housing price in the periphery decreased rapidly, and the transactions for first- and second-hand housing also decreased to a certain extent. However, the housing market in urban villages is almost unaffected by such a tight macro-control by the central government.

Since 2002, the rent in residential properties in Shenzhen has more than doubled. From the second half of 2009 to the first half of 2011, rental price increased rapidly. The rental price has stopped increasing at the time of writing this paper. As to the rent for urban villages, no statistical data are available.

#### 11) Policies on migrant workers

At the policy level, migrant workers who have worked in Shenzhen for a certain period of time, paid for social insurance, and made contributions to the overall development of Shenzhen are included in the public housing system. However, the priority goes to technologically savvy and highly educated migrant workers. Migrant workers with specific expertise can apply for the “talents’ apartments” of the public rental housing system. “Talents’ apartments” have larger floor areas and higher rent (which is still lower than the market price) compared with other public rental housing. According to the Housing Construction Plan of Shenzhen (2011–2015) promulgated by the Shenzhen Government in 2011, about 278,000 professionals, including some migrant workers, will have been covered by the public housing program by the end of China’s 12th Five-Year Plan. No record of public rental housing rented to migrant

workers in Shenzhen has yet been found. At this stage, public rental housing is mainly targeted for low-income local households. Migrant workers are mainly accommodated by the dormitories in industrial zones.

As to how to accommodate migrant workers in Shenzhen, Mr. Hou and Mr. Zheng suggest that the housing settlement of migrant workers should depend mainly on rental housing and the private sector because of the population structure of Shenzhen (i.e., the non-local population is larger than that of the locals) and the limited capacity of the local government for providing finances and preferential land. Moreover, Mr. Hou and Mr. Zheng put forward the following suggestions: (a) encourage and guide private developers in providing public rental housing, (b) construct dormitories with facilities in industrial zones, (c) strengthen comprehensive environmental remediation in urban villages, (d) standardize the management of the rental housing market, (e) improve the living conditions of migrant workers, and (f) encourage employers to pay for the HPF.

#### 12) New characteristics of migrant workers

According to Mr. Hou, the new characteristics of migrant workers are classified mainly into four aspects:

- a. The number decreased from 12 million to 10 million since the 2008 financial crisis. After the Spring Festival in 2009, the number increased back to 12.75 million.
- b. The proportion of migrant workers with middle school education or lower is decreasing. In other words, the education level of migrant workers in Shenzhen is improving because of the structural adjustment of industries. For example, the service sector is growing, and labor-intensive industries (e.g., Foxconn Technology Group) are moving to the inland areas of China.
- c. Differences exist between older-generation (i.e., those born before 1980) and younger-generation (i.e., those born in the 1980s and the 1990s) migrant workers. For instance, the main objective of older-generation migrant workers, who are more hard working than the younger ones, is to earn money and eventually return to their hometown. By contrast, younger-generation migrant workers are more willing to consume, have diverse demands, prefer urban lifestyle to wealth, and are eager to be integrated into the city, although life

there is difficult for them. Moreover, the younger workers are unfamiliar with country life and are generally rebellious, triggering many social problems in the locality; do not work as hard as the older workers (or even their urban counterparts); and are not as easily satisfied as the older generation and change residences and jobs more frequently.

- d. On average, 26% of the migrant workers in Shenzhen change residences every year.

### **8.3 Suggestions for Affordable Housing Provision for Migrant Workers in Mainland China**

#### **8.3.1 Stakeholders Involved**

In Mainland China, there are mainly two groups of stakeholders involved in affordable housing provision. The first group includes the central government and local authorities (both in urban and rural areas), and the other group is composed of private developers and large-scale enterprises (i.e., the employers). Stock cooperative companies in urban villages also fall under this category. The semi-public sector, such as housing associations, does not seem to be involved in affordable housing provision in China.

Local governments usually adopt two approaches to accommodate migrant workers, namely, to separate the housing provision from the urban welfare housing system (i.e., enterprises act as main housing providers, and the local governments play a complementary role) and to integrate it with the urban housing welfare system. The latter is usually implemented in cities where housing resources are relatively adequate.

According to the interview with the Housing Security Division of Shenzhen Real Estate Research Center, the possibility of establishing relevant housing associations or non-government organizations in Shenzhen is slim because of the overall institutional system (Appendix 12). The Shenzhen government would rather establish more government organizations to develop the affordable housing instead of establishing housing associations (which will be subordinate to the government if established). The experiences of other cities, such as establishing the franchisors of public rental housing, can be considered. The management of large-scale public rental housing is

difficult so leaving the management to the market is required. The government official also indicated that should this kind of enterprises be established, they would be funded by the government and fall under the category of state-owned enterprises. Moreover, they may be subsumed under the housing security department or the state-owned assets management department. The property rights will go to the corresponding self-financing enterprises. Investment of social funds will also be encouraged in the construction, operation, and management of public rental housing in the future. The government will mainly be responsible for housing allocation and supervision. The municipal government is responsible for policy making, and the governments of each district will be responsible for implementation. The corresponding construction and management will be left to the market.

However, from the experience of other countries or regions, semi-public sector (e.g., housing associations) is capable of providing low- to mid-price housing. In Hong Kong, both governmental and non-governmental organizations participate in the public housing program. The Transport and Housing Bureau (THB) deals with the overall housing policy in Hong Kong. The Hong Kong Housing Authority (HA), whose executive arm is the Housing Department (HD), is a statutory body established by the government to take charge of the public housing program. The Housing Society is a non-governmental organization aiming to provide subsidized and rental housing for disadvantaged people.

In Australia, a wide range of stakeholders is participating in the development of affordable housing through joint ventures, partnerships, and planning instruments. Aside from state and local governments, non-profit organizations (e.g., community housing organizations), private developers, and private financial institutions are also involved. Under the framework of the Commonwealth-State Housing Agreement, both federal and state governments provide funds for affordable housing provision. An example is the National Rental Affordability Scheme (NRAS). NRAS was implemented in 2008 by the Australian Government in partnership with the states and territories to stimulate the supply of 50,000 new affordable rental dwellings. The Scheme offers annual incentives for 10 years. Successful NRAS applicants are eligible to receive incentives for each approved dwelling at 20% below the prevailing market rate (Australian Government, 2012) at the very least. State governments also

provide support funds. For instance, the New South Wales Government announced the Affordable Housing Innovation Fund (AHIF) in 2007, which was allocated as grants to registered community housing organizations using the Debt Equity model (Milligan et al. 2009). Under the Debt Equity model, Housing NSW and the selected provider will contribute equity funds, with the provider securing debt finance from a private financial institution (NSW Government, 2012). Aside from funding policies, planning policies (to facilitate well-located affordable housing) and regulatory arrangements (whole-of-government approach) were also introduced to facilitate affordable housing provision in each jurisdiction.

In the Netherlands, housing associations own more than 99% of the housing stocks. Housing associations may engage in both non-profit and market-oriented activities. In this way, the financial burden of the government can be largely alleviated. Moreover, should the government desire to fund the housing producers, housing associations would be much easier to monitor than private providers, as housing associations have the objective of providing higher quality housing at lower prices than the market. This reason is why the presence of a semi-private sector, such as of housing associations, is encouraged in China: to provide affordable housing.

#### 8.4.2 Housing Subsidies and Incentives

Housing subsidies are encouraged to secure more affordable housing for migrant workers. The provider, and even the receiver, can either be the government or the employers, or both. Subsidies can be in cash or in kind, depending on the financial capacity of the providers and the efficiency. According to the first-round interviews with government officials and research institutions, monetary subsidies are more preferable than in-kind subsidies. There are two reasons for this: limited land in Shenzhen and administrative convenience for the government. Receiving in-kind subsidies will be more beneficial for migrant workers.

Housing subsidies in cash are mainly implemented through rent subsidies or by reducing/exempting the administrative fees and tax charged on private developers (i.e., tax incentives) in China. Rent subsidies are practically limited to local residents. Private developers are generally not willing to participate in public housing construction because the capital recovery cycle is relatively long (Appendix 11).

In-kind housing subsidies provided by the Shenzhen government mainly includes public rental housing (low-rent housing) and affordable commodity housing (including economic affordable housing). Except for the so-called “talents,” other migrant workers are not included in the public housing system. The other portion of in-kind housing subsidies is provided by large-scale enterprises in terms of free dormitories. They are only for the use of their own employees. Aside from cash and in-kind subsidies, housing subsidies can also be categorized into supply-side and demand-side subsidies. In Shenzhen, both methods are employed. Supply-side subsidy is mainly implemented in accordance with the national fiscal policies, and demand-side subsidy policy is mainly implemented by providing monetary subsidies (Appendix 12). Demand-side subsidy is exclusively provided to local residents.

Both government and employers should do their best to subsidize migrant workers in terms of cash or in-kind or both. Local governments may consider subsidizing employers who are willing to provide accommodation to their migrant workers (in terms of dormitories or cash). The subsidies can be tax and fee incentives (e.g., tax credit, tax, and fee deduction) or preferential land provision, which have been provided to the providers of low-rent housing, economic affordable housing, and public rental housing in China. The cash housing subsidies provided by the employers should also be exempted from any tax or fee charges for migrant workers. If the financial capacity of the local government permits, migrant workers who have stayed in the locality for certain years (e.g., six years) but have not obtained local *Hukou* should be included in the public housing system or receive cash subsidies from the government.

### 8.4.3 Housing Financing

The construction of affordable housing is usually faced with financial limitations. Aside from rent or sales income, income from facilitated commercial properties and government funds, as well as other financing methods, such as build-operate-transfer (BOT) and real estate investment trust (REIT), should also be considered. Doing so will widen the financing sources and increase the affordable housing provision. Take Hong Kong for instance, the HA has been a self-financed institution since 1987. The funds come from four sources. One is from the government’s direct and indirect subsidies. Direct subsidies come in the form of capital injection and non-interest

bearing or low rates of interest loans, and indirect subsidies come in the form of free land. The HA also sells and leases properties as well as issues stocks or bonds to collect funds, that is, sells its loans to the Hong Kong Mortgage Corporation. The HA also draws on the participation of the private sector, such as outsourcing its retail and car-parking business to the private sector, which provides an opportunity to improve the services quality. As the HA plans, builds, as well as manages and maintains different types of public housing and some flatted factories, ancillary commercial, and other non-domestic facilities, the expenditure is very large. To minimize its expenditure and focus its resources on providing subsidized rental housing, the HA divested majority of its retail and car parking facilities in November 2005 (Tao, Wong & Hui, 2009).

#### 8.4.4 Self-help Approach

According to the two government officials during the second-round interview (Appendix 12), migrant workers should mainly depend on rental housing and the private sector for their accommodations. Although all migrant workers should be included in the public housing system from the perspective of humanity concern, “high-quality” talents are prioritized, as mentioned by Mr. Hou. The officials gave three reasons why this is so. First, the population structure of Shenzhen is upside down. The number of non-local population is larger than the local population. As the bearing capacity of the city is limited, the principle of “survival of the fittest” has to be employed. Second, the financial capacity of the government is limited. Even if the government has the financial capacity and is willing to provide public housing for all migrant workers, the population of Shenzhen may increase dramatically. Third, in the aspect of providing preferential land, the government has a dilemma. The land area of Shenzhen is 1,991 square kilometers, and only 100 square kilometers is available for use.

Considering the practical situations of migrant workers (e.g., large amount and relatively low income), and the limited financial capacity of the local government, the self-help approach should be adopted. The self-help approach has been studied since the 1960s, including private self-help, state-initiated self-help, and state-assisted self-help (Sengupta, 2010). Through the self-help approach, low-income households can solve their housing needs primarily through their own resources, both in terms of

labor and finance. This approach is in response to the inability of the government to provide sufficient housing for urban poor effectively (Zhang, Zhao & Tian, 2003). Accordingly, the role of the government is mainly to assist and enable the housing provision for the cities' poor.

In China, the self-help approach in housing is usually associated with rental housing in urban villages and migrant workers. Its difference from other countries (e.g., India and Malaysia) is in terms of housing builders and institutional arrangement (e.g., *Hukou* system, urban–rural divide in land planning, and urban planning system). First, rental housing in urban villages is built by indigenous villagers instead of the migrant workers themselves. Second, because of the *Hukou* system in China and the disadvantaged income, migrant workers are not eligible to apply for the public housing in the locality, and they cannot afford the high price of commodity housing. They are largely excluded from the urban housing system. Conversely, the housing market of urban villages provides them with relatively cheap and well-located rental housing, although the rental housing is informal and illegal in terms of urban planning and property rights.

However, because of the informal and illegal characteristics of urban villages and to increase the land provision in urban areas, local governments include the urban villages in urban renewal and redevelopment programs. Take Shenzhen, for instance (Appendix 12). The redevelopment of urban villages is actively promoted because of the limited land provision. Redevelopment includes comprehensive environmental improvement (e.g., infrastructure such as road and drainage system, building appearance, greening, etc.), partial demolition (i.e., demolishing parts of buildings and improving the overall living environment), and overall demolition (i.e., demolishing all the buildings). At the current stage, a comprehensive environmental improvement has almost been finished, such as the “Jindi Mingjin” (constructed in the previous location of “Yunong Village”) and “KingKey100” (the former “Caiwu Wei Village”) projects in Futian District. As demolition involves a large range of areas in the city, it is still being processed. The authority responsible for urban village redevelopment is Urban Planning, Land, and Resources Commission of Shenzhen Municipality. The authorities of each district are responsible for the corresponding implementations. After the demolition, urban villages are usually transformed into commercial

properties. The original property owners will be compensated in cash or in kind. The facilities are equipped in accordance with the urban planning and construction standards, a great improvement compared with the condition in the original urban villages.

Along with redevelopment and demolition, a large number of migrant workers will be excluded from urban villages because of the rising rent and the decreasing number of affordable rental housing. In the case of demolition, urban villages will be replaced by commercial properties. The land-use period will be limited to certain years, for example, 40 years for commercial properties. Although the indigenous villagers will be compensated, migrant workers will be forced to look for new accommodations with reasonable prices and convenient locations, if any still exist. They may have to sacrifice the floor area or living conditions to find an affordable and convenient place (e.g., close to the working place) to live because of budget constraints.

As a result, redevelopment should be implemented step by step, and the method of environment renovation should be adopted. Mr. Hou holds a similar opinion (Appendix 12). He suggests renovating the urban villages, for example, widening the roads, for two reasons. First, the redevelopment will increase the cost of doing business in Shenzhen so that the available opportunities and the competitive capacity of the city will decrease, thereby reducing the diversification of Shenzhen. Second, urban villages do not only have functional significance but also a psychological one. They are the memories of the city.

#### 8.4.5 Institutional Arrangement

The issue of increasing affordable housing provision to migrant workers in China involves a series of institutional reforms, for example, *Hukou* reform, land planning reform, and social security system reform. The fundamental solutions are to eliminate the urban–rural divide, to abolish the link between local social services with the local *Hukou*, and to allow the circulation of rural housing in the market.

Non-local residents cannot enjoy equal social services as local residents even if they have worked in the locality for many years because of the existence of *Hukou*. Moreover, they may be discriminated by local residents and, to some extent, be

excluded from local government regulations. One interviewee from Bao'an District said he had to pay higher education fees for his children than his local counterparts. According to the questionnaire survey, *Hukou* status is ranked as the second most important reason for the respondents in reconsidering their return to their hometowns in the future. Moreover, about 57% of the respondents are not covered by any social security in Shenzhen. Their basic rights are not protected in the locality, although many of them have worked there for an extended period of time. Lastly, ownership of local *Hukou* is the premise for applying for public housing, for example, economic affordable housing, affordable commodity housing, and public rental housing (except for the "talents' apartments" for high-tech and highly educated migrant workers).

The land planning system (urban–rural divide) in China needs to be reformed so that rural and urban areas can be developed in a coordinated manner. For example, the transaction of the land for construction use in rural areas should also be allowed in the market just as is in urban areas. In this way, the land requisition and compensation balance between urban and rural areas can be achieved, and the efficient use of land resources can be maximized. In China, land in rural areas is owned by the collectives, whereas land in urban areas is owned by the government. Therefore, a dual-housing system, that is, urban housing system versus rural housing system, exists in China. Urban residents can purchase or rent the commodity housing or apply for public housing in urban areas, and rural residents have to build their own residence in the collectively owned land. Generally, the housing of urban areas can be transferred freely in the market (except for certain public housing). Rural housing is prohibited from being transferred. As a result, it is a common phenomenon that most of the migrant workers have residence in their hometowns. According to the questionnaire survey, 96.9% of the respondents owned residences in their hometowns (Chapter 6); 87.4% of the residences are for family use, and the others (9.4%) are left empty or for rent (2.3%) or for storage use (0.9%). By developing and managing the construction land of urban and rural areas in a coordinated manner, the transaction of homestead housing of rural areas can be available in the market. Migrant workers can rent or sell their residences in their hometown instead of leaving them empty. With the sales or rental income, they can match the housing consumption in urban areas.

## **8.5 Other Issues on Migrant Workers**

### **8.5.1 Remittance to the Hometown**

Most of the migrant workers remit money to their family members in their hometowns every month. As previously discussed (i.e., “Housing consumption of migrant workers”), migrant workers are saving oriented. The main purpose of their stay in the locality is to work and to earn as much money as they can. They greatly emphasize cost reduction. According to the questionnaire survey, their average remittance to the hometowns in year 2010 was RMB 335 per month. In general, there are two reasons for this: 1) migrant workers lack the sense of belonging to the locality and will return to the hometown in the long run, and 2) the reference of their consumption is based on that in their hometowns, which is lower than the consumption in the locality.

### **8.5.2 Redistribution of Labors**

As the urban carrying capacity is limited and the industrialization process, to some extent, lags behind the urbanization in China, encouraging migrant workers to go back to their hometowns, to small- and mid-sized cities, and to improve their living standards there is necessary. Therefore, employment opportunities should be increased, and the income disparities between different regions, especially between rural and urban areas, should be reduced. Measures can be taken by local governments to attract investments and establish micro-finance systems. The development of labor-intensive and service industries in the countryside and small towns should be encouraged.

### **8.5.3 Cognitive Level of the Locality**

Migrant workers usually have a low cognitive level of the locality. They are not well informed of either the job information of the industries they are engaged in or the local policies. According to the questionnaire survey, migrant workers obtain jobs and housing information largely through their relatives and friends. They show little concern about the policies promulgated by the local government. Almost half of them have not heard of any policies on migrant workers. There are four reasons why this is so. First, migrant workers’ channel of access to information is narrow. New media, such as the Internet, is not widely spread among them. Second, they consider the

policies to have little effect on them because they will return to their hometowns in the future. Third, few policies on migrant workers work efficiently. Fourth, migrant workers are usually engaged in “3D” jobs (i.e., dirty, dangerous, and difficult) in the locality. They do not have enough time to collect information, which is not readily available or easily accessible to them. To improve the migrant workers’ cognitive level of the locality, efforts should be made (by the local government, the community, or the employers) to expose them further to more information. Training such as adult education and job training should be provided to them in the locality.

#### 8.5.4 Influence of Migrant Workers on the Chinese Society

Labor migration between cities and regions has a tremendous effect on social development in China. From the economic perspective, the gap between developed and less developed regions can be gradually reduced. After a long period of working in developed regions, migrant workers who return to their hometowns will bring back their savings, new technologies, ideas, and new lifestyles. However, to reduce the loss of indigenous labors, the governments of the migrant workers’ hometowns will try to attract more investment in the locality and develop the local economy.

From the institutional perspective, the need for reforming the *Hukou* system and land planning system is becoming unprecedentedly urgent. More and more migrant workers are moving to the developed regions. However, they are not covered by the *Hukou*-related social security system in the locality, which is unequal and may lead to social conflicts (e.g., conflicts between migrant workers and local residents). A more comprehensive social security system should be constructed, one that covers migrant workers’ basic rights and secures equal employment opportunities and training services. The local government’s skills and the capacity of city administration and social services should also be improved accordingly to accommodate more residents (be they local or non-local).

From a planning perspective, a large proportion of housing in the hometowns of migrant workers is left empty. This situation is a waste of land and housing resources. The reason for this is that rural housing is not allowed to be circulated in the market. Establish a unified housing market, which combines both housing in urban and rural areas, is necessary. The housing for migrant workers in urban areas should also be

included in the urban development plan by establishing a unified planning system in China.

From the household level, dual families emerge along with the labor migration in China. That is, one or more family members live and work in one city, and the other family members are left in urban areas or other cities. This situation creates social problems such children being left behind and divorce. Some villages are populated only by children, women, and older people. To solve this problem, the living conditions of migrant workers in urban areas should be improved, and their basic rights (e.g. compulsory education of their children) should be secured. Small-town economies should also be developed intensively so that more job opportunities can be provided to indigenous labors.

## **8.6 Summary of the Chapter**

Generally, the findings from the questionnaire survey and the two-round interviews with government officials, research institutes, and migrant workers are consistent. From the perspective of demographic characteristics, the proportion of male migrant workers is greater than that of female migrant workers. Migrant workers are usually young. Most of them received middle school education. The trend of their educational level is moving upwards. Most migrant workers come from the rural areas. A large number of them do not hold Residence Cards. On average, they have stayed in Shenzhen for six years. More than half of the migrant workers are single and stay in the locality without any family members. Among the married migrant workers, more than half of them leave their children in their hometowns. One-third of them have spouses in their hometowns.

From the aspect of mobility characteristics, migrant workers tend to migrate even after they arrive in the locality. However, residential mobility falls under the category of a short-distance one, that is, within the same district of Shenzhen. The three most important reasons for their residential mobility are job change or employers' requirement, cost reduction, and improvement of housing conditions. Moreover, a considerable amount of migrant workers plan to return to their hometowns in the near future because of the high cost of living in Shenzhen, homesickness, and better personal development in their hometowns. Some of them even consider working in

other cities.

The usual housing career (or housing ladder) for migrant workers upon their arrival is from the free dormitory or the houses of relatives and/or friends to the rental housing in urban villages, rental commodity housing, and eventually purchased commodity housing. There are some exceptions of course. Some of them choose to change their addresses; they may also stay in the same type of residence (i.e., rental housing in urban villages and rental commodity housing). Rental housing in urban villages is their more frequent choice than rental commodity housing. The most important reason for their moving between different urban villages is to get closer to their work places, followed by to reduce the housing cost, to move to a larger flat (or to improve the living conditions), demolition and redevelopment, contract termination, and to get closer to their relatives. Moreover, “adverse housing paths” (e.g., from rental commodity housing to rental housing in urban villages or from urban villages to free dormitory) usually occurs to newly arrived migrant workers. The reasons may be job change or cost reduction. Moreover, although migrant workers in Shenzhen are included in the public rental housing at the policy level, most of them are not included in practice. The provision of “talents’ apartments’ for highly educated and high-tech migrant workers is the exception.

From the perspective of cognitive level of the locality, migrant workers usually look for residences through “notices posted outside the residence to be leased out” or through relatives and friends. The introduction from relatives or friends also plays an important role in helping them to find jobs. Most migrant workers are not familiar with the policies on housing, *Hukou*, or Residence Cards.

The findings in each survey have some differences. 1) Housing type. Based on the questionnaire, the sampling method, and the industry structure in Shenzhen, the most usual housing choices of migrant workers are free dormitory, followed by rental housing in urban villages, rental commodity housing, employer-provided rental housing, purchased commodity housing, relatives’ or friends’ place, and others. However, according to the interviews, the most usual housing choice of migrant workers is rental housing in urban villages. Which type of housing has the highest proportion (i.e., whether free dormitory or rental housing in urban villages) depends on the industry structures in different cities. 2) Income. The finding from the

questionnaire survey is low probably because of the different survey methods. By combining the findings from different sources, the average income of migrant workers in Shenzhen is around RMB 3,000 per month per capita. 3) Housing conditions. According to the second-round interview with one government official, the living conditions of migrant workers in Shenzhen are better than the findings from the questionnaire survey. The disparity can be caused by the different types of housing occupied by migrant workers. According to the questionnaire survey, the proportion of migrant workers living in free dormitories is the highest, whereas according to the second-round interview with the government official, majority of migrant workers live in rental housing in urban villages.

Moreover, the findings of the second-round interviews also provide supplementations.

1) Based on the comparison of different surveys, as time goes by, migrant workers put more emphasis on the environmental aspect aside from security, housing cost, and convenience. 2) Migrant workers usually do not spend much money on housing consumption (including improving their housing conditions). They are saving oriented. The main purpose of their mobility is to seek jobs and to earn money. They greatly emphasize cost reduction. 3) Migrant workers often change jobs. A better job opportunity can largely stimulate their residential mobility. 4) The longer migrant workers stay in the locality, the more emphasis they put on housing conditions and the environment. 5) The differences between the consumption behavior of local residents and that of migrant workers are also represented by their potential sources of housing fund. They plan to depend mainly on their own savings and parents' financial support for commodity housing purchase. 6) Their current residence can largely satisfy migrant workers' requirements of reasonable price, safety, and convenience. Cost and security are satisfactory to some degree. Environment and distance to relatives and friends are not that satisfactory. 7) Migrant workers consider their residence in their hometowns to be much better than the one they have in the locality. Housing ownership can make migrant workers more satisfied. 8) According to government officials, the housing settlement of migrant workers should mainly depend on rental housing and private sector housing. Moreover, the involvement of private developers, facilitated dormitories in industrial zones, comprehensive environmental remediation in urban villages, management standardization of rental housing market, improving the living conditions of migrant workers, and HPF are also encouraged to be

implemented.

As the SEZ was closed down in July 2010, questions about the effect of the closure were asked during the second-round survey. The findings are as follows. 1) Most of the migrant worker-interviewees consider that there is not much effect on their daily lives. 2) Most migrant workers do not know if the closure will make it easier for them to apply for the local *Hukou*. 3) In the opinion of the two government officials, people will be more willing to live outside the SEZ. Residents who used to live outside the SEZ will normally consume outside the SEZ instead of inside the SEZ. Moreover, rent outside the SEZ has increased. The closure of the SEZ indicates the integration of public services inside and outside the SEZ. Non-local residents are encouraged to apply for the local *Hukou*. However, the closure of the SEZ does not have a substantial effect on the floating population from other cities, which is mainly determined by the adjustment of the industrial structure. 4) Most of the interviewees do not plan on applying for the local *Hukou* even after the closure of the SEZ because of the high cost of living in Shenzhen and other reasons. For those who plan to apply, they appreciate the stable life and social services brought by the local *Hukou*.

In terms of the effect of urban renewal on migrant workers, most of the migrant worker-interviewees indicate no change. Some of them mentioned the rising housing price. The government officials mentioned that the rent of the housing in urban villages increased significantly. Migrant workers living there will move to the peripheral areas. Moreover, urban renewal will gradually optimize the population structure by attracting highly educated and high-tech non-local population. Crowding out some of the migrant workers makes sense because the land is limited.

New characteristics are observed with the younger-generation migrant workers. The education level of these migrant workers has improved. The younger-generation migrant workers are more willing to consume than the older generation. Their demands are diversified. They prefer urban lifestyle to wealth. They are eager to be integrated into the city, although it is difficult for them. They are not familiar with the country life. They have a sense of rebellion, which triggers many social problems in the locality. They do not work as hard as the older-generation of migrant workers or even their urban counterparts. They are not as easily satisfied as the older generation, and they move more frequently in terms of residency and job.

The following suggestions are proposed on how to improve the affordable housing provision for migrant workers in China. 1) Semi-public organizations, such as housing associations, are suggested to be established in China to provide affordable housing. 2) Both the government and employers should do their best to subsidize migrant workers in cash or in kind or both. 3) Aside from rent or sales income, income from facilitated commercial properties and government funds and other financing methods such as BOT and REITs should also be considered. 4) Considering the practical conditions of migrant workers and the financial capacity of the local government, a self-help approach is suggested, and renovation in urban villages is recommended as the main method. 5) The fundamental solutions are to eliminate the urban–rural divide, to abolish the link between local social services with the local *Hukou*, and to allow the transaction of rural housing in the market.

Lastly, other issues on migrant workers are discussed. 1) Most of the migrant workers remit money to their family members in their hometowns. 2) To redistribute the labor force, the development of labor-intensive and service industries in the countryside and small towns should be encouraged. 3) Migrant workers usually have a low level of concern and cognition of the locality (e.g., job information, industry information, and policies) so efforts should be made to provide them with more information. 4) Migrant workers have a tremendous influence on the Chinese society, such as bridging the gap between developed and less-developed regions as well as accelerating the reform of the *Hukou*, social security system, and land planning system. 5) The effectiveness of government administration and social services should be enhanced to better serve local and non-local residents. 6) Along with the labor migration in China, dual families have emerged, and the phenomenon of left-behind children and divorce has become common. Thus, improving the living conditions of migrant workers in urban areas is necessary, and more job opportunities should be created by developing small-town economies.

The next chapter summarizes the major findings of this research, identifies its contributions to knowledge, and explores its limitations as well as directions for future research.

***Note:***

1. Older-generation migrant workers and younger-generation migrant workers are also referred to as “first-generation migrant workers” and “second-generation migrant workers,” as officially mentioned by the State Council in “Several opinions on consolidating the development of urban and rural areas in a coordinated manner and the development of agriculture and rural areas” (Document No. 1) in 2010. “Second-generation migrant workers” usually refer to those who were born in the 1980s and 1990s.

## **CHAPTER 9: CONCLUSION**

### **9.1 Scope of the Chapter**

This chapter aims to summarize the major findings of this study, to identify its contributions to knowledge, and to explore the research limitations and directions for future research. It begins with a review of the research objectives, followed by a summary of the research findings. Next, the contributions of this research are presented. Lastly, the research limitations and suggestions for future research are given.

### **9.2 Review of Research Objectives**

Since the economic reform in 1978, China has experienced remarkable economic growth and an extraordinary process of urbanization. The economic development gap between the regions, especially western inner cities versus eastern coastal areas and urban versus rural areas, is widening. Imbalances in regional development as well as the deregulation of population floating control in the 1980s accelerate the influx of migrant workers from less-developed regions to developed ones to look for jobs.

The income of migrant workers is generally low. Their housing affordability is becoming a serious problem, especially in first-tier cities such as Shenzhen. Both the central government and the local governments have promulgated policies in terms of “views” or “suggestions” to improve the living conditions of migrant workers. Policies introduced by some local governments such as Shenzhen also allow migrant workers to apply for public rental housing. However, the corresponding implementations are lagging behind. Migrant workers, even the low-income ones, still turn to dormitories, private rental housing, or illegal housing with poor conditions. Their housing choices are extremely limited.

The housing settlement problem of migrant workers is largely due to the structural imbalance of the housing supply in the private sector and the government’s failure to resolve the imbalance. The current housing needs of migrant workers cannot be met. This study aims to explore the provision of more adequate and affordable housing for migrant workers efficiently and sustainably in China. On the demand side, a deeper

understanding of migrant workers is needed. On the supply side, looking further into housing available for migrant workers is necessary. Based on the analyses of both demand and supply sides, proposals are formulated in a holistic manner. To achieve the research aim, seven objectives have to be achieved. Shenzhen is taken as the case study because it is a typical migrant city with the highest proportion of non-local population in China.

On the demand side, the research objectives are as follows:

- 1) To present a profile of migrant workers' demographic characteristics, housing choices, housing conditions, and housing preferences
- 2) To explore the factors affecting the housing choices of migrant workers

On the supply side, the research objectives are as follows:

- 3) To examine the housing supply in the public sector
- 4) To examine the housing supply in the private sector
- 5) To examine migrant workers' housing in their hometowns

From the holistic perspective, the research objectives are as follows:

- 6) To analyze the match degree between housing demand and supply for migrant workers
- 7) To put forward suggestions on how to provide more adequate and affordable housing for migrant workers in Shenzhen from the network perspective

### **9.3 Research Conclusions**

Theoretically, a synthesis of the macro and micro approaches, network approach, and housing pathway theory is employed in this research. Based on the literature review, interviews (both semi-structured and structured), questionnaire survey, factor analysis, and logistic regression of the case study in Shenzhen, the research findings are listed as follows.

#### **9.3.1 Characteristics of Migrant Workers**

Majority of the migrant workers are single young males. Most of them received middle school education. The trend of their educational level is improving. On average, migrant workers' household income is significantly lower than that at the

city level. The income disparity among migrant workers is large. The majority of the migrant workers come from rural areas, and they do not hold Residence Cards. Most of them have relatives, friends, or fellow villagers in the locality.

Most of them have stayed in Shenzhen for a long time, six years on average. Most of the migrant workers do not have social security either in Shenzhen or in their hometowns. Most of them stay in Shenzhen alone without any family members. Most of the migrant workers leave their family members (i.e., children and spouse) in their hometowns. Migrant workers tend to remit money to their family members in the hometowns on a monthly basis. They are mainly savings oriented in the locality.

More than half of the migrant workers are used to changing their residences after arriving in Shenzhen. However, most of the mobility is within the same district (i.e., short-distance mobility). The most significant reasons for the residential mobility are job changes or requirements of the employers, followed by the need to reduce the housing cost and improvement of living conditions. The other reasons are family needs (e.g., household structure change and the decision to stay with relatives or friends), education of children, disagreement with landlords, and housing demolition.

A large number of migrant workers plan to migrate again in the near future. The proportion of those planning to return to their hometown is larger than that of those who are planning to work in other cities. For the migrant workers who intend to return to their hometowns, their three main reasons for doing so are the high daily expense, the high housing expenditure, and the decision to reunite with family members. For those who are not sure about returning to their hometown, the three major reasons affecting their decisions are future work, future *Hukou* status, and future income. They also tend to change jobs often.

The channel for migrant workers to obtain information is narrow. They usually look for housing through notices posted outside the residence to be leased out or through their relatives or friends. Introduction by relatives or friends is also crucial in helping migrant workers to find jobs in the locality. Most migrant workers are not familiar with the policies on housing, the *Hukou*, or the Residence Card.

### 9.3.2 Housing Choices of Migrant Workers

The usual housing career (or housing ladder) of migrant workers from their arrival in the locality is from free dormitories or relative and friends' living spaces to rental housing in urban villages, rental commodity housing, and eventually purchased commodity housing. Aside from the usual housing path, some migrant workers always choose the same type of residence (i.e., rental housing in urban villages and rental commodity housing), although they have changed their residence in the locality many times. Moreover, an "adverse housing path" exists, that is, from rental commodity housing to rental housing in urban villages or from urban villages to free dormitories, which is mainly caused by job change or the need to cut costs.

Rental housing in urban villages, free dormitories, and rental commodity housing are the three most popular housing choices among migrant workers. As to which type of housing has the highest proportion (i.e., free dormitories or rental housing in urban villages) depends on the corresponding industry structures. For instance, migrant workers in the construction industry usually live in employer-provided free dormitories. Migrant workers in the wholesale and retail industry usually live in rental housing. Although migrant workers in Shenzhen are included in public rental housing at the policy level, they are not included in the system in practice, except for highly-educated migrant workers or those with specific expertise who are allowed to live in "Talents' Apartments."

The residences of migrant workers have both advantages and disadvantages. The advantages are, first, these residences are usually in accessible locations from their working places, hospitals, and entertainment facilities; and second, relatively more working opportunities are available near their residences than anywhere else. The disadvantages are, first, the living facilities are inadequate. Many residents have to share washrooms or kitchens, and half of the housing is not equipped with property services (e.g., security guard at the main entrance of the community or building). Dormitories usually do not have separate kitchens and washrooms. Second, overcrowding is a common housing problem among migrant workers. Apartments in urban villages typically have a small layout (i.e., consisting of only one bedroom and one living room), which makes them easier to lease out.

Aside from security, housing cost, and convenience, migrant workers place more emphasis on the living environment and housing conditions as they stay longer in the locality. They usually choose to reside near their workplaces. The living spaces occupied by migrant workers are considerably smaller than those occupied by local residents.

Most migrant workers are confident that they can find a better residence in future. Purchased commodity housing, rental commodity housing, and rental housing in urban villages are the three most common housing types that migrant workers are likely to move into. However, not all migrant workers who expect to move into purchased commodity housing will actualize their plans. For those who do not have a plan and those who are unsure about purchasing a house, their main reasons for doing so are affordability problems, uncertainty about the future, *Hukou* status, and intention to return to the hometown.

Migrant workers are conservative in housing consumption. They are not only reluctant to spend a high percentage of their income on housing but are also conservative in terms of housing fund sources. In general, household savings and financial support from their parents are indicated as their main funding sources to purchase commodity housing.

### 9.3.3 Factors Affecting Housing Choices and Residential Satisfaction of Migrant Workers

By employing multinomial logistic regression, four models are constructed to explore the factors affecting the housing choices of migrant workers from four perspectives: demographic characteristics, mobility characteristics, cognition and expectation of the locality, and residential preferences. Migrant workers with higher incomes are more likely to live in commodity housing and urban villages. As migrant workers get older, they are most likely to live in commodity housing, followed by urban villages and dormitories. Among all the five trades, migrant workers in the construction industry are most likely to live in dormitories than in urban villages. Those engaged in the manufacturing industry are most likely to live in urban villages, and those engaged in the transportation, warehousing, postal, wholesale, and retail industries are most likely to live in commodity housing. The higher the educational level of migrant workers,

the more likely they live in commodity housing, followed by urban villages and dormitories. The more family members the migrant workers have in the locality, the more likely they will live in commodity housing, followed by urban villages and dormitories. For migrant workers who do not have residences in their hometowns, the dormitory is the least possible housing choice. The most common housing choice for migrant workers with a rural *Hukou* is the urban village and that for migrant workers with an urban *Hukou* is commodity housing. The plan to return to their hometowns influences migrant workers' housing choices significantly. Migrant workers who do not intend to return to their hometowns usually live in commodity housing. If they are used to changing their residences in the locality and have many family members there, they are more likely to live in commodity housing. Migrant workers who obtain housing information mainly from estate agents are more likely to live in commodity housing. Those who obtain housing information mainly from relatives or friends and advertising posters are more likely to live in urban villages. Workers whose main sources of housing information are their working unit are more likely to live in dormitories. Migrant workers who have local relatives or friends in the locality are more likely to live in commodity housing. Migrant workers without local relatives or friends but with positive evaluations of the possibility to find a better residence are more likely to live in commodity housing. The greater emphasis migrant workers put on "distance to working places," the more likely they will live in dormitories. The more they emphasize the layout and appearance of a residence, the more likely they will live in commodity housing. If more emphasis is placed on the combination of layout, appearance, and transportation convenience, they will be more likely to live in urban villages. Migrant workers who prefer the combination of community and cost are more likely to live in dormitories than in urban villages.

#### 9.3.4 Housing Available for Migrant Workers

From the perspective of the public housing sector, migrant workers are included in public rental housing at the policy level not only at the city level but also at the national level. However, in practice, migrant workers cannot avail of public rental housing, except for "talents' apartments" in Shenzhen.

From the perspective of the private housing sector, housing in urban villages constitutes almost half of the housing provision in Shenzhen. Rental commodity

housing and urban villages have a major function in accommodating migrant workers. The rental price has generally followed a rising trend, except during the global financial crisis in 2008. However, the increasing rate is slowing down. Although housing in urban villages is not secure in property rights and illegal in terms of urban planning (e.g., building density and floor area ratio), it serves as a kind of transitional housing based on which migrant workers can look for better accommodations in the locality.

From the perspective of housing in the hometown, most of the migrant workers have residences in their hometowns. These residences are mainly composed of low-rise, self-built buildings either for family use or for rent. Many of these residences are left empty in their hometowns.

From the perspective of the policy network approach, the major stakeholders involved in the housing provision for migrant workers are local governments, employers, and private developers. Dormitories are provided by employers or sometimes by local governments. Rental commodity housing (including rental housing in urban villages) is provided by private developers and stock cooperative companies of the urban villages. The providers of public rental housing may be either the government or private developers.

### 9.3.5 Comparison between Housing Demand and Housing Supply for Migrant Workers

Based on the proportion of income they spend on housing, migrant workers can generally afford their current residences. However, housing standards, household income, personal choices, and family strategies should be considered. Migrant workers usually do not spend a large amount of money on housing consumption (including improving their living conditions). They are saving oriented, and the main purpose of their mobility is to seek jobs and to earn more money. Migrant workers are vulnerable, mobile, and lack a sense of belonging to the locality.

Most of the respondents are either neutral or satisfied with the various housing characteristics. However, most of them are neutral or dissatisfied with the current residence than with their residences in their hometowns. They regard the residences in their hometowns as much better than those in the locality. Purchased commodity

housing, which is in accordance with their most expected type of housing, can satisfy their housing needs the most.

By employing ordinal regression, three models are established to explore the factors affecting the residential satisfaction of migrant workers from the aspects of general factors (e.g., age, gender, education, and others), special characteristics pertaining to migrant workers (e.g., social security, residential mobility, etc.), and institutional factors (e.g., *Hukou* and residence card). Migrant workers who occupy more housing facilities and services and who live with more family members or fellow villagers in the locality are more satisfied with their residences. Those living outside the SEZ are more satisfied with their residences than those living inside the SEZ. Less mobile migrant workers who are more settled in the locality tend to have higher levels of residential satisfaction. Migrant workers with urban *Hukou* or with a Residence Card are more satisfied with their current residences. However, these two institutional factors are not significant in the regression analysis.

Generally, free dormitories, rental housing in urban villages, and rental commodity housing can cater to the needs of migrant workers. The residential preferences of migrant workers can largely be met. The largest proportion of migrant workers is satisfied with the “transportation convenience” (ranked third among the 12 housing preferences) and “distance to workplace” (ranked sixth among the 12 housing preferences). Regarding housing security, which is the most prioritized by migrant workers, the majority of the respondents indicated neutral satisfaction, although half of them do not have security services. Migrant workers are especially dissatisfied with the “community environment” and the “usage area.”

### 9.3.6 Suggestions on Affordable Housing Provision for Migrant Workers

To increase the affordable housing provision, suggestions are proposed from the perspectives of stakeholders, housing subsidies, housing incentives, and financing methods. To make the affordable housing available for migrant workers, suggestions are put forward to reform the institutional arrangement. The details are as follows.

Semi-public institutions such as housing associations are suggested to be established to provide more affordable housing. The government should act more as a facilitator

by introducing policies and providing indirect funds. Its role as a housing developer should be reduced in the future. Private developers should undertake the bulk of the housing development work and receive preferential treatment (e.g., land provision and tax credit) from the government. The different stakeholders should communicate more efficiently so that housing providers can better understand the needs of migrant workers. Different housing providers must also coordinate to ensure the proper implementation of their strategies.

Both the government and employers are encouraged to subsidize migrant workers in cash or in kind or both, for example, through public rental housing, dormitories, rent subsidies, fee deduction, tax credit, dormitories, HPF, and others. Landlords can be provided with project-based rent subsidies (according to the amount of housing they provide to migrant workers). Developers may receive subsidized financing and favorable tax treatment. Moreover, incentives should be given to stimulate those who own two or more commodity apartments to rent out their properties. When providing housing, especially public housing, for migrant workers, site selection is extremely important. Residential segregation should be avoided. To reduce the travel time between the workplace and residence of migrant workers, public housing provisions should not be far from commercial or industrial areas.

Aside from the income from rent or sales, income from facilitated commercial properties and government funds, and financing methods such as BOT and REITs should be considered to widen the financing sources. A self-help approach (Section 8.3.4 of Chapter 8) is strongly recommended to be implemented to accommodate migrant workers, especially in urban villages.

Institutional reforms, for example, *Hukou*, land planning, and social security system, are needed (Section 8.3.5 of Chapter 8). Services such as income security, rental security, and social security (with regard to unemployment, medical care, pension, occupational injury, and childbirth) should be provided to migrant workers. Finally, measures should be taken to eliminate the urban–rural divide, to abolish the link between local social services and local *Hukou*, and to allow the transaction of rural housing in the market. The legal system should also be improved accordingly.

### 9.3.7 Other Issues on Migrant Workers

Previous findings from the first-round interviews and the questionnaire survey are generally verified by the second-round interviews with government officials and migrant workers. Supplementations are also provided. Regarding the effects of the SEZ closure in 2010, a large proportion of migrant workers do not think it has any influence on their daily lives. As for the effect on the application for the local *Hukou*, a large number of migrant workers do not know if it will be easier. Majority of the migrant workers do not plan to apply for the local *Hukou* because living costs in the locality are high, they own residences and arable land in their hometown, and other locations have better personal development opportunities. According to local government officials, people are more willing to live outside the SEZ because of the improved facilities and services. The housing rental price and the housing demand outside the SEZ are higher. The closure of the SEZ was intended to integrate the public services both inside and outside it. Non-local residents who satisfy relevant conditions are encouraged to apply for the local *Hukou*.

According to most of the migrant workers, urban renewal does not affect much their daily lives. One third of the respondents indicate that the housing price is increasing. The government officials said that the rent in urban villages increased significantly after the redevelopment. Thus, the proportion of migrant workers who will live in urban villages is expected to drop significantly, and more migrant workers will relocate to peripheral areas. To mitigate the negative effect of urban renewal on migrant workers, more dormitories are suggested to be provided in industrial zones. The comprehensive environmental remediation in urban villages should be strengthened. The rental housing market in urban villages must also be legalized by the government and included in the urban planning system.

Differences exist between older- and younger-generation migrant workers based on the second round of interviews with government officials. The main goal of the older-generation migrant workers in the locality is to earn money. They plan to return to their hometowns eventually. They are characterized as hardworking. Conversely, younger-generation migrant workers are more willing to consume than the older generation. Their demands are diversified, and they prefer an urban lifestyle. They are eager to be integrated into the city and are not familiar with life in the countryside.

They have a sense of rebellion that triggers social problems in the locality. They do not work as hard as the older-generation migrant workers or even much as their urban counterparts. They are not as easily satisfied as the older generation, and they change residences and jobs more frequently.

To alleviate the housing poverty of migrant workers, the redistribution of labor in cities of all sizes in China and in the rural areas is essential. Measures should be taken by local governments to attract investments, to establish a microfinance system, and to develop labor-intensive and service industries in the countryside and small towns.

Migrant workers typically have a low cognitive level of the locality. They are not aware of the local policies or job information in their industries. To improve their cognitive level of the locality and make them more involved, the local government, the community, or the employers should make an effort to provide them with more relevant information. Training such as adult education and job training should be provided to them in the locality.

Migrant workers have a tremendous influence on the Chinese society, such as bridging the gap between developed and less developed regions as well as accelerating the reform of the *Hukou*, social security system, and land planning system. The skills and capacity of government administration and social services should be improved to serve more residents (both local and non-local). Along with the growth of labor migration in China, dual families have emerged, and the phenomenon of left-behind children and divorce has become common. Measures should be taken to improve the living conditions of migrant workers in urban areas and to create more employment opportunities by developing small-town economies.

## **9.4 Research Contributions**

This study is under the category of housing studies on migrant workers. It has six major contributions. First, this research has established a comprehensive framework for the housing demand of migrant workers in China. It takes a more holistic approach to investigating an array of factors at work: for example, mobility characteristics, housing choices, housing conditions, and the corresponding rationales. The framework and the factors under investigation are more extensive than previous

studies. Particularly included for analysis are: institutional arrangements, cognitive level of the locality, concern level for the policies on migrant workers, sources of housing funds, housing expectations, home purchase plan and the reasons. These factors were seldom studied by previous work.

Second, this research presents an integrated housing supply system that meets the demands of migrant workers in China, with different housing options (in the locality & in the hometown; in public sector and private sector), availability of the housing options, and respective advantages and disadvantages. Only has previous work on either public or private sector. This study has analyzed, particularly, the hometown residence of migrant workers, which is seldom included in previous work. In this respect, this study fills the gap of knowledge.

Third, the balance between housing demand and supply for migrant workers in China is elaborated in three important respects: 1) Objective respect: Housing affordability (in terms of extent of affordability and whether affordability problem exists); 2) Subjective respect: Residential satisfaction (in terms of factors affecting the residential satisfaction, comparisons between various housing aspects and housing types); and 3) Comparison between current and expected residence. The balance examination reflects the degree to which the current housing supply can meet the housing demands of migrant workers. This sheds light on what kind of housing caters for the housing need of migrant workers and what kind of migrant workers tend to feel more satisfied with their current residences. Previous research on migrant workers has largely focused on either the housing demand (e.g., demographic characteristics and housing preferences) or the housing supply (e.g., public housing system, housing choices, and housing conditions). Few studies examine the matching between demand and supply. This could deepen our understanding of what is in deficiency in the housing system, whereby possible policy measures can be taken.

Fourth, from the housing career perspective, besides current housing, this study examines both previous housing and expected housing of migrant workers. Housing career of migrant workers is summarized, which has seldom been studied in previous literature.

Fifth, from the Network Perspective, this study explores how to provide more

adequate and affordable housing and how to make affordable housing available for migrant workers (e.g., institutional arrangement, stakeholders involved, and financing methods).

Last but not least, this research makes verification and comprehensive supplementation to the previous literature. Since there is no officially released data on migrant workers in China, this study contributes significantly to the empirical work in this field. The implementation of relevant housing policies and the policy rationales are examined. The specific characteristics of migrant workers are investigated, for example, the underlying reasons for their continuing mobility, their cognitive level of the locality, and sources of housing fund, among others. The experience of Shenzhen in accommodating migrant workers can be shared with other major cities in China.

## **9.5 Research Limitations and Recommendations for Future Research**

### **9.5.1 Research Limitations**

This study has five limitations. First, data were collected from only one city (i.e., Shenzhen), which may not be able to represent the situation of other cities in China. The reason for doing so is the limited time and resources available.

Second, the survey is exclusive to migrant workers and does not cover the local population. One reason is that the focus of this research is to obtain a deeper understanding of the specific characteristics and housing accommodations of migrant workers. Moreover, limited time and resources were available.

Third, the survey does not cover the private developer (including the cooperative companies of urban villages), which is another key housing provider for migrant workers. This factor can be the subject of another major study.

Fourth, comparative studies on the housing settlement of migrant workers in other countries are limited.

Fifth, the findings on the most usual housing choice of migrant workers are different from the statements of the two government officials because of the sampling method of the questionnaire survey. The samples are evenly distributed among all the five industries in Shenzhen, but migrant workers engaged in different industries have

different housing choices. Although the order of “dormitory” and “rental housing in urban villages” is different, the three most usual housing choices of migrant workers are the same regardless of the source of survey. Moreover, the effects of industry structure on the housing choices of migrant workers may indicate the housing provision in other cities.

### 9.5.2 Suggestions for Future Research

Based on the limitations, the following suggestions are proposed for future research:

First, data on migrant workers in other Chinese cities have to be collected as supplementation and verification. Comparison between different cities should also be made through which a better understanding of the migrant workers and their housing behaviors in China can be achieved.

Second, data on local residents should be collected so that a comparison can be made between the needs of the local population and those of the migrant workers.

Third, the opinions of the private developers should be collected so that the framework of the stakeholders involved in affordable housing provision for migrant workers can be refined. The suggestions on and solutions for the housing settlement for migrant workers can be made more comprehensive and constructive.

Fourth, a comparative study of the housing provision for migrant workers or low-income households in other countries should be conducted in the future.

Fifth, affordable housing provision in China should be further investigated. Aside from public housing provided by the government, affordable housing (e.g., social housing, community housing, etc.), which is provided by non governmental organizations (e.g., housing associations), should be explored. Making affordable housing more available to the non-local population is also essential.

## APPENDICES

### Appendix 1: Interviewee list

Stage 1: Pilot Study		
Institutes	Interviewees	Date of meeting
1. Shenzhen Property Management Institute	1.Mr. Chen, Institute Director  2. Mr. Zheng, Deputy director, Housing Security Research Division	<b>Time:</b> 10:00~11:00am  <b>Date:</b> February 23, 2009
2. Housing Security Division, Shenzhen Municipal Bureau of Land Resources and Housing Management	Mr. Liu	<b>Time:</b> 9:00~9:45am  <b>Date:</b> February 24, 2009
3. Department of Construction Management and Real Estate, College of Civil Engineering, Shenzhen University	Dr. Song, Associate Professor, Deputy Dean	<b>Time:</b> 10:30~11:00am  <b>Date:</b> March 2, 2009
4. Shenzhen Comprehensive Management Office of Floating Population and Rental Housing	Mr. Hou, Section Chief	<b>Time:</b> 1:30~3:30pm  <b>Date:</b> September 24, 2009
Stage 2: Verification		
5. Shenzhen Floating Population and Rental Housing Comprehensive Management Office	Mr. Hou, Section Chief	<b>Time:</b> 3:00~4:00 pm  <b>Date:</b> December 19, 2011

6. Housing Security Division, Shenzhen Real Estate Research Center	Mr. Zheng	<b>Time:</b> 2:00~4:00 pm  <b>Date:</b> March 5, 2012
7. Randomly selected migrant workers	Migrant workers	<b>Date:</b> May 12 & 19, 2012

## **Appendix 2: Invitation Letter Sample of 1<sup>st</sup> Round Interviews**

Dear \_\_\_\_\_ (Interviewee),

How are you? This is TAO Li from Department of Building and Real Estate, the Hong Kong Polytechnic University. I am a MPhil student and conducting a research project called “Housing settlement for migrant workers in China—A case study of Shenzhen” under the supervision of Prof. Francis K.W. Wong and Prof. Eddie C.M. Hui.

It is a widespread problem as to how to accommodate the floating population in the cities under rapid urbanization. Since the establishment of Shenzhen Special Economic Zone (about 20 years ago), floating population has contributed tremendously to the economic and social development of Shenzhen. In Shenzhen, the proportion of non-local population is 77%, which is the highest in China. As the number of floating population increases, their housing problems become serious. To understand the housing market of Shenzhen, housing policies concerning migrant workers, current situations and housing demands of migrant workers will lead to a better solution to accommodate the floating population. Moreover, a proper settlement of more than 70% of the population in Shenzhen will certainly benefit Shenzhen as an international metropolis. The experience of accommodating the floating population of Shenzhen can be learned and borrowed by other cities in China.

We sincerely look forward to your accepting our interview and appreciate it so much. The interview will last for about one hour. If you would like to accept our interview, which day do you prefer, \_\_\_\_\_ or \_\_\_\_\_? By the way, do you mind if we conduct the interview in your office? Thank you so much!

All of the information that you provide will be used for research only. We appreciate your valuable suggestions so much. If you have any enquiries, please let me know.

My contact:

Tel: (852) 6359

Email: taoliboat@

Fax: (852) 2764 5131

Best regards,

TAO Li

February 16<sup>th</sup>, 2009

### Appendix 3: Sample of Background Information for 1<sup>st</sup> Round Interviews

#### Current Situations of the Floating Population in China

##### 1. Floating population in China

Since the reform and opening up of China, the social economy has undergone unprecedented tremendous changes in terms of accelerating urbanization and large amount of floating population. They float from rural areas to urban areas and from less developed regions to more developed regions. Rural-urban migrants account for the majority of the floating population. Floating population is a special social group in terms of their ambiguous *Hukou* status, exclusion from the local welfare system, unstable income, poor living conditions, limited social networks, etc. The floating characteristics bring great difficulties to the data collection and research of this population group.

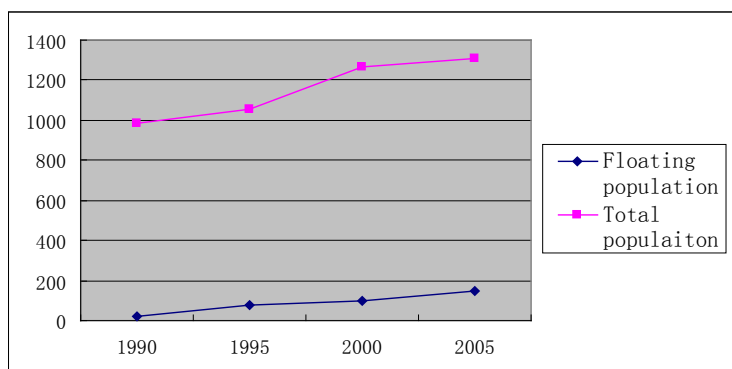


Figure 1. Amount of floating population and total population in China (Unit: million)

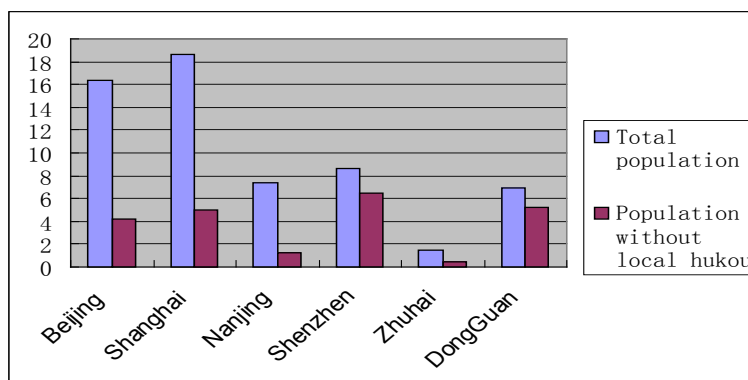


Figure 2. Amount of total population and non-local population in selected cities of China (Unit: million)

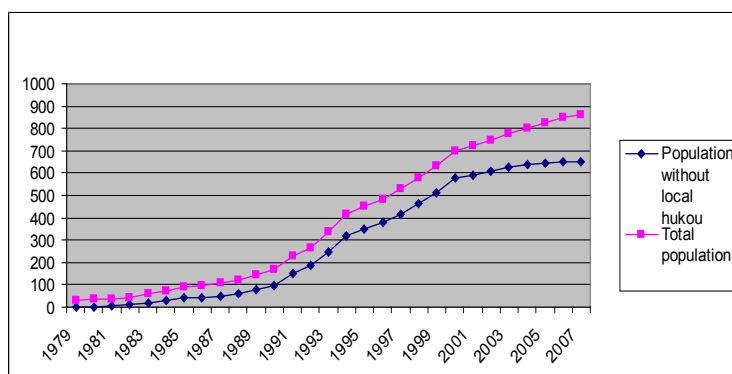


Figure 3. Amount of non-local population and total population in Shenzhen (Unit: 10,000)

## 2. Housing conditions of floating population in China

The living conditions of the floating population are relatively poor. They reside in various types of housing, e.g. dormitories, sheds, rental housing and self-purchased housing. Because of the *Hukou* system, the floating population is excluded from the local public housing system, e.g. low-rent housing, economic affordable housing, price-fixed housing, etc.

### 2.1 Relevant policies

Recently, both the Central Government and local governments have produced several policies concerning solving the difficulties among rural migrant workers and improving their living conditions.

Table 1. Relevant policies

Policies	Date of promulgation	Content
1. "Several views on solving the issues of the rural migrant workers"	March 27 <sup>th</sup> , 2006	To gradually improve the living conditions of rural migrant workers in various ways:  (1) Self-built dormitories for enterprises with large number of rural migrant workers. (2) To include housing issues of rural migrant workers into the urban housing development plan. (3) Housing Provident Fund (HPF) for rural migrant workers in well-off cities.
2. "Several views on solving the urban low-income families' housing problems"	August 7 <sup>th</sup> , 2007	To improve the living conditions of rural migrant workers in various ways:  (1) Employer-provided dormitories. (2) To construct rental dormitories in Development Zones and Industrial Parks. (3) To build dormitories especially for rural migrant workers in redeveloped urban villages in accordance with urban planning and land use planning.
3. "Suggestions on improving rural migrant workers' housing condition"	December 5 <sup>th</sup> , 2007	(1) Enterprises are appointed to hold the main responsibilities of housing provision. (2) Employers are encouraged to provide free or low-rent residence for rural migrant workers. Monetary subsidies can also be provided. (3) To guide the indigenous villagers in periphery areas to lease their housing to rural migrant workers. (4) To include the rural migrant workers who have worked and lived in the locality for a long time into the housing construction plan.
4. "Shenzhen housing construction plan (2006-2010)"	September 23 <sup>rd</sup> , 2006	(1) To accelerate the construction of public rental housing. (2) To strengthen the security function of public rental housing to non-local residents.

Policies	Date of promulgation	Content
5. “Several views on further promoting the housing security in Shenzhen, December 2007”	December 6 <sup>th</sup> , 2007	(1) To adopt effective measures to improve the living conditions of low-income non-local residents. (2) To stabilize the rental price of the low-end housing market and to improve the conditions of rental housing. (3) To include the low-income non-local households into the public rental housing system year by year.

## 2.2 Housing conditions

According to the previous study, there are mainly three types of housing occupied by rural migrant workers, i.e. dormitories, sheds and rental housing. Please see Table 2 about the per capita living area of both local residents and floating population in three selected cities of China.

Table 2. Per capita living area (Unit: square meters)

City	Local residents	Floating population
Shenzhen	21.8	13.26
Beijing	21	10.7
Wuxi	30	9.8

According to the survey of the Urban Temporary Migrant Workers’ Housing Research Group, the types of housing occupied by migrant workers, who have stayed in Shenzhen for more than six months, are shown in Figure 4.

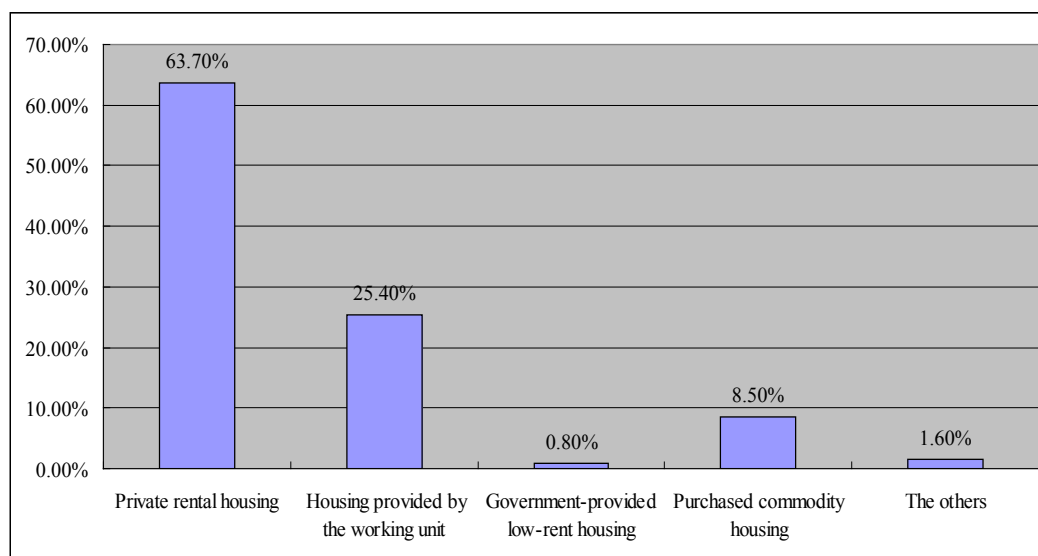


Figure 4. Housing types of the floating population in Shenzhen

## **Appendix 4: Sample of 1<sup>st</sup> Round Interview Questions**

### ***Part A: General questions***

1. Is there any policy deficiency in housing the floating population (including migrant workers & non-workers) in Shenzhen? What do you suggest to improve?
2. What are the main housing sources for migrant workers (e.g. housing stock, newly-built housing)? Could you please explain?
3. Do you think the government should be responsible for constructing public housing for migrant workers? Or subsidize developers (directly or indirectly) by, for instance, exempting taxes? Could you please explain why? Are there any other methods to increase the housing supply for migrant workers?
4. Which way is better to accommodate migrant workers, rental-oriented or sales-oriented? Do you think that different modes should be adopted in operating commodity housing and public housing?
5. Concerning housing subsidies for migrant workers, how to coordinate monetary subsidy and in-kind subsidy?
6. Does the government need to control the price of the housing specially for migrant workers? What about the reason?
7. Do you think that more attention should be paid to the site selection of the housing for migrant workers?
8. Is it feasible to mix the low-end housing with high-end living community? What about the advantages and disadvantages? Will the mix affect the sales of the high-end housing? Could you please explain?
9. Rental housing in urban villages is an important source of housing for migrant workers. Do you have any suggestions on the redevelopment of urban villages?

### ***Part B: Specific questions***

#### **Housing Security Department, Shenzhen Municipal Bureau of Land Resources and Housing Management**

1. Is floating population eligible to rent public rental housing in Shenzhen? If yes, what is the requirement?
2. Are there any public housing policies tailored to the needs of floating population in Shenzhen? If no, will the government produce such policies in the near future?

#### **Department of Construction Management and Real Estate, College of Civil Engineering, Shenzhen University**

1. Do you have any suggestions concerning the data collection in the urban villages of Shenzhen?

#### **Shenzhen Comprehensive Management Office of Floating Population and Rental Housing**

1. Rental housing occupied by migrant workers (or floating population) in Shenzhen

from 1999 to 2009:

- (1) How many migrant workers rent housing in the private housing sector?
- (2) What is the proportion of rental housing occupied by migrant workers to the total amount of rental housing in Shenzhen?
- (3) The respective amount and proportion of different kinds of rental housing (e.g. commodity housing, rental housing in urban villages, employer-provided rental housing) occupied by migrant workers in Shenzhen.
- (4) The distribution characteristics of rental housing occupied by migrant workers.

2. Rental housing market in Shenzhen during 1999 - 2009:

- (1) Trend of the total rental housing supply (i.e. in terms of construction area).
- (2) Proportion of each kind of rental housing supply (e.g. rental housing in urban villages) to total rental housing supply each year.
- (3) Trend of the housing rental price.
- (4) Trend of letting and vacancy rate of the rental housing during this period.

3. Rental housing market of urban villages in Shenzhen during 1999 – 2009.

- (1) Trend of the rental housing supply.
- (2) Trend of the rental price.
- (3) Trend of the vacancy rate.
- (4) Impacts caused by the redevelopment of urban villages.

4. Is there any public housing (e.g. public rental housing) available for migrant workers?

5. What is the amount of floating population in Shenzhen?

## Appendix 5: Sample of Questionnaire

Questionnaire Number: \_\_\_\_\_

### Survey of Migrant Workers' Housing in Shenzhen

Dear Sir/Madam,

I am from the Hong Kong Polytechnic University and conducting a project called 'Housing Settlement for Migrant Workers in China: A Case Study in Shenzhen'. The aim of this project is to have an in-depth understanding of the housing conditions and housing demands of migrant workers. Based on the survey findings and the data of housing supply, suggestions will be put forward to government authorities, employers and relevant stakeholders on how to improve the housing conditions of migrant workers. It is hoped that other cities of China can borrow some experience from these findings.

This survey covers questions concerning housing conditions and housing demands as well as part of your personal information. There are no standard answers for these questions, so feel free to answer these questions. It will take you about 25 minutes to complete this questionnaire.

Please do not worry about the disclosure of your privacies since these data will be exclusively used for research and your personal information will be strictly kept confidential. Your kind cooperation and help means a lot to this research and is very much appreciated. When you answer the questions, please tick as appropriate beside the options (e.g. [1], [2], [3]) and fill in the corresponding lines. Thank you for your time.

If you have any enquiries, please feel free to let me know. My contact is as following:

Miss Li TAO

Tel: (852) 6359

Email: taolibotat@

#### 1. Survey information

1.1 Surveyor No.: \_\_\_\_\_

1.2 Survey date: \_\_\_\_\_

1.3 Company name: \_\_\_\_\_

1.4 Survey location: \_\_\_\_\_

1.5 Industry:

[1] Manufacturing

[2] Construction

[3] Transportation, warehousing and postal

[4] Wholesale and retail industry

[5] Hotel, catering and other services

**2. Personal information** (Respondents only include the migrant workers who have arrived in the locality for more than half a year)

#### 2.1 Demographic characteristics

2.1.1 Gender: [1] Male [ 2] Female

2.1.2 Ethnic group: \_\_\_\_\_

2.1.3 Age: \_\_\_\_\_

2.1.4 Education: \_\_\_\_\_

2.1.5 Party affiliation:

[1] Communist Party of China [ 2] League Member

[3] Democratic Party [ 4] None

2.1.6 Marital status

[1] Single

[2] Cohabited

[3] Married

a. Any children? [1] Yes [2] No

b. How many children to be raised? \_\_\_\_\_

c. Number of family members (including yourself): \_\_\_\_\_

[4] Separation

[5] Divorced

[6] Widowed

2.1.7 *Hukou* Status

a. *Hukou* location \_\_\_\_\_ (Province or Municipality)

b. Administrative level of the *Hukou* location [1] Country [2] Town  
[3] County [4] Prefecture-level city  
[5] Provincial capital  
[6] Municipality

c. *Hukou* type [1]Urban [2]Rural

d. Type of the residence card [1] Residence card  
[2] Temporary residence card  
[3] None except for ID card

e. Which year did you arrive in Shenzhen? \_\_\_\_\_

f. Do you plan to work in other cities in coming 7 [1]Year [2] No  
years? [3]Not sure

2.1.8 Job information

a. How many jobs have you changed since arriving in Shenzhen? \_\_\_\_\_

b. Number of employees \_\_\_\_\_

c. How long have you been working for the current employer? \_\_\_\_\_ Years

d. How long does it take to go to work from your residence/ \_\_\_\_\_ Minutes

### 2.1.9 Income and expenditures

2.1.9.1 Income	a. Household income (Yuan/year)	
	b. Spouse income	[1] Yes [2] No
	c. Proportion of wage to total income	%
	d. Proportion of other assets (e.g. rent, dividend) to total income	%
2.1.9.2 Total expenditure		Yuan/month
2.1.9.2 Expenditure	2.1.9.3 Sub-expenditures	a. Rent (Yuan/month)
		b. Mortgage (Yuan/month)
		c. Remittance (Yuan/month)

### 2.1.10 Social security

a. Are you covered by the social security system in Shenzhen?	[1] Yes	[2] No
b. Are you covered by the social security system in the hometown?	[1] Yes	[2] No

### 2.1.11 Personality

[1] Extroverted      [2] Neutral      [3] Introverted      [4] Not sure

## 3. Residential mobility history since arrival in Shenzhen

### 3.1 Housing type

#### a. Type of previous residence

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| [1] Purchased commodity housing | [2] Free dormitory                   |
| [3] Rental commodity housing    | [4] Rental housing in urban villages |
| [5] Public rental housing       | [6] Employer-provided rental housing |
| [7] Relatives or friends' place | [8] Others                           |

#### b. Type of current residence

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| [1] Purchased commodity housing | [2] Free dormitory                   |
| [3] Rental commodity housing    | [4] Rental housing in urban villages |
| [5] Public rental housing       | [6] Employer-provided rental housing |
| [7] Relatives or friends' place | [8] Others                           |

### 3.2 Reason for choosing current residence

- [1] Job change  
 [2] To reduce the housing cost  
 [3] For children's education  
 [4] To improve housing conditions  
 [5] Household structure change (e.g. marriage, birth of children)  
 [6] Others: \_\_\_\_\_

### 3.3 Have you always been living in the same district since arrival in Shenzhen?

[1] Yes      [2] No (Please go to Question 3.4)

3.4 If not, which district of Shenzhen did you live?

- [1] Futian District [2] Luohu District [3] Yantian District  
[4] Nanshan District [5] Bao'an District [6] Longgang District

3.5 Main sources of housing fund and the respective proportions (multi-choice)

- [1] Own savings and income: \_\_\_\_\_  
[2] Support from the parents: \_\_\_\_\_  
[3] Mortgage: \_\_\_\_\_  
[4] Support from employers: \_\_\_\_\_  
[5] Housing Provident Fund (HPF): \_\_\_\_\_  
[6] Borrowing from relatives and friends: \_\_\_\_\_

#### 4. Current housing

4.1 Housing usage area: \_\_\_\_\_ (Square meters)

4.2 Layout

a. Number of rooms: \_\_\_\_\_

b. Number of living rooms: \_\_\_\_\_

c. Separate kitchen? [1] Yes [2] No

d. Separate washroom? [1] Yes [2] No

4.3 How many people are there sharing the flat with you? \_\_\_\_\_

4.4 Housing facilities

4.4.1 Security service? [1] Yes [2] No

4.4.2 Infrastructure (within 2.5 kilometers)

a. School? [1] Yes [2] No

b. Hospital? [1] Yes [2] No

c. Library? [1] Yes [2] No

4.4.3 Amount of entertainment and catering facilities around?

[1] Many [2] Fair [3] Some [4] A few [5] None

4.4.4 Property management services? [1] Yes [2] No

4.5 How many fellow villagers living around you?

[1] Many [2] Fair [3] Some [4] A few [5] None

4.6 Satisfaction with the current residence (Please tick as appropriate)

	[1] Very satisfied	[2] Satisfied	[3] Neutral	[4] Dissatisfied	[5] Very dissatisfied
a Layout					
b Appearance					
c Usage area					
d Infrastructure (e.g. school, hospital)					
e Environment (e.g. greening, air quality)					

	[1] Very satisfied	[2] Satisfied	[3] Neutral	[4] Dissatisfied	[5] Very dissatisfied
f Neighborhood					
g Property management services					
h Security conditions					
i Distance to the working place					
j Transportation convenience					
k Housing cost					
l Distance to relatives and friends					
m Compared with the residence in hometown, satisfaction degree with the current residence					

## 5. Cognitive level of Shenzhen

### 5.1 Do you have any relatives or friends in Shenzhen?

a. Non-local relatives or friends?	[1] Yes	[2] No
b. Local relatives or friends?	[1] Yes	[2] No

### 5.2 Main source of housing information?

- [1] Newspaper, TV, Internet  
 [2] Estate agent  
 [3] Relatives' or friends' introduction  
 [4] Notices posted outside the housing to be rent or sold  
 [5] Dormitory provided by the work unit  
 [6] The others: \_\_\_\_\_

### 5.3 Main source of job information?

- [1] Employment advertisement (Newspaper, TV, internet)  
 [2] Relatives' or friends' introduction  
 [3] Employment agency  
 [4] Notices posted by the employers  
 [5] Own business  
 [6] The others \_\_\_\_\_

### 5.4 Level of concern for policies on migrant workers?

- [1] Concern very much [2] Fair concern  
 [3] Occasional concern [4] No concern (go to Question 5.5)

### 5.5 Reason for no concern? \_\_\_\_\_

### 5.6 Cognitive level of policies concerning migrant workers' housing?

- [1] Very familiar [2] Familiar  
 [3] Some understanding [4] Not heard of before

### 5.7 Do you know that "Floating Population Services and Management Regulations of Guangdong Province" has been implemented since 1<sup>st</sup> January, 2010?

- [1] Very familiar [2] Familiar

[3] Some understanding [ 4] Not heard of before

## 6. Housing expectation

### Floating Population Services and Management Regulations of Guangdong Province

'The floating population, who have worked or engaged in business in the locality for more than six months or meet the requirements of the local government ..., are eligible for applying for the residence card which is valid for up to three years. Those who are not eligible for the previous requirements will be issued with the residence card of up to six month-validity period.

The children of residence card holders, who have continuously resided in the locality and paid the social security fee for five years, engage in stable jobs, meet the family planning policy, can enjoy equal pre-school education and compulsory education with locals. The specific measures will be determined by the corresponding local governments of prefecture-level or above cities.

The residence card holders, who have continuously resided and paid the social security fee in the locality for seven years, live in fixed residence, engage in stable jobs, meet the family planning policy, paid the tax and did not commit any crime, are eligible for applying for local Hukou. The application results are determined by the annual quota, the applicants' conditions as well as the talent priority rule and first come first served rule. The specific measures will be determined by the local governments of prefecture-level or above cities.'

6.1 Do you think that you can find a better place under current circumstances? (e.g. income, *Hukou*, Housing price, etc.)

[1] Very likely [2] Likely [3] Little possibility  
[4] No possibility [ 5] Not sure

6.2 Do you have a plan of residential mobility in Shenzhen in the future 7 years?

[1] Yes (go to Question 6.3) [ 2] No

6.3 Which type of residence do you plan to move to?

[1] Purchased commodity housing [2] Free dormitory  
[3] Rented commodity housing  
[4] Rental housing in urban villages [ 5] Public rental housing  
[6] Rental housing provided by the work units [ 7] Relatives' or friends' place

6.4 Do you have a plan to purchase housing in Shenzhen in the future?

[1] Yes (go to Question 6.5) [2] No (go to Question 6.6)  
[3] Not sure (go to Question 6.7)

6.5 How many years later will you purchase a commodity housing in Shenzhen, if you have such a plan? \_\_\_\_\_

6.6 Why don't you have such a purchase plan? (Multi-choice)

[1] High housing price [ 2] Not own local *Hukou*  
[3] Plan to work in some other cities  
[4] Plan to return to hometown [ 5] Others \_\_\_\_\_

6.7 Why are you not sure about the purchase?

\_\_\_\_\_

6.8 Please score the various housing characteristics according to its importance to you (1~12: 1 stands for least important, 12 stands for most important)

- a. Layout: \_\_\_\_\_
- b. Appearance: \_\_\_\_\_
- c. Usage area: \_\_\_\_\_
- d. Infrastructure, such as school and hospital: \_\_\_\_\_
- e. Community environment, such as greening and air quality: \_\_\_\_\_
- f. Neighborhood: \_\_\_\_\_
- g. Property management: \_\_\_\_\_
- h. Security conditions: \_\_\_\_\_
- i. Distance to the working place: \_\_\_\_\_
- j. Transportation convenience: \_\_\_\_\_
- k. Housing cost: \_\_\_\_\_
- l. Closeness to your relatives and friends: \_\_\_\_\_

## 7. Residence in the hometown

7.1 Do you have a residence in the hometown?

- [1] Yes (go to Question 7.2 and 7.3)
- [2] No (go to Question 7.4)

7.2 What's the type of the residence in your hometown?

- [1] Self-built bungalow
- [2] Self-built low-rise building (2~3 storey)
- [3] Purchased commodity housing
- [4] Both self-built and purchased residence
- [5] Public housing provided by the government

7.3 What's the residence in your hometown used for?

- [1] Family use      [2] For rent
- [3] Empty      [4] For storage use

7.4 Do you have a plan to return to your hometown and live there in the future?

- [1] Yes (go to Question 7.5 and 7.6)
- [2] No
- [3] Not sure (go to Question 7.7)

7.5 How many years later will you return to the hometown? \_\_\_\_\_

7.6 Why do you plan to return to the hometown in the future? (Multi-choice)

- [1] Difficult to find a satisfying job in Shenzhen
- [2] Not own the local *Hukou*
- [3] To look after the family members
- [4] For marriage or to raise children
- [5] For children's education
- [6] Discriminated in Shenzhen
- [7] Farming in the hometown
- [8] Better job opportunity in the hometown
- [9] Getting old
- [10] High daily expenditure in Shenzhen
- [11] High housing price in Shenzhen

[12] Others: \_\_\_\_\_

7.7 Reason for not sure about return back to the hometown (Multi-choice)

[1] To be determined by the future work status

[2] To be determined by the *Hukou* status in the future

[3] Others: \_\_\_\_\_

### **8. Name and Contact**

(Lastly, would you please leave your contact information? Thank you!)

Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_

## Appendix 6: Coding Book of the Questionnaire

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
	Que_code	Questionnaire code	N/A	N/A	None
	Date	Survey date	N/A	N/A	None
	Work_unit	Work unit	N/A	N/A	None
	Survey_loc_district	Survey location_district	1: Nanshan District; 2: Luohu District; 3: Futian District; 4: Yantian District; 5: Bao'an District; 6: Longgang District	N/A	None
	Region	Region	0 Outside the SEZ; 1 Within the SEZ	N/A	
	Survey_loc_street	Survey location_street	None	N/A	None
	Trade	Trade	1 Manufacturing; 2 Construction; 3 Transportation, warehousing and postal industries; 4 Whole sale and retail; 5 Accommodation, catering and other services	N/A	
2_1_1	Gender	Gender	1 Male; 2 Female	<u>1 Male; 0 Female</u>	None
2_1_2	Ethnic_group	Ethnic group	1 Han; 2 Zhuang; 3 Tujia; 4 Buyi; 5 Zang; 6 Dong; 7 Yi; 8 Li; 9 Chaoxian; 10 Menggu; 11 Shui; 12 Man	N/A	None
2_1_3	Age	Age	N/A	N/A	None

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
	Age_range	Age ranges	N/A	<u>1: Younger than 30;</u> <u>2: 31-40;</u> <u>3: Older than 41</u>	None
2_1_4	Education	Education	1 Primary school and below 2 Junior Middle School 3 Senior Middle School 4 Technical Secondary School 5 College; 6 University	N/A	None
	Education_level	Education level	1 Primary school; 2 Middle school; 3 College	N/A	
2_1_5	Political_status	Political status	1 Communist; 2 Komsomolets; 3 Democratic party; 4 None	<u>1 None; 2 Komsomolets; 3 Democratic party; 4 Communist</u>	None
2_1_6	Marital_status	Marital status	1 Unmarried; 2 Cohabitation; 3 Married with spouse; 4 Separated; 5 Divorced; 6 Widowed	N/A	None
	Whether_married	Marital status: Yes or No	N/A	<u>0 No; 1 Yes</u>	None
2_1_6a	Children	Do you have children?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
2_1_6b	Dependent_children	How many children do you have to raise?	N/A	N/A	None
2_1_6c	SZ_Family_mem	How many family members do you have in Shenzhen? (including yourself)	N/A	N/A	None
	Other_family_member	Other family members	N/A	<u>0 No; 1 Yes</u>	

Question No.	Variable name	Variable label	Value	<i>Transfer</i>	Missing
2_1_7a	Province	<i>Hukou</i> location (Province or municipality)	1 He Nan Province; 2 Hai Nan Province; 3 Hu Nan Province; 4 Hu Bei Province; 5 Guang Dong Province; 6 Fu Jian Province; 7 Chong Qing Province; 8 Jiang Xi Province; 9 Guang Xi Province; 10 Hei Longjiang Province; 11 Si Chuan Province; 12 Shan Dong Province; 13 Zhe Jiang Province; 14 Jiang Su Province; 15 An Hui Province; 16 Gui Zhou Province; 17 Inner Mongolia; 18 Liao Ning Province; 19 Yun Nan Province; 20 Sha'an Xi Province; 21 Shan Xi Province; 22 Ji Lin Province; 23 He Bei Province	N/A	9001

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
2_1_7b	Admi_Hukou	Administrative level of <i>Hukou</i> location	1 Village; 2 Town; 3 County-level city; 4 Prefecture-level city; 5 Provincial capital; 6 Municipality	N/A	None
2_1_7c	Type_Hukou	Type of <i>Hukou</i>	1 Urban <i>Hukou</i> ; 2 Rural <i>Hukou</i>	<u>1 Urban <i>Hukou</i></u> <u>0 Rural <i>Hukou</i></u>	None
2_1_7d	Resi_card	Type of residence card	1 Shenzhen residence card; 2 Shenzhen temporary residence card; 3 none	N/A	None
	Resi_card	3 Dummy variables	Baseline: None	N/A	
	Resi_card_own	Whether they own residence card	N/A	<u>0 No; 1 Yes</u>	None
2_1_7e	When_arrive	When did you arrive in Shenzhen?	N/A	N/A	9001
	Period_stay_SZ	Period of staying in Shenzhen	N/A	N/A	9001
2_1_7f	Plan_leave	Do you have a plan to leave Shenzhen and work in some other cities in 7 years?	1 Yes; 2 No; 3 Not sure	N/A	9001
	Work_other_city	Plan to work in the other cities in the future	N/A	<u>0 No plan or not sure; 1 Yes</u>	9001
2_1_8a	Job_change	How many jobs have you changed since you arrived in Shenzhen?	N/A	N/A	9001
2_1_8b	Employee	How many employees are there in your current work unit?	N/A	N/A	9001
	Employee_scale	The scale of the work unit	N/A	<u>1: 1-10;</u> <u>2: 11-50</u> <u>3:</u> <u>51-100;</u> <u>4: 101-</u> <u>500;</u> <u>5:</u> <u>More than 501</u>	9001
2_1_8c	Work_level	How many years have you been working in this work unit?	N/A	N/A	9001

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
2_1_8d	Commuting_time	How long does it take for you to go back to your residence from work place? (min)	N/A	N/A	9001
2_1_9_1a	Household_income	Household income per year (RMB)	N/A	N/A	9001
	Income_scale	Scale of household income	1: < RMB 10,000; 2: RMB10,000~20,000; 3: RMB20,000~50,000; 4: RMB50,000~100,000; 5: > RMB100,000	N/A	9001
2_1_9_1b	Spouse_income	Does your spouse have income?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
2_1_9_1c	Wage_income	Proportion of wage income	N/A	N/A	9001
2_1_9_1d	Asset_income	Proportion of asset income	N/A	N/A	9001
2_1_9_2	Household_expenditure	Household expenditure per month (RMB)	N/A	N/A	9001
2_1_9_3a	Rent_mortgage	Rent/mortgage per month (RMB)	N/A	N/A	9001
2_1_9_3c	Remittance	Remittance to hometown per month (RMB)	N/A	N/A	9001
2_1_10a	Insurance_s_z	Do you have social insurance in Shenzhen?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
2_1_10b	Insurance_h_m	Do you have social insurance in your hometown?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
2_1_11	Personality	What's your personality in your opinion?	1 Extrovert; 2 Intermediate; 3 Introvert; 4 Not sure	N/A	None

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
3_1a	Pre_house	What's the type of your previous residence?	1 Purchased commodity housing; 2 Free dormitory; 3 Rental commodity housing; 4 Rental housing in urban villages; 5 Public rental housing; 6 Rental housing provided by the work units; 7 Relatives' or friends' place; 8 the others (self-built)	N/A	9001
3_1b	Cur_house	What's the type of your current residence?	1 Purchased commodity housing; 2 Free dormitory; 3 Rental commodity housing; 4 Rental housing in urban villages; 5 Public rental housing; 6 Rental housing provided by the work units; 7 Relatives' or friends' place; 8 the others (self-built)	N/A	9001
	Residence_change	Residence change	0 No; 1 Yes	N/A	
	Cur_Dorm	Dormitory	N/A	<u>0 No; 1 Yes</u>	9001
	Cur_Purchase	Purchased commodity housing	0 No; 1 Yes	N/A	
	Cur_rent_commodity	Rental commodity housing	N/A	<u>0 No; 1 Yes</u>	9001
	Cur_rent_village	Residence in "Villages in cities"	N/A	<u>0 No; 1 Yes</u>	9001

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
3_2	Why_cur_h ouse	Why did you move to the current residence?	1 Job change; 2 To reduce the housing expenditure; 3 For the convenience of children's education; 4 To improve the living conditions; 5 Household structure change (e.g. married, birth of child, etc.); 6 the others (e.g. conflicts with the landlord)	N/A	9001
3_3	District_cha nge	Have you always been living in this district?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
3_4	Prev_district	Which district did you live before moving here?	1 Futian District; 2 Luohu District; 3 Yantian District; 4 Nanshan District; 5 Bao'an District; 6 Long'gang District	N/A	None
3_5a	Hou_purcha se fund a	Percentage of your own income and savings	N/A	N/A	9001
3_5b	Hou_purcha se fund b	Percentage of parents' financial support	N/A	N/A	9001
3_5c	Hou_purcha se fund c	Percentage of mortgage	N/A	N/A	9001
3_5d	Hou_purcha se fund d	Percentage of subsidies from the work unit	N/A	N/A	9001
3_5e	Hou_purcha se fund e	Percentage of Housing Provident Fund	N/A	N/A	9001
3_5f	Hou_purcha se fund f	Percentage of relative's and friends' borrowing	N/A	N/A	9001
4_1	Housing_are a	Usage area of the residence	N/A	N/A	9001
4_2a	Bedroom	Number of bedrooms	N/A	N/A	9001

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
4_2b	Living_room	Number of living rooms	N/A	N/A	9001
4_2c	Kitchen	Is there a separate kitchen in your apartment? (i.e. You don't have to share with the others.)	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
4_2d	Washroom	Is there a separate washroom in your apartment? (i.e. You don't have to share with the others.)	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
4_3	Room_share	How many people are living in the residence including yourself?	N/A	N/A	9001
4_4_1	Security_room	Is there a security room?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
4_4_2a	School	Is there any school around within 2.5 km2 from your living place?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
4_4_2b	Hospital	Is there any hospital around within 2.5 km2 from your living place?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
4_4_2c	Lib	Is there a library around within 2.5 km2 from your living place?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
4_4_3	Catering_entertainment	What about the amount of the catering and entertainment facilities?	1 Many; 2 Fair; 3 Some; 4 Very few; 5 None	<u>1 None; 2 Very few; 3 Some; 4 Fair; 5 Many</u>	None
4_4_4	Property_management	Is there any property management service?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
4_5	Fellow	What about the amount of the fellow villagers?	1 Many; 2 Fair; 3 Some; 4 Very few; 5 None	<u>1 None; 2 Very few; 3 Some; 4 Fair; 5 Many</u>	None
4_6a	Layout	Satisfaction degree of the layout of your current apartment	1 Very satisfied; 2 Satisfied; 3 Fair; 4 Dissatisfied; 5 Very dissatisfied	<u>1 Very dissatisfied; 2 dissatisfied; 3 ed; 2 Dissatisfi ed; 3 Neutral; 4 Satisfied; 5 Very satisfied</u>	None
4_6b	Appearance	Satisfaction degree of the appearance of your current apartment	Ditto	<u>Ditto</u>	None
4_6c	Area	Satisfaction degree of the usage area of your current apartment	Ditto	<u>Ditto</u>	None

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
4_6d	Infrastructure	Satisfaction degree of the infrastructure, like school, hospital, etc	Ditto	<u>Ditto</u>	None
4_6e	Environment	Satisfaction degree of the community environment, like greening and air quality	Ditto	<u>Ditto</u>	None
4_6f	Neighborhood	Satisfaction degree of the neighborhood	Ditto	<u>Ditto</u>	None
4_6g	Property	Satisfaction degree of the property management	Ditto	<u>Ditto</u>	9001
4_6h	Security	Satisfaction degree of the security provided	Ditto	<u>Ditto</u>	None
4_6i	Dis_work	Satisfaction degree of the distance to the working place	Ditto	<u>Ditto</u>	None
4_6j	Trans_conv	Satisfaction degree of the transportation convenience	Ditto	<u>Ditto</u>	None
4_6k	House_expenditure	Satisfaction degree of your housing expenditure	Ditto	<u>Ditto</u>	None
4_6l	Dis_relative_s_friends	Satisfaction degree of the distance to your relatives and friends	Ditto	<u>Ditto</u>	None
4_6m	Overall	Overall satisfaction degree of the current residence comparing to the residence in your hometown	Ditto	<u>Ditto</u>	None
	Satisfaction mean	Satisfaction_mean	Ditto	<u>Ditto</u>	None
	Satisfied_vs._Dissatisfied	Satisfied_vs._Dissatisfied	0 Dissatisfied or Fair; 1 Satisfied	N/A	
	Satisfaction_index	Satisfaction Index (Item1*Weight1+Item2*Weight2+...)/5*12*13	N/A	N/A	
5_1a	Relatives_friends_hm	Do you have any relatives or friends, who hold the <i>Hukou</i> of your hometown, in Shenzhen?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None
5_1b	Relatives_friends_SZ	Do you have any relatives or friends, who hold the local <i>Hukou</i> , in Shenzhen?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
5_2	Hou_info	The main source of the housing information for you	1 Newspaper, TV, internet; 2 Estate agents; 3 Relatives' or friends' introduction; 4 Notices posted outside the housing to be rent or sold; 5 Dormitory provided by the work unit; 6 The others: no concern	N/A	None
	Hou_info	5 Dummy variables	Baseline: 6 The others	N/A	
5_3	Work_info	The main source of the job information for you	1 Employment advertisement (Newspaper, TV, internet); 2 Relatives' or friends' introduction; 3 Employment agency; 4 Notices posted by the employers; 5 Own business; 6 The others	N/A	9001
	Work_info	5 Dummy variables	Baseline: 6 The others	N/A	
5_4	Policy_concern	Do you concern for the policies on migrant workers?	1 Concern very much; 2 Fair concern; 3 Occasional concern; 4 No concern	<u>1 No concern;</u> <u>2 Occasional</u> <u>al concern;</u> <u>3 Fair concern;</u> <u>4 Concern very much</u>	None

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
5_5	Why_no_concern	Why don't you concern for the policies on migrant workers?	1 Not know that there are such policies; 2 Too busy to get to know these policies; 3 No interest because there is little to do with their own; 4 The policies have little effects; 5 Not sure if they will leave Shenzhen in the future	N/A	9001
5_6	Hou_policy_familiarity	Are you familiar with the policies on the housing issues of migrant workers?	1 Very familiar; 2 Familiar; 3 Some understanding; 4 Not heard of before	<u>1 Not heard of before; 2 Some understanding; 3 Some understanding; 4 Not heard of before</u>	None
5_7	Res_policy	Do you know that "Floating Population Services and Management Regulations of Guangdong Province" has been implemented since 1st January, 2010?	1 Very familiar; 2 Familiar; 3 Some understanding; 4 Not heard of before	<u>1 Not heard of before; 2 Some understanding; 3 Some understanding; 4 Not heard of before</u>	None
6_1	Better_possibility	Do you think that you can find a better place under current circumstances? (e.g. income, <i>Hukou</i> , Housing price, etc.)	1 Very likely; 2 Likely; 3 Little possibility; 4 No possibility; 5 Not sure	<u>1 No possibility; 2 Little possibility; 3 Little possibility; 4 Likely; 5 Very likely; 6 Not sure</u>	None
6_2	Plan_residence	Do you have a plan of residential mobility in Shenzhen in the future 7 years?	1 Yes; 2 No	<u>0 No; 1 Yes</u>	None

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
6_3	Potential_res	Which type of residence do you plan to move to?	1 Purchased commodity housing; 2 Free dormitory; 3 Rented commodity housing; 4 Rental housing in urban villages; 5 Public rental housing; 6 Rental housing provided by the work units; 7 Relatives' or friends' place	N/A	None
6_4	Purchase_plan	Do you have a plan to purchase housing in Shenzhen in the future?	1 Yes; 2 No; 3 Not sure	N/A	9001
	Whether_purchase	Whether purchase	1 Yes; 2 No	<u>0 No; 1 Yes</u>	
6_5	When_pur	How many years later will you purchase a commodity housing in Shenzhen, if you have such a plan?	N/A	N/A	9001
6_6a	Reason_noplan_a	Why don't you have such a purchase plan? (a. high housing price)	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
6_6b	Reason_noplan_b	Why don't you have such a purchase plan? (b. not own local <i>Hukou</i> )	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
6_6c	Reason_noplan_c	Why don't you have such a purchase plan? (c. plan to work in some other cities)	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
6_6d	Reason_noplan_d	Why don't you have such a purchase plan? (d. plan to return to hometown)	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
6_6e	Reason_noplan_e	Why don't you have such a purchase plan? (e. low wage, insufficient savings)	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
6_6f	Reason_noplan_f	Why don't you have such a purchase plan? (f. already own the apartment in Shenzhen)	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001
6_6g	Reason_noplan_g	Why don't you have such a purchase plan? (g. already own the residence in the hometown)	1 Yes; 2 No	<u>0 No; 1 Yes</u>	9001

Question No.	Variable name	Variable label	Value	<i>Transfer</i>	Missing
6_7	Reason_not sure	Why are you not sure about the purchase?	1 Low affordability; 2 Not sure about future personal development, e.g. job, marriage, children, etc.; 3 Plan to go back to the hometown in the future; 4 Plan to work in the other cities; 5 To be determined by the other family members, e.g. husband, son, etc.; 6 To be determined by the future housing price; 7 Have not considered yet	N/A	9001
6_8a	Score_layout	Score the factor of layout according to its importance to you (1~12)	N/A	N/A	9001
6_8b	Score_app	Score the factor of appearance according to its importance to you (1~12)	N/A	N/A	9001
6_8c	Score_area	Score the factor of usage area according to its importance to you (1~12)	N/A	N/A	9001
6_8d	Score_infra	Score the factor of infrastructure, like school and hospital, according to its importance to you (1~12)	N/A	N/A	9001
6_8e	Score_environment	Score the factor of community environment, like greening and air quality, according to its importance to you (1~12)	N/A	N/A	9001
6_8f	Score_neighborhood	Score the factor of neighborhood according to its importance to you (1~12)	N/A	N/A	9001
6_8g	Score_property	Score the factor of property management according to its importance to you (1~12)	N/A	N/A	9001

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
6_8h	Score_security	Score the factor of security conditions according to its importance to you (1~12)	N/A	N/A	9001
6_8i	Score_dis	Score the factor of distance to the working place according to its importance to you (1~12)	N/A	N/A	9001
6_8j	Score_transport	Score the factor of transportation convenience according to its importance to you (1~12)	N/A	N/A	9001
6_8k	Score_cost	Score the factor of housing cost according to its importance to you (1~12)	N/A	N/A	9001
6_8l	Score_rela	Score the factor of closeness to your relatives and friends according to its importance to you (1~12)	N/A	N/A	9001
7_1	Hou_hm	Do you have a residence in the hometown?	1 Yes; 2 No	<u>1 Yes; 0 No</u>	None
7_2	Type_hou_hm	What's the type of the residence in your hometown?	1 Self-built bungalow; 2 Self-built low-rise building (2~3 storey); 3 Purchased commodity housing; 4 Both self-built and purchased residence; 5 Public housing provided by the government	N/A	None
7_3	Function_hou_hm	What's the residence in your hometown used for?	1 Family use; 2 For rent; 3 Empty; 4 F or storage use	N/A	None
7_4	Plan_hm	Do you have a plan to return to your hometown and live there in the future?	1 Yes; 2 No; 3 Not sure	N/A	None
	Return	Plan to return to the hometown in the future	N/A	<u>0 No plan or not sure; 1 Yes</u>	None
7_5	When_return	When will you return to the hometown? (Unit: Years later)	None		9001

Question No.	Variable name	Variable label	Value	<u>Transfer</u>	Missing
7_6_1	Why_return_1	Why do you plan to return to the hometown in the future? a. difficult to find a satisfying job in Shenzhen	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_2	Why_return_2	Why do you plan to return to the hometown in the future? b. not own the local <i>Hukou</i>	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_3	Why_return_3	Why do you plan to return to the hometown in the future? c. to look after the family members	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_4	Why_return_4	Why do you plan to return to the hometown in the future? d. for marriage or to raise children	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_5	Why_return_5	Why do you plan to return to the hometown in the future? e. for children's education	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_6	Why_return_6	Why do you plan to return to the hometown in the future? f. be discriminated in Shenzhen	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_7	Why_return_7	Why do you plan to return to the hometown in the future? g. farming in the hometown	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_8	Why_return_8	Why do you plan to return to the hometown in the future? h. better job opportunity in the hometown	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_9	Why_return_9	Why do you plan to return to the hometown in the future? i. getting old	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_10	Why_return_10	Why do you plan to return to the hometown in the future? j. cannot afford the high daily expenditure in Shenzhen	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_11	Why_return_11	Why do you plan to return to the hometown in the future? k. cannot afford the high housing price in Shenzhen	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_12	Why_return_12	Why do you plan to return to the hometown in the future? l. low wage	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_6_13	Why_return_13	Why do you plan to return to the hometown in the future? The others, e.g. home sick, heavy pressure	1 Yes; 2 No	<u>0 No; Yes</u>	9001
7_7_1	Reason_notes7_7_1	Reason for not sure about return back to the hometown: a. to be determined by the future work status	1 Yes; 2 No	<u>0 No; Yes</u>	9001

Question No.	Variable name	Variable label	Value	<i><u>Transfer</u></i>	Missing
7_7_2	Reason_notes7_7_2	Reason for not sure about return back to the hometown: b. to be determined by the <i>Hukou</i> status in the future	1 Yes; 2 No	<i><u>0 No; Yes</u></i>	9001
7_7_3	Reason_notes7_7_3	Reason for not sure about return back to the hometown: c. to be determined by if the family members will come and live in Shenzhen	1 Yes; 2 No	<i><u>0 No; Yes</u></i>	9001
7_7_4	Reason_notes7_7_4	Reason for not sure about return back to the hometown: the others, e.g. to be determined by the future income, haven't determined	1 Yes; 2 No	<i><u>0 No; Yes</u></i>	9001
7_7_5	Reason_notes7_7_5	Reason for not sure about return back to the hometown: the others, e.g. to be determined by the possibility to purchase an apartment in Shenzhen in the future	1 Yes; 2 No	<i><u>0 No; Yes</u></i>	9001
	Repondent_name	Name	N/A	N/A	None
	Repondent_tel	Telephone no.	N/A	N/A	None
	Repondent_email	Email address	N/A	N/A	None
	Repondent_address	Address	N/A	N/A	None

## **Appendix 7: Sample of Invitation Letter for 2<sup>nd</sup> Round Interviews with Shenzhen Government Officials**

Dear \_\_\_\_\_ (Interviewee),

How are you? This is TAO Li from Department of Building and Real Estate, the Hong Kong Polytechnic University. I am a PhD student and conducting a research project called “Housing settlement for migrant workers in China—A case study of Shenzhen” under the supervision of Prof. Francis K.W. Wong and Prof. Eddie C.M. Hui.

Since the establishment of the People’s Republic of China (PRC), it has undergone a rapid urbanization. The urbanization rate had increased from 10.6% in 1949 to 46.6% in 2010. Accordingly, the amount of floating population had increased rapidly as well. There were 221 million floating population in China in 2010, i.e. about 1/6 of the total population. In Shenzhen, the proportion of non-local population is 77%, which is the highest in China. Since the establishment of Shenzhen Special Economic Zone (about 20 years ago), floating population has contributed tremendously to the economic and social development. It is a widespread problem as to how to accommodate the floating population in the cities under rapid urbanization. In summary, it is urgent to accommodate the floating population in a proper manner.

We appreciate your accepting our interview on \_\_\_\_\_ (Date) so much. Your kind suggestions and comments benefit us a lot in carrying out this project. It has been 2 years since our last interview with you. The corresponding policies and implementations may have changed. Being aware of these changes and making a comparison with the previous policies will be essential for us to draw a close to this project. We look forward to your accepting our follow-up interview and appreciate it so much. In addition, we conducted a questionnaire survey with migrant workers in Shenzhen in 2010. The findings have been attached for your reference.

All of the information that you provide will be used for research only. If you have any enquiries, please let me know. Thank you!

My contact:

Tel: (852) 6359

Email: lisa.tao@

Fax: (852) 2764 5131

Best regards,  
TAO Li

December 6<sup>th</sup>, 2011

## Appendix 8: Background Information Sample for 2<sup>nd</sup> Round Interviews with Shenzhen Government Officials

### 1. Research objects:

Migrant workers who have arrived in Shenzhen for more than half a year & without local *Hukou*

### 2. Characteristics of research objects

2.1 Average age: 29

2.2 Male: 68.9%

2.3 Education of high school and below: 74.2%

2.4 Unmarried: 54.2%

2.5 *Hukou* & Residence card

1) Rural *Hukou*: 65%

2) Residence card holders: 52.4%

3) Temporary residence card holders: 18%

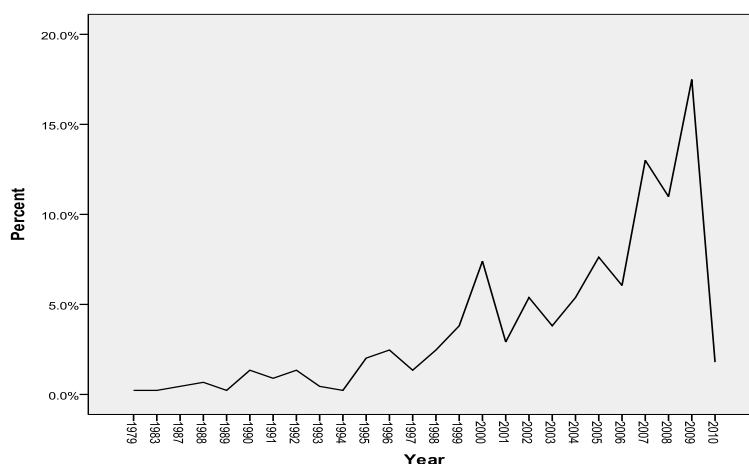
4) Without any residence card or temporary residence card: 29.6%

2.6 Without Social Securities: 57.3%

2.7 Average job changes: 2

### 3. Stay period in Shenzhen

#### 3.1 Stay period in Shenzhen



Most of the migrant workers arrived in Shenzhen in recent years. The proportion of the migrant workers who arrived in Shenzhen in 2009 is the largest. Their average period of stay in Shenzhen is 6 years.

#### 3.2 Plan to leave Shenzhen

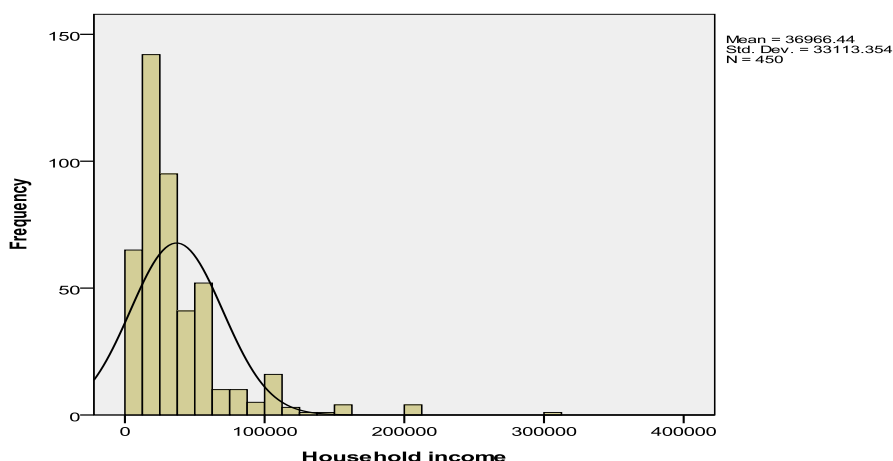
1) There are 20.9% of the respondents planning to leave Shenzhen in the coming 7 years.

2) 34.4% of the respondents do not have any plan to leave Shenzhen.

3) 44.7% of the respondents are not sure.

#### 4. Income distributions

The average income of the respondents is RMB 36,966 per year. The lowest income is RMB 3500 per year. The highest income is RMB 300,000 per year. The income disparity is very large.



#### 5. Residential preferences

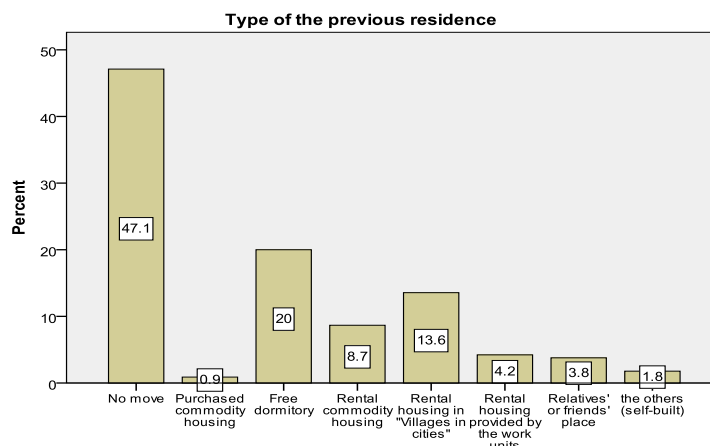
Migrant workers emphasize security conditions, housing cost and transportation convenience the most. They emphasize area, community environment and distance to working place as well.

Rank	Housing aspects	Average score (1-12)
1	Security conditions	9.17
2	Housing cost	9.10
3	Transportation convenience	8.83
4	Area	8.72
5	Community environment, e.g. greening, air, etc.	8.71
6	Distance to working place	8.44
7	Infrastructure, e.g. school, hospital	8.34
8	Property management	8.28
9	Neighborhood	8.19
10	Layout	7.79
11	Appearance	7.36
12	Distance to relatives and friends	6.69

#### 6. Housing type

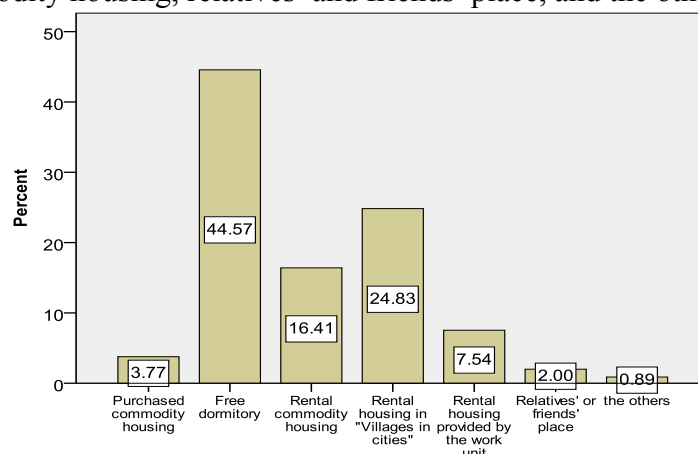
##### 6.1 Previous residence

47.1% of the respondents have not changed the residence since the arrival in Shenzhen. Among those who have changed the residence, the types of their previous residence are free dormitory, rental housing in urban villages, rented commodity housing, rented dormitory, relatives and friends' places, the others and purchased commodity housing.



## 6.2 Current residence

The three most common housing types are free dormitory, rental housing in urban villages and rented commodity housing, which are followed by rented dormitory, purchased commodity housing, relatives' and friends' place, and the others.



## 7. Housing conditions

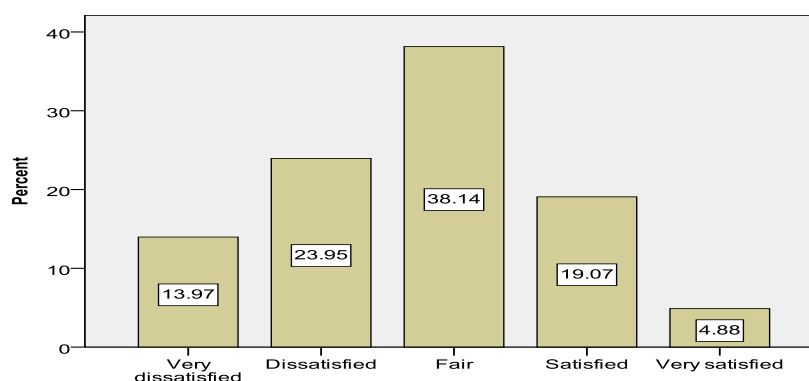
On average, there are two bedrooms and one living room in each flat with the floor area of 48.5 square meters, which is shared by 4 people. The average floor area occupied by each respondent is 15.36 square meters. 67.8% of the respondents occupy separate kitchens, 78% of them occupy separate washrooms and 50.7% of them can enjoy security services. For most of them, facilities such as schools and hospitals are nearby. However, a considerable number of them cannot enjoy the library and property management services. In general, they occupy a large amount of catering and entertainment facilities.

Characteristics	Min.	Max.	Average
Number of bedrooms	0	5	2
Number of living rooms	0	4	1
How many people share one flat?	1	20	4
Housing usage area (Unit: m2)	3	359	48.50
Usage area per capita (Unit: m2)	0.75	179.50	15.36

Characteristics	Min.	Max.	Average
	Yes	No	
Separate kitchen	67.80%	32.20%	
Separate washroom	78.00%	22.00%	
Security service	50.70%	49.30%	
School	70.70%	29.30%	
Hospital	72.00%	28.00%	
Library	31.80%	68.20%	
Property management	49.80%	50.20%	
Catering and entertainment facilities	Many	12.70%	
	Fair	33.80%	
	Some	34.40%	
	Very few	16.00%	
	None	3.10%	

## 8. Satisfaction with the current residence (compared with the residence in the hometown)

The respondents who indicate neutral satisfaction account for the largest part. The proportion of the respondents who feel dissatisfied is larger than that of those indicating satisfied.



## 9. Satisfaction with various housing aspects

In general, they feel satisfied with transportation convenience and distance to the working place, dissatisfied with housing usage area, community environment and distance to relatives and friends. As to the other aspects, most of them indicate neutral satisfaction.

Housing aspects	Dissatisfied	Neutral	Satisfied	Total
Security conditons	21.50%	42.00%	36.50%	100%
Housing cost	18.20%	44.20%	37.60%	100%
Transportation convenience	11.60%	36.20%	52.30%	100%
Housing usage area	28.20%	44.90%	26.90%	100%
Community environment, e.g. greening, air, etc.	29.30%	42.90%	27.80%	100%
Distance to the working place	11.30%	33.10%	55.60%	100%

Housing aspects	Dissatisfied	Neutral	Satisfied	Total
Infrastructures, e.g. school, hospital, etc.	17.40%	49.30%	33.30%	100%
Property management	22.20%	55.10%	22.70%	100%
Neighborhood	22.90%	49.30%	27.80%	100%
Layout	18.20%	54.90%	26.90%	100%
Appearance	22.00%	54.90%	23.10%	100%
Distance to relatives and friends	28.50%	46.70%	24.90%	100%

### 10. Satisfaction with different types of housing

The respondents who live in purchased commodity housing feel the most satisfied, while those who reside in rental housing in urban villages feel the least satisfied.

Type of housing	Satisfaction index
1. Purchased commodity housing	.72
2. The others (e.g. self-built housing)	.65
3. Rented commodity housing	.64
4. Relatives' and friends' place	.63
5. Free dormitory	.63
6. Rented dormitory	.62
7. Rental housing in urban villages	.60

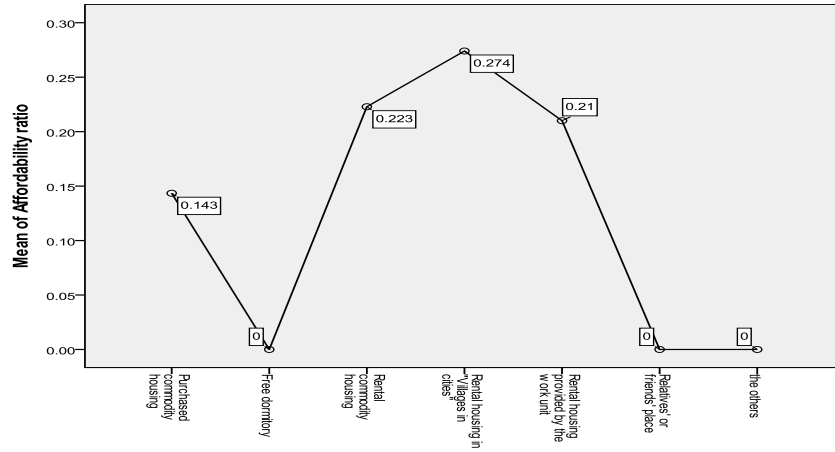
### 11. Comparison between current and expected housing

Most of the respondents expect to live in purchased commodity housing, rented commodity housing and rental housing in urban villages.

Housing type	Current housing		Expected housing	
	Percentage	Rank	Percentage	Rank
1. Free dormitory	44.57%	1st	10.79%	4th
2. Rental housing in urban villages	24.83%	2nd	11.87%	3rd
3. Rented commodity housing	16.41%	3rd	15.83%	2nd
4. Rented dormitory	7.54%	4th	5.76%	5th
5. Purchased commodity housing	3.77%	5th	49.64%	1st
6. Relatives' and friends' place	2.00%	6th	0.72%	7th
7. The others, e.g. self-built housing, shed	0.89%	7th	0	8th
8. Public rental housing	0	8th	5.4%	6th

### 12. Proportion of housing consumption to household income (of different housing types)

The proportion is the highest for rental housing in urban villages, which is followed by rented commodity housing, rented dormitory and purchased commodity housing.



### 13. Main source of housing information

The table below listed the main sources where the respondents find the housing information.

Rank	Sources of housing information	Percentage
1	Dormitory provided by the work unit	36.0%
2	Notices posted outside the housing to be rent or sold	20.4%
3	Relatives' or friends' introduction	19.8%
4	Newspaper, TV, internet	15.8%
5	Estate agents	6.9%
6	The others: no concern	1.1%

### 14. Plan to return to hometown

#### 14.1 Percentage

1) 38% of the respondents plan to return to the hometown.

2) 38.7% of the respondents do not have the plan to go back to the hometown.

3) 23.3% of the respondents are not sure.

14.2 When to return to the hometown: It is 5 years later in general.

14.3 Reasons for returning to hometown

Rank	Reasons	Yes	No
1	Cannot afford the high daily expenditure in Shenzhen	45%	55%
2	Cannot afford the high housing price in Shenzhen	42.1%	57.9%
3	To look after the family members	35.7%	64.3%
4	Not own the local <i>Hukou</i>	28.1%	71.9%
5	For marriage or to raise children	27.5%	72.5%
6	Getting old	25.9%	74.1%
7	For children's education	22.8%	77.2%
8	Better job opportunity in the hometown	22.2%	77.8%
9	Difficult to find a satisfying job in Shenzhen	21.6%	78.4%
10	Farming in the hometown	7.6%	92.4%
11	Be discriminated in Shenzhen	7%	93%
12	The others, e.g. home sick, heavy pressure	5.8%	94.2%
13	Low wage	1.2%	98.8%

## **Appendix 9: Sample of 2<sup>nd</sup> Round Interview Questions with Shenzhen Government Officials**

### ***Part A: General questions***

1. What is your opinion concerning the results of the questionnaire survey?
2. What are the housing consumption characteristics of migrant workers in Shenzhen?
3. Under the strong macro control of the Central Government in 2011, what is the trend of the housing price (including sales price & rental price, first-hand & second-hand residential properties) in Shenzhen? What about the housing market of urban villages?
4. What are the impacts of the cancellation of Shenzhen Special Economic Zone (i.e. cancellation of SEZ on July 1<sup>st</sup>, 2010) on housing supply and demand in Shenzhen? What are the impacts on middle and low-end housing?
5. What is the impact of the cancellation of SEZ on migrant workers? For instance, *Hukou*, population floating between inside and outside-SEZ, housing consumption, etc.
6. What is the redevelopment progress of urban villages in different districts of Shenzhen (including Luohu District, Futian District, Nanshan District, Yantian District, Bao'an District and Longgang District)? For instance, redevelopment progress, redevelopment modes, resettlement of indigenous residents, housing supply and supporting facilities, etc. Would you please provide some relevant data?
7. What are the impacts of the redevelopment of urban villages on the housing rental price there? What about the rent of the surrounding housing? Would you please provide some relevant data to support this?
8. After the redevelopment of urban villages, where did the migrant workers who used to live there move? Does the proportion of urban village-renters in Shenzhen change? If yes, how?
9. What are the measures promulgated by the Shenzhen Government to increase the public housing supply? For instance, from the aspects of land supply, fiscal policies, financing policies, operation modes, etc.
10. What is the future public housing supply mode and trend in Shenzhen?
11. What is the coverage of public housing on migrant workers in Shenzhen currently?
12. What is the future trend of the coverage of public housing on migrant workers in Shenzhen?
13. What is your opinion on solving the housing problems of migrant workers? How to improve their housing conditions?

14. In your opinion, what kind of role the government should play in solving the housing problems of migrant workers?

***Part B: Specific questions***

**Shenzhen Comprehensive Management Office of Floating Population and Rental Housing**

1. What is the floating trend of migrant workers in Shenzhen these years?

**Housing Security Division, Shenzhen Real Estate Research Center**

1. Are there any regulations promulgated by the Shenzhen Government concerning the housing consumptions (including rent & purchase) of non-local population in Shenzhen?

2. Will the Shenzhen Government establish any Non-government Organizations, such as Housing Association which is independent of the government but supervised by the government, to provide affordable housing?

3. What are the arrangements concerning property rights and funding sources of public rental housing?

4. Which is the operation mode of public housing provision in Shenzhen, supply-side oriented or demand side oriented?

5. Would you please provide other relevant data if there is any?

## Appendix 10: Sample of 2<sup>nd</sup> Round Interviews Questions with Migrant Workers

Interviewee: Migrant workers (i.e. stay in Shenzhen for more than half a year & not own local *Hukou*)

Gender of the interviewee: \_\_\_\_\_

Date & Time: \_\_\_\_\_

Survey Address: \_\_\_\_\_

### 1. Personal information

1.1 How long have you stayed in Shenzhen?	Yes	No
1.2 Do you hold Urban <i>Hukou</i> ?		
1.3 Do you have residence card?		
1.4 Do you have temporary residence card?		
1.5 Are you married?		
1.6 Do you have children?		
1.7 Does your spouse stay in Shenzhen?		
1.8 Do your children stay in Shenzhen?		
1.9 Job		
1.10 Trade		
1.11 Age		
1.12 Education		

2. Since July 1<sup>st</sup>, 2010, SEZ (i.e. Shenzhen Special Economic Zone) has been cancelled. Does the cancellation have any impacts on your daily life (e.g. work, housing)?

3. After the cancellation of SEZ, is it easier to apply for local *Hukou*? Will you apply for Shenzhen *Hukou*? Why?

4. Do you plan to return to your hometown in the future? Why?

5. Do you plan to work in other cities (except for your hometown) in the future? Why?

6. Does the urban renewal of Shenzhen (including urban villages, old and dilapidated residential areas, industrial areas and commercial areas) have any impacts on your daily life, especially housing consumption (e.g. housing price, location, type)? If yes, what are the impacts?

7. Familiarity with relevant housing policies (1 refers to “not heard of before”, 2 refers to “some understandings”, 3 refers to “familiar” and 4 refers to “very familiar”).

7.1 Main source of housing information				
7.2 Main source of job information				
	1	2	3	4
7.3 Familiarity with how to apply for residence card and local <i>Hukou</i>				
7.4 Familiarity with public rental housing policy				
7.5 Familiarity with “Shenzhen public housing ordinance”				

## 8. History of residence change in Shenzhen

(Housing types: shed, free dormitory, rented dormitory, urban villages, rented commodity housing, purchased commodity housing, self-built housing, relatives' and friends' place, etc.)

8.1 How many times have you changed your residence since your arrival in Shenzhen?

8.2 Please list the types of the previous residences accordingly.

8.3 Are they inside the SEZ or outside the SEZ respectively?

8.4 What is the type of your current residence?

8.5 Why do you choose current residence?

8.6 Do you plan to change the residence in Shenzhen in the coming several years? Why?

## 9. Satisfaction with the current residence

(Score ranges from 1 to 5, e.g. 1 refers to “very dissatisfied”, 5 refers to “very satisfied”)

9.1 Overall satisfaction with the current residence

9.2 Satisfaction with the current residence compared with that in the hometown

9.3 Satisfaction with different housing aspects

a. Layout

b. Appearance

c. Area

d. Infrastructure (e.g. school, hospital, etc.)

e. Environment (e.g. greening, air, etc.)

f. Neighbourhood

g. Property management

h. Security conditions

i. Distance to working place

j. Transportation convenience

k. Housing cost

l. Distance to relatives and friends

10. When you choose a residence, which housing aspects do you emphasize the most?  
What about the housing aspects which you emphasize the least?

## **Appendix 11: Findings from 1<sup>st</sup> Round Interviews**

### ***Interviewees:***

1. Shenzhen Property Management Institute: Mr. Chen (Institute Director), Mr. Zheng (Deputy Director of Housing Security Research Division)
2. Housing Security Division, Shenzhen Municipal Bureau of Land Resources and Housing Management: Mr. Liu
3. Department of Construction Management and Real Estate, College of Civil Engineering, Shenzhen University: Dr. Song (Associate Professor, Deputy Dean)
4. Shenzhen Comprehensive Management Office of Floating Population and Rental Housing: Mr. Hou (Section Chief)

### ***Comparisons Regarding General Questions:***

#### **1. Achievements of the public housing policies for the migrant workers**

The migrant workers, who have worked in Shenzhen for a certain period of time, paid a certain amount of social insurance and had contributions to the overall development of Shenzhen, are included in the public housing at policy-level. (Zheng)

The public housing system is divided into three levels in Shenzhen: economic affordable housing, low-rent housing and public rental housing. (Zheng, Liu & Song)

The migrant workers with specific expertise can apply for the “Talent Apartment” which is part of the public rental housing. The difference between the “Talent Apartment” and the other public rental housing is that it has a larger floor area with a higher rent. However, it is lower than the rent in the private sector. Moreover, the dormitories in the industrial-park provided by the relevant enterprises also serve as a housing source for the migrant workers. (Liu)

All the interviewees pointed out that the public rental housing has been mainly provided for the residents with local *hukou* in Shenzhen so far.

#### **2. Shortcomings of the public housing policies**

Although migrant workers have been taken into consideration, their housing issues are only limited to principles and on the policy level (Zheng). There are no records of the public rental housing rent to the migrant workers (Zheng, Liu & Song).

#### **3. Something to improve**

Both Zheng and Liu said that the specific regulations on how to implement the housing policies for migrant workers are still under study.

#### **4. Housing source: housing stock VS newly-built housing**

Newly-built housing will be the main source for the migrant workers to obtain if they can apply for the public housing because the housing stock of 2008 can only meet the public housing demands arising before December 31, 2005. The construction is mainly completed by the government complemented by the housing construction integrated in

the land for commercial housing-use and in the industrial park. (Zheng & Chen)

However, Liu and Song hold the opinion that housing stock should play the major role in 2009. There are mainly two reasons for this. First, the amount of the migrant workers is so large that the government can't afford such a heavy burden to build enough housing for them. Second, there are many low-end housing stocks, which can accommodate a large amount of migrant workers, in urban villages.

Regarding the housing stock in urban villages, Zheng pointed out that it accounts for almost half of the total housing source in Shenzhen.

As to the housing stocks of public rental housing, they are rent or purchased by the government collectively. The application was available for the local low-income residents in 2007. The results were not so satisfying though. There are mainly two reasons. First, the rent is not competitive comparing to that of the other housing source, say, those in urban villages. The second reason relates to the inconvenient location issue.

#### **5. How to deal with the rent rising after transforming urban villages?**

All the interviewees have the same opinion that those who cannot afford the increased rent in urban villages should be excluded from Shenzhen because the amount of the migrant workers is so large that the limited land area of Shenzhen cannot accommodate every one of them.

#### **6. Should the government build the migrant workers' houses by itself or subsidize the developers or adopt the other measures?**

The subsidy is mainly in the form of reducing or exempting the administrative fees and taxes charged on the private enterprises (Zheng). Both Liu and Song agreed that it was necessary for the government to construct part of the housing. However, Song said that there had not been any precedents before that the government built the housing by itself. Instead, the private enterprises would build the housing on the subsidized land offered by the government, and the accommodations were not available to the other migrant workers except for their own employees. Liu pointed out that the private enterprises were usually not willing to participate in the public rental housing construction since the capital recovery cycle was relatively long.

#### **7. Mainly rent or sale**

Both Zheng and Song said that rent should be the dominant operation method for migrant workers' housing because the affordability of this group was low.

#### **8. Housing subsidies: with money or with residential units**

Both Zheng and Song held the opinion that housing subsidies with particular amount of money per person should be the dominant approach because the construction land in Shenzhen is so limited that there is no whole land with the area of 5 km<sup>2</sup>.

LIU said that it was more convenient for the government to subsidize migrant workers with money. However, it was more profitable for the migrant workers to enjoy subsidized

residential units.

### **9. Should the government control the housing price?**

All of the interviewees hold the opinion that only the public housing need the price control. Rent subsidy can be adopted in the private sector (Song). The rent of the public rental housing is 70% of the market rent price (Zheng).

### **10. Site selection of the housing**

Some are constructed in the industrial park or on a certain proportion of the commercial housing-use land (Zheng). The public rental housing will firstly satisfy the housing demands raised from the local residents of the region taking the transport cost into account (Liu). Moreover, Song pointed out that urban villages should always be linked with migrant workers' living issues.

### **11. Should the sites be selected in a centralized location?**

It depends. For instance, if there are many enterprises, the migrant workers' housing can be constructed on a centralized basis. (Liu)

### **12. Combining the migrant workers' housing with the high-level living community**

It will stimulate the integration of the migrant workers with the local residents with *hukou* (Zheng). LIU said that the mix construction could alleviate the slum effect which did more good than harm to the whole community. Song pointed out that it was actually a mixed living for the migrant workers living in urban villages. He also emphasized the importance of the community size. If the size of the community accommodating migrant workers is small, it is mixed living. Otherwise, it is not.

### **13. Will the combination affect the sales of the surrounding commercial housing?**

Both Zheng and Liu said that there would not be any or little negative effect.

However, Song said that it would definitely affect the sales of the surrounding commercial housing in the aspects of property management, public resource management, charges, etc. He also gave an example that there used to be a piece of land for affordable housing-construction use was left without anyone to purchase during the auction in Shenzhen.

### **14. Demolition and redevelopment of urban villages**

Song said that it's inevitable to redevelop or renovate the housing in urban villages.

There are mainly two kinds of methods to redevelop urban villages. The first one is environmental renovation which is also called "Dressing and hat wearing project", and the second one is comprehensive remediation and transformation. (Zheng)

In the case of comprehensive remediation and transformation, all the houses will be replaced by commercial flats, which is a form of transforming the unlimited land-use time into limited one as well as a certain amount of money. It is also the course of excluding the floating population (Zheng & Song). As to the specific implementation

process (say, the apartment type, the floor area, etc.), it involves the benefit gambling between the developers and the collective organizations of the villages (Zheng). The financial capability of the government is too limited to carry out the comprehensive remediation and transformation in urban villages (Song). As a result, “Dressing and hat wearing project” can satisfy the living needs of the migrant workers better (Zheng & Song).

The two current most serious problems in urban villages of Shenzhen are rent price and security. (Song)

There has been some progress in redeveloping urban villages in Shenzhen. However, the results are not so satisfying. (Zheng & Song)

Some security housing should be constructed in urban villages, and public rental housing should be the dominant part. (Liu)

### *Findings from Specific Questions:*

#### **1. Is floating population eligible to rent public rental housing in Shenzhen? If yes, what is the requirement? (Shenzhen Municipal Bureau of Land Resources and Housing Management)**

The current policies mainly pertain to the local population. About 6,000 public rental housing was constructed in 2007 and 2,000 was constructed in 2008. Since the floating population does not hold local *Hukou*, they are not eligible to apply. However, they are not neglected. Relevant policies are being studied.

Non-local population is not eligible to purchase Economic Affordable Housing (i.e. “Jingji Shiyong Housing”), but policies are being studied to allow them to rent Public Rental Housing. The candidates should be low-income households who have paid the social security fees for certain years (The specific number of years are under study). The policy of “Interim measures of managing public rental housing in Shenzhen” was promulgated and implemented in 2007. There has not been any record of public rental housing rented to the floating population.

As to high-level personnel (irrespective of their *Hukou* status), they are eligible to rent “talent apartments”. The relevant policies are being studied. “Talent apartment” drops into the category of public rental housing. However, it is different from public rental housing in terms of better layout, larger floor area and higher price (lower than the market price).

Another housing option for the floating population is the dormitories constructed in industrial zones, e.g. Huawei Technologies Co., Ltd. The government invests and constructs dormitories in industrial zones, and the property rights go to the government. The application criteria can be flexible, e.g. if only the floating population are employees. The amount of the dormitories to be allocated can be determined by the scale of the

respective companies (The specific policies are being studied). Since the industrial zones are still being constructed, there has not been any conclusion about this housing option yet. Regarding to “enterprises should hold the main responsibility for housing construction”, there is one project adopting the method of BOT. However, the cycle to recover the investment cost is too long for construction enterprises.

Specific implementations can be consulted from the Shenzhen rental housing office.

**2. Is there any public housing policy tailored to the needs of floating population in Shenzhen? If no, will the government produce such policies in the near future? (Shenzhen Municipal Bureau of Land Resources and Housing Management)**

Not yet. It is necessary to distinguish between security and mainstream. The bearing capacity of the city is limited. The principle of “survival of the fittest” is needed to be employed.

**3. Do you have any suggestions concerning the data collection in the urban villages of Shenzhen? (Shenzhen University)**

There are many issues concerning urban villages. It is necessary to specify what to investigate. The survey method is very important. It is difficult to investigate renters instead of the rental offices or stock cooperative companies in each urban village. There is no rural population or villages in Shenzhen. The transformation resistance mainly comes from the indigenous villagers.

**4. Rental housing occupied by migrant workers (or floating population) in Shenzhen from 1999 to 2009: (Shenzhen Comprehensive Management Office of Floating Population and Rental Housing)**

**(1) How many migrant workers rent housing in the private housing sector?**

There are 70~80% of the migrant workers renting housing in the private sector, including rental housing in urban villages.

**(2) What is the proportion of rental housing occupied by migrant workers to the total amount of rental housing in Shenzhen?**

The rental housing occupied by migrant workers accounts for more than 50% of the total rental housing provision. The specific data is uncertain. As of the end of 2008, the amount of residential property to be leased was 0.32 billion square meters. The total amount of rental property was 0.65 billion square meters.

**(3) The respective amount and proportion of different kinds of rental housing (e.g. commodity housing, rental housing in urban villages, employer-provided rental housing) occupied by migrant workers in Shenzhen.**

The specific amount and proportion is uncertain. The housing types in terms of proportion in descending order are: urban villages, commodity housing and employer-provided dormitories.

**(4) The distribution characteristics of rental housing occupied by migrant workers.**

The main type of housing occupied by migrant workers is rental housing in urban villages because of the industry distribution and industry structure in Shenzhen. However, the trend is that more migrant workers will move to commodity housing because employees gradually transfer from industrial and construction trades to high-tech and services industries.

## **5. Rental housing market in Shenzhen during 1999 - 2009: (Shenzhen Comprehensive Management Office of Floating Population and Rental Housing)**

### **(1) Trend of the total rental housing supply (i.e. in terms of construction area).**

The rental housing supply has increased from 0.2 billion to 0.32 billion square meters.

### **(2) Proportion of each kind of rental housing supply (e.g. rental housing in urban villages) to total rental housing supply each year.**

In general, the proportion remains the same. Although the housing supply of urban villages increases because of the redevelopment, the commodity housing supply increases even faster. As a result, the proportion of rental housing supply in urban villages decreases while that of commodity housing increases to some extent.

### **(3) Trend of the housing rental price.**

The rental price increased from 2004 to 2007 and decreased in 2008. The average rent is about RMB 30 per square meter in ShenZhen now.

### **(4) Trend of letting and vacancy rate of the rental housing during this period.**

The vacancy rate is 10% now. It used to reach 20%.

## **6. Rental housing market of urban villages in Shenzhen during 1999 – 2009. (Shenzhen Comprehensive Management Office of Floating Population and Rental Housing)**

### **(1) Trend of the rental housing supply.**

The absolute number of rental housing supply is increasing. However, the increase rate is decreasing.

### **(2) Trend of the rental price.**

After the financial tsunami, the housing rental price of urban villages inside the SEZ (i.e. Shenzhen Special Economic Zone) is stable. The letting rate decreased to some extent (modest decline). As to the housing rental price of urban villages outside the SEZ, it has been decreased steadily by 30%. The letting rate also decreased to some extent.

### **(3) Trend of the vacancy rate.**

The rental price of the housing in and near urban villages will increase because of the redevelopment. The low-end employees will be crowded out and move to urban villages in periphery areas. On the other hand, the redevelopment of urban villages attracts high-end employees because of the environmental improvement.

**(4) Impacts caused by the redevelopment of urban villages.**

The redevelopment is imperative because of the industrial upgrading in Shenzhen. The key is to control the speed of the redevelopment.

**7. Is there any public housing (e.g. public rental housing) available for migrant workers? (Shenzhen Comprehensive Management Office of Floating Population and Rental Housing)**

It is beyond the jurisdiction of the department. The policy is inclining to include migrant workers into public rental housing system. However, the priority goes to high-tech and high-educated migrant workers.

**8. What is the amount of floating population in Shenzhen? (Shenzhen Comprehensive Management Office of Floating Population and Rental Housing)**

As of September 30<sup>th</sup>, 2008, there were about 13.6 million floating population in Shenzhen. As of the end of July, 2009, there were about 12.6 million floating population. As of the end of September, 2009, there were about 12.1 million floating population.

## **Appendix 12: Findings from 2<sup>nd</sup> Round Interviews with Shenzhen Government Officials**

### ***Interviewees:***

1. Shenzhen Comprehensive Management Office of Floating Population and Rental Housing: Mr. Hou (Section Chief)
2. Housing Security Division, Shenzhen Real Estate Research Center: Mr. Zheng

### ***Comparisons Regarding General Questions:***

#### **1. What is your opinion regarding the results of the questionnaire survey?**

**Hou:** By and large, the survey results are in line with the reality. However:

- 1) The average household income is a little lower than their actual income. Among migrant workers in Shenzhen, physical laborers earn RMB 2500 per month on average. Their median income is RMB 3000~6000 per month per capita.
- 2) Current housing type (in descending order): rental housing in urban villages, relatives' and friends' place, rental commodity housing, employer-provided rental housing, free dormitory, purchased commodity housing and others. The construction area of urban villages accounts for 50% of the total construction area of Shenzhen. About 90% of the housing in urban villages is used for rent.
- 3) Living conditions of the current residence: For housing in urban villages, the unit is usually with one bedroom and one living room (because small units are easy to be leased out). For commodity housing, it is usual for an apartment with two bedrooms and one living room. For housing with limited property rights, one apartment can be facilitated with five bedrooms. The per capita living area of Shenzhen was 28 square meters in 2010. About 85% of the migrant workers occupy separate kitchens and 90% of them occupied separate washrooms especially for the residents in urban villages. The proportion of those living in dormitories with separate kitchens and washrooms is relatively lower. The proportion of migrant workers who can enjoy the safety security services is higher than 50.7%. Urban villages are usually equipped with security rooms.
- 4) Satisfaction level with the current residence: Their neutral satisfaction with the current residence is mainly due to the high price.
- 5) Migrant workers are usually not satisfied with safety, housing cost and transportation convenience.
- 6) Migrant workers usually spend more than one third of their income on housing and one third on food.
- 7) The main reason for migrant workers planning to go back to hometowns is the too high housing price.

**Zheng:** The survey results are in accordance with the reality in general. The main housing type for them is rental housing in urban villages instead of dormitories.

#### **2. What about the housing consumption of the migrant workers in Shenzhen?**

**Hou:** There are no differences. The new generation of migrant workers possesses a stronger consumer attitude.

**Zheng:** Migrant workers mainly reside in the rental housing of urban villages or dormitories of industrial zones.

#### **3. Were there any changes with the housing price (both first-hand & second-hand) and the rent under the strong macro-control of the Central Government in 2011? What about the housing market of urban villages?**

**Hou:** Under the strong macro-control of the Central Government, the housing price of Shenzhen began to decrease from the outskirts of the city to the city center. The housing price of the periphery areas decreased rapidly. However, from the second half of 2009 to the first half of 2011, the rental price had increased rapidly. Since 2002, the rent has increased more than doubled. The rental price stops increasing now. As to the housing rent of urban villages, there is no data now.

**Zheng:** Both of the sales price and transaction amount of the first-hand and second-hand housing have decreased to a certain extent. The housing market of urban villages is almost not affected by the macro-control of the Central Government.

**4. What is the impact of the cancellation of SEZ (i.e. Shenzhen Special Economic Zone) on July 1<sup>st</sup>, 2010 on the housing market (including housing supply and demand)? What about the impact on the low-end and middle housing market?**

**Hou:** Before the cancellation, residents outside the SEZ cannot enjoy the welfare services provided inside the SEZ. The best facilities of Shenzhen used to concentrate inside the SEZ. However, residents are more willing to reside outside the SEZ now because of the improving planning, convenient transportation and good environment. The rent there is increasing, e.g. Longhua Community.

**Zheng:** After the cancellation of the SEZ, the demand for housing outside the SEZ is increasing. Currently, first-hand commodity housing mainly concentrates outside the SEZ. However, it is because of the shortage of land provision inside the SEZ rather than the cancellation of the SEZ. The rental price of the low-end and middle-class housing outside the SEZ increased to some extent after the operation of Subway No. 5. The rental price of the housing along the subway has increased (no matter inside or outside the SEZ) due to the cancellation of the SEZ as well as the operation of Subway No.5. The sales price of the commodity housing is increasing less slowly than before. However, the housing rental price continues increasing. The rental price of the low-end housing is increasing as well, especially the urban villages of good locations.

**5. What is the impact of SEZ (i.e. Shenzhen Special Economic Zone) cancellation on migrant workers? For instance, *Hukou*, floating population between inside and outside SEZ, housing consumption, etc.**

**Hou:** Previously, the residents who lived outside the SEZ would consume inside the SEZ. After the cancellation, they consume outside the SEZ.

**Zheng:** The cancellation of SEZ is to advocate the integration of public services inside and outside the SEZ, including encouraging non-local residents who satisfy relevant conditions to apply for the local *Hukou*. However, the cancellation does not have substantial impacts on population floating, which is mainly determined by the adjustment of industrial structure. As to housing consumption, the rent of the housing outside the previous SEZ increased to some extent whereas still much lower than the housing inside the previous SEZ.

**6. What is the situation of urban village redevelopment in each district of Shenzhen (i.e. Luohu, Futian, Nanshan, Yantian, Bao'an, Longgang)? For instance, redevelopment progress, redevelopment method, resettlement of the residents, housing provision, equipped facilities, etc. Are there any corresponding statistics data?**

**Hou:** The redevelopment should be implemented step by step. The current method adopted is mainly to demolish most of the urban villages. Hou does not agree with this method. He suggests renovating the urban villages, e.g. to widen the road. There

are two reasons: Firstly, the redevelopment of urban villages will increase the cost of doing business in Shenzhen so that the available opportunities will decrease and the competitive capacity of the city will decrease, which will reduce the diversification of Shenzhen. Secondly, urban villages not only have functional significance but also have psychological significance. They are the memories of the city.

**Zheng:** 1) The redevelopment has been included into the category of urban renewal as a long-term strategy. There are many policies produced concerning urban renewal. There are several urban villages (e.g. Gangxia Village, Yunong Village in Futian District; Shahe Village in Nanshan District) which have undergone redevelopment. The redevelopment of urban villages includes comprehensive environmental improvement, partial demolition and overall demolition. At the current stage, the city has undergone comprehensive environmental improvement. Demolition involves a large range of areas, e.g. “Jindi Mingjin” (constructed in the previous location of “Yunong Village”) and “KingKey100” (previous “Caiwu Wei Village”) in Futian District. The only way to increase the land provision in old districts, such as Luohu District, is urban renewal.

2) Migrant workers have to leave their previous residence if all urban villages have undergone demolition. The urban renewal of Shenzhen will gradually optimize the population structure in terms of attracting high-educated and high-tech non-local population (who can afford the high housing price) and crowding out the other non-local population.

3) The authority which is responsible for urban village redevelopment is Urban Planning, Land and Resources Commission of Shenzhen Municipality. Authorities of each district are responsible for the corresponding implementations. The urban redevelopment of Shenzhen is actively promoted. If overall demolition is implemented, urban villages are usually transformed into commercial properties. The original owners can obtain compensation in cash or in kind. The density of the overall demolition projects is relatively high. However, the facilities are equipped in accordance with the urban planning and construction standards, which is a greater improvement than the original urban villages.

**7. Are there any changes with the rental price of housing in urban villages after the redevelopment? What about the rental price of the commodity housing surrounding urban villages? Are there any statistical data available?**

**Hou:** The rent increased significantly. Take the Gangxia Village for instance, the rent of the housing surrounding the area has increased by RMB 300 per flat.

**Zheng:** Whatever method of redevelopment was employed, the rent increased to some extent. If the method of redevelopment is demolition, the rent increased almost to the market price.

**8. Where will the migrant workers move after the redevelopment of urban villages? Will there be any changes with the proportion of migrant workers living in urban villages?**

**Hou:** The proportion of migrant workers will drop significantly. They will move to further periphery areas.

**Zheng:** Whether the migrant workers will move after the redevelopment mainly depends on if they can afford the rent rises.

**9. What are the measures took by the Shenzhen government to increase the public housing provision? For instance, land provision, fiscal policies, financing**

**means, operation modes, etc.**

**Hou:** Through the provision of public rental housing.

**Zheng:** There is only one policy concerning public rental housing promulgated by the Shenzhen government, i.e. “Interim measures of managing public rental housing in Shenzhen” (No. 36, 2008). The other relevant policies are produced by the Central Government, e.g. “Guidelines on accelerating the development of public rental housing” (No. 87, 2010).

#### **10. What is the mode and trend of public housing provision in Shenzhen in the future?**

**Hou:** The public housing provided by the government will dominate. The quantity will increase dramatically. There are 450 million square meters of rental housing in Shenzhen now, less than 10% of which is provided by the government.

**Zheng:** According to “Housing Construction Plan of Shenzhen (2011-2015)” (No. 46), there are 240,000 public housing to be constructed during the period of China’s 12<sup>th</sup> Five-year Plan, including 64,000 public rental housing (including low-rent housing). Investment of social funds will be encouraged in the construction, operation and management of public rental housing. The government will mainly be responsible for housing allocation, supervision. The municipal government is responsible for policy making, while the governments of each district are responsible for implementations. The corresponding construction and management will be left to the market.

#### **11. What is the current situation of public housing coverage on migrant workers in Shenzhen?**

**Hou:** Migrant workers have not been covered by the public housing by now. The corresponding implementation has generally been at the policy level. High-quality talents are prioritized.

**Zheng:** There are no specific data concerning this.

#### **12. What is the trend of public housing coverage on migrant workers in Shenzhen?**

**Hou:** The trend is to cover the migrant workers step by step, with the principle of prioritizing high-quality talents.

**Zheng:** According to “Housing Construction Plan of Shenzhen (2011-2015)” (No. 46), about 278,000 professionals (including some migrant workers) will be covered by the public housing by the end of “China’s 12<sup>th</sup> Five-year Plan”.

#### **13. In your option, how to accommodate the migrant workers? How to improve their living conditions?**

**Hou:** Their housing settlement should mainly depend on rental housing and the market.

**Zheng:** The population structure of Shenzhen is upside-down (i.e. the amount of non-local population is larger than the local population). As a result, the accommodation of migrant workers should turn to the market by and large.

#### **14. How the government can play the role in solving the housing problems of migrant workers?**

**Hou:** 1) High-quality talents are prioritized. 2) From the perspective of humanity concern, all migrant workers should be included into the housing security system. However, the financial capacity of the government is limited. In addition, the

population of Shenzhen will increase dramatically. 3) From the aspect of providing preferential land, there is difficulty with the government. The land area of Shenzhen is 1991 square kilometers with only 100 square kilometers available for use and the remaining of greenbelt. Within the red line controlled area, the average population density is 7780 per square kilometers (ranked the fifth in the world). 4) Suggestions: The public rental housing can be constructed and equipped by the private developers.

**Zheng:** In general, the housing issues of migrant workers can be solved by constructing facilitated dormitories in industrial zones, strengthening the comprehensive environmental remediation in urban villages, standardizing the management of rental housing market, improving their living conditions and encouraging employers to pay the Housing Provident Fund according to the regulations, etc.

### *Findings from Specific Questions:*

#### **1. Are there any changes with the floating of the migrant workers these years? (Shenzhen Comprehensive Management Office of Floating Population and Rental Housing)**

1) The amount of the migrant workers decreased from 12 million to 10 million since the financial tsunami in 2008. After the Spring Festival in 2009, the amount returned back to 12.75 million.

2) The proportion of migrant workers with middle school or below education is 60%, which is lower than before. This can be due to: a. the structural adjustment of industries (Services sector is increasing); b. labor-intensive industry is moving to the inland of China, e.g. Foxconn Technology Group.

3) Characteristics of the second-generation migrant workers:

a. The older generation: Their main purpose in the locality is to earn money and will return to the hometown after earning certain amount of money. In addition, they are hard-working.

b. The second-generation: Their demands are diversified. They aim to be integrated into the city and prioritize urban civilization the most and wealth the second. However, it is hard for them to be involved into the city. They have a sense of rebelling, which triggers many social problems in the locality. They are not familiar with the country life. In general, they do not work as hard as the second generation of local middle-class households. They float more frequently than the older generation in terms of residential mobility and job changes. They are not as easy to be satisfied as the older generation.

4) On average, there are 26% of migrant workers changing their residence every year in Shenzhen.

#### **2. Are there any regulations concerning the housing consumption (both rent and purchase) of non-local population in Shenzhen? (Housing Security Division, Shenzhen Real Estate Research Center)**

1) The local government produced "Several views on further promoting the housing security in Shenzhen" in December 2007. The issue of improving the housing security

of non-local low-income households was emphasized.

2) The regulation of “Interim measures of managing public rental housing in Shenzhen” (No. 36) was promulgated in 2008 and further pointed out that: “Non-local low-income households with some or all non-local household members can be included into the public rental housing system gradually, depending on their situation of residence, social insurance payment and tax payment.”

3) According to “Shenzhen housing security regulations”, the municipal government will set reasonable conditions and gradually include professionals (who satisfy the economic and social development needs) and non-local residents (who have paid the social insurance consecutively for certain years) into the housing security system according to the socioeconomic development situations and government financial capacity. The specific measures are promulgated by the local government.

4) The third item of “Interim management measures of Shenzhen Housing Provident Fund” (No. 176, 2010) points out that housing provident fund is paid by state organizations, institutions, enterprises, private non-enterprise units, social organizations and their employees. Housing Provident Fund refers to the long-term savings which support employees’ owner-occupied housing consumptions with protective, mutual-aid and mandatory characteristics.

5) Regulations on solving the housing issues of talents include: “The decision on the implementation of talent housing projects” (No. 5, 2010) and “Interim measures of implementing talent housing projects” (No. 229).

6) There are also restrictions on commodity housing purchasing. The non-local households who can provide the proof of paying the tax or social insurance for more than one year can purchase only one apartment.

**3. Will the Shenzhen government establish any non-government organization, which is supervised by the government but independent of the government, to provide affordable housing? (Housing Security Division, Shenzhen Real Estate Research Center)**

The possibility is very slim. It is impossible for Shenzhen to copy the operation mechanism of Hong Kong Housing Association, which is mainly determined by the overall institutional system. The Shenzhen government would rather establish more government organizations to develop the affordable housing instead of establishing relevant associations (which almost subordinate to the government). However, Shenzhen can borrow the experiences of other cities, such as establishing the franchisors of public rental housing. The management of large-scale public rental housing is difficult, so marketization is a must.

**4. What about the arrangements of property rights and fund sources for public rental housing franchisors? (Housing Security Division, Shenzhen Real Estate Research Center)**

This kind of enterprises is usually funded by the government and drops into the category of State-Owned Enterprises. They may be subordinated to the housing security department or the state-owned assets management department. The property rights go to the corresponding enterprises with self-financing characteristics.

**5. Which is the main method of public housing provision, supply-side subsidy or demand-side subsidy? What about the specific implementation measures of supply-side subsidy and demand-side subsidy? (Housing Security Division, Shenzhen Real Estate Research Center)**

Both methods are employed. Supply-side subsidy is mainly implemented in accordance with the national fiscal policies. Demand-side subsidy policy is mainly implemented by providing monetary subsidies.

#### **6. Other relevant information (Housing Security Division, Shenzhen Real Estate Research Center)**

The data on the floating population in Shenzhen is relatively scarce. There are no housing policies particularly for floating population, except for several regulations. The Shenzhen government mainly aims to solve the housing problems of talents, including non-local talents, which is different from the concept of migrant workers. At this stage, public rental housing has been mainly targeted local low-income households. Migrant workers are mainly accommodated by the facilitated dormitories of industrial zones. As to how many migrant workers are accommodated by facilitated dormitories, there are no official data available.

The housing security system of Shenzhen: economic affordable housing (“Jingji Shiyong Housing”), public rental housing, capped-price housing (“Xianjia Housing”) and affordable commodity housing (“Anju Xing Shangpin Housing”). Affordable commodity housing is mainly developed by the private enterprises. The development of economic affordable housing and public rental housing is mainly led by the government. There are only two projects of capped-price housing in Shenzhen and no more such projects will be developed in the future. Affordable commodity housing is similar to capped-price housing. However, the supply object and property right management are different. Details can be referred to the policy of “Interim management measures of affordable commodity housing construction and management in Shenzhen” (No. 228).

### Appendix 13: Findings from Interviews with Migrant Workers in Bao'an & Futian Districts

**Interviewees:** 40 migrant workers (20 interviewees for each district)

**District:** Bao'an District & Futian Districts

**Date:** May 2012

#### 1. Gender:

Male (67.5%); Female (32.5%)

Questionnaire survey: Male (68.9%); Female (31.1%)

#### 2. Period of stay in Shenzhen:

Range from 0.5 to 30 years; Mean: 6.4 years; Medium: 4.8 years

Questionnaire survey: 6 years (average)

#### 3. Type of Hukou:

Rural Hukou: 65%; Urban Hukou: 35%

Questionnaire survey: Rural Hukou: 64.97%; Urban Hukou: 35.03%

#### 4. Residence card: 65% (Yes)

Questionnaire survey: 53.44% (Yes)

#### 5. Marital status: 42.5% (Yes)

Questionnaire survey: 45.8% (Yes)

#### 6. Children: 37.5% (Yes)

Questionnaire survey: 38.4% (Yes)

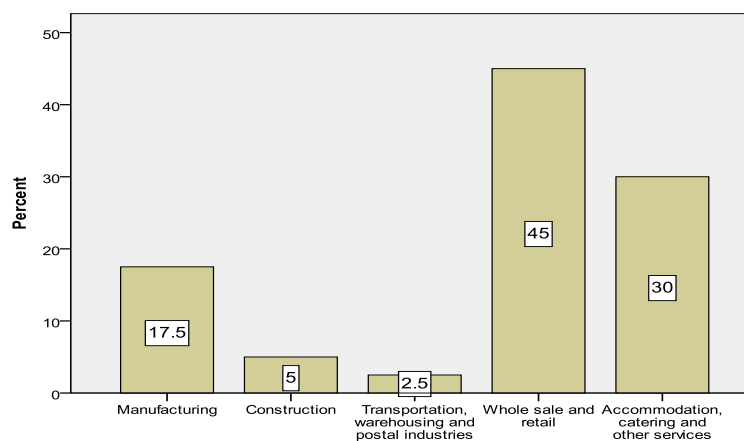
#### 7. Whether spouse in Shenzhen: 32.5%

Questionnaire survey: 30.2% (family members in Shenzhen)

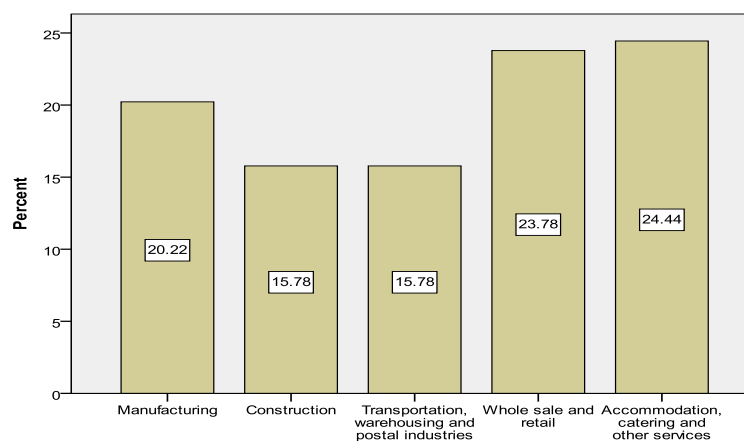
#### 8. Whether children in Shenzhen: 17.5%

#### 9. Whether self-employed: 30%

#### 10. Trade



Questionnaire survey:

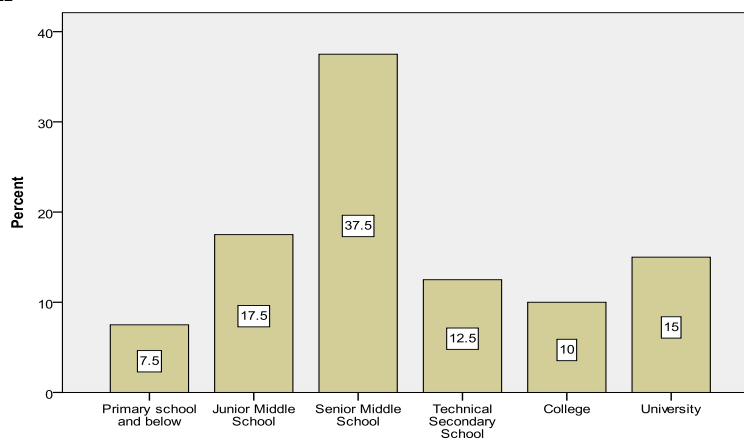


**11. Age**

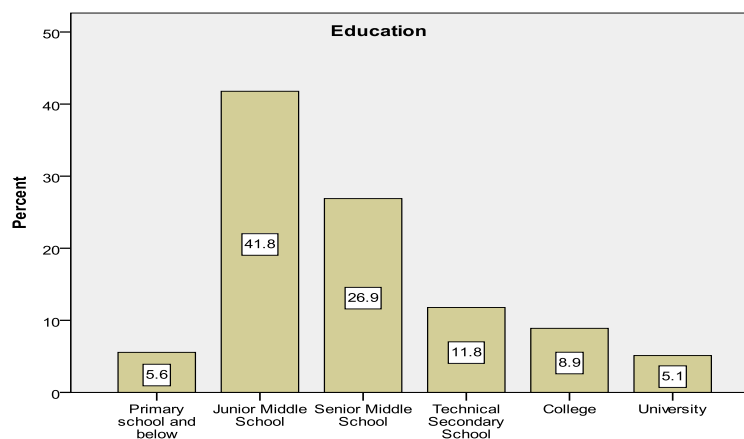
Range from 19 to 60 years old; Mean: 28.4; Medium: 26

*Questionnaire survey: Mean 29*

**12. Education**



Questionnaire survey:



**13. Impact of cancellation of SEZ on daily life:**

Almost no impact (90%); Housing price increasing (10%)

**14. Will it be easier to apply for local *Hukou*:**

Yes (12.5%); No (22.5%); No idea (65%)

**15. Plan to apply for local *Hukou*:**

Yes (30%); No (70%)

**16. Plan to return to hometown:**

Yes (67.5%); No (27.5%); Not sure (5%)

Questionnaire survey: Yes (38%); No (38.7%); Not sure (23.3%)

**17. Plan to work in other cities:**

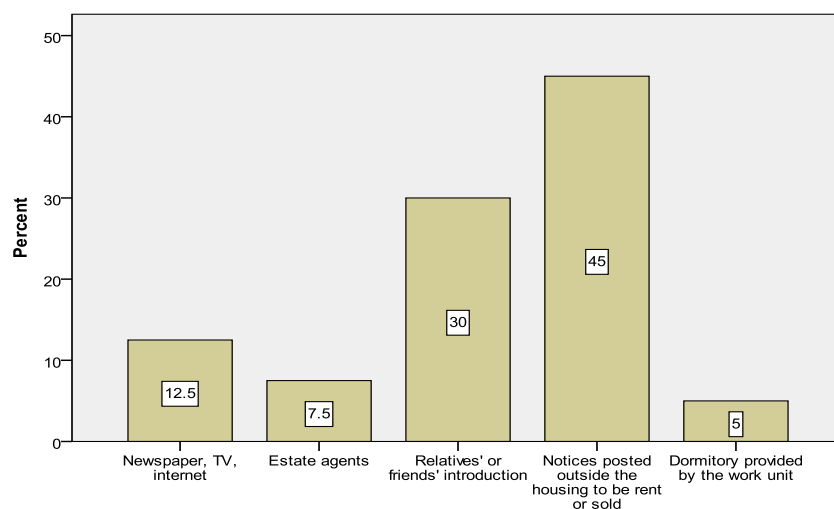
Yes (30%); No (55%); Not sure (15%)

Questionnaire survey: Yes (20.9%); No (34.4%); Not sure (44.7%)

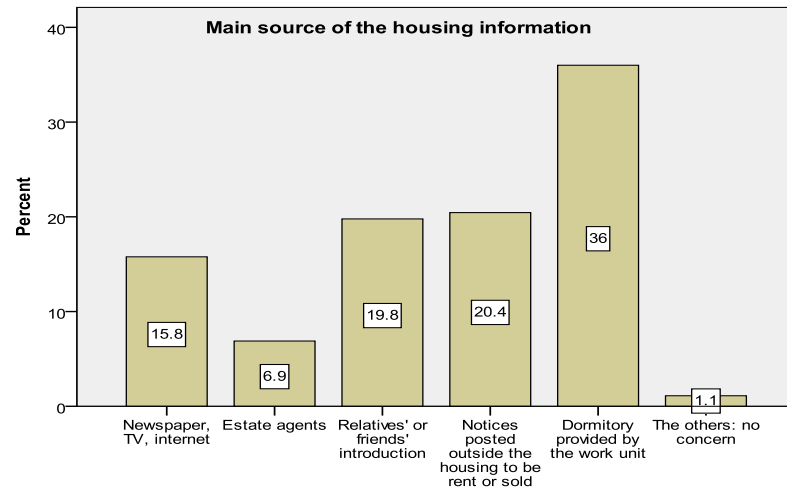
**18. Impact of urban renewal on daily life**

Yes (32.5%); No (67.5%)

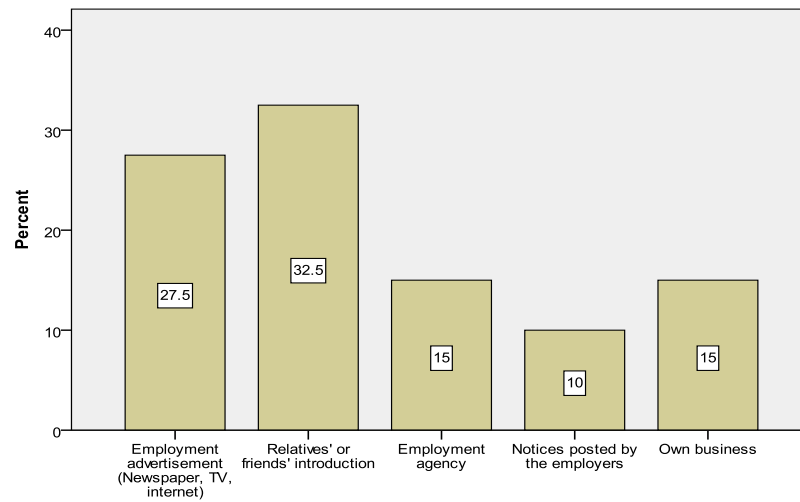
**19. Main source of housing information**



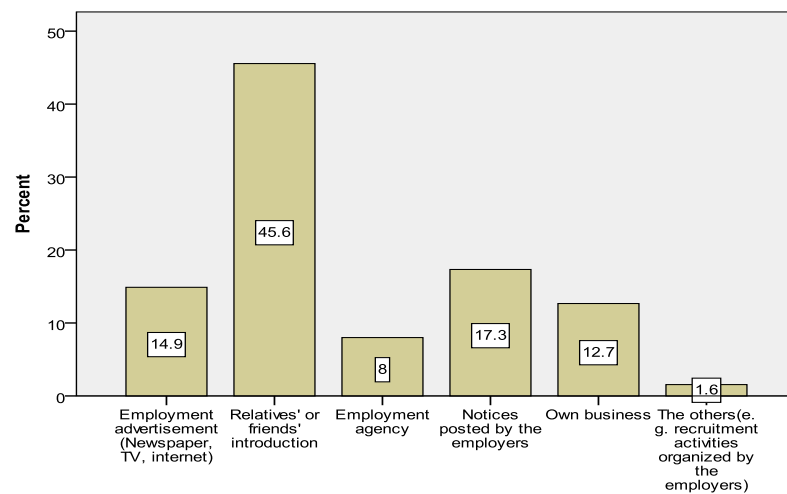
Questionnaire survey:



## 20. Main source of job information



## Questionnaire survey:



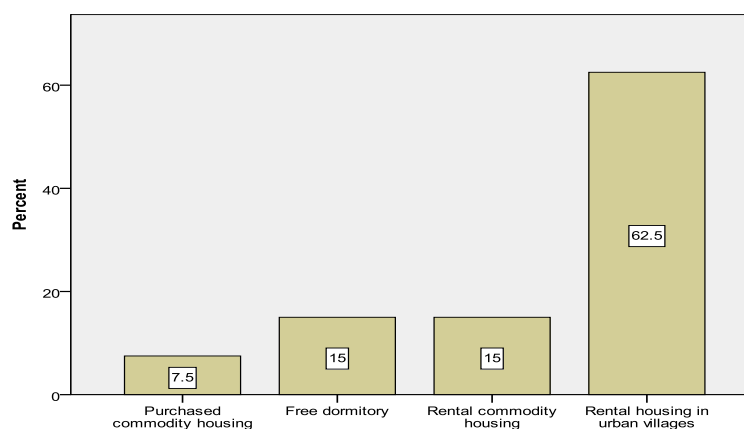
## 21. Familiarity with relevant policies

	Not heard of before	Some understanding	Familiar	Very familiar
<i>Hukou</i> and Residence Card policies	<u>52.5%</u>	32.5%	7.5%	7.5%
Public rental housing policy in Shenzhen	<u>85%</u>	15%	0%	0%
“Shenzhen public housing ordinance”	<u>82.5%</u>	17.5%	0%	0%

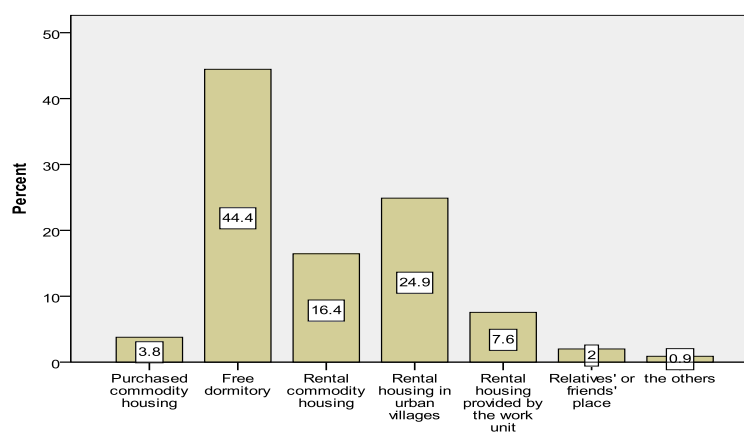
## 22. Times of residence change:

Range from 0 to 15 times; Mean: 4; Medium: 3

## 23. Type of the current residence



### Questionnaire survey:



## 24. Plan of residence change in coming several years

Yes (27.5%); No (55%); Not sure (17.5%)

Questionnaire survey: Yes (56.2%); No (43.8%)

## 25. Residential satisfaction with the current residence

		Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
<b>Compared with the residence in the hometown</b>	Overall residential satisfaction	30%	<u>35%</u>	20%	5%	10%
	Overall residential satisfaction	12.5%	10%	<u>37.5%</u>	27.5%	12.5%
<b>Not compared with the residence in the hometown</b>	Layout	12.5%	<u>15%</u>	<u>40%</u>	20%	12.5%
	Appearance	15%	<u>35%</u>	<u>22.5%</u>	17.5%	10%
	Floor area	15%	27.5%	<u>30%</u>	22.5%	5%
	Infrastructure, e.g. school, hospital, etc.	17.5%	17.5%	<u>27.5%</u>	25%	12.5%
	Environment, e.g. greening, air, etc.	22.5%	20%	<u>30%</u>	7.5%	20%
	Neighborhood	15.8%	23.7%	<u>36.8%</u>	13.2%	10.5%
	Property management	13.5%	21.6%	<u>45.9%</u>	18.9%	0%
	Security conditions	12.5%	15%	<u>35%</u>	32.5%	5%
	Distance to the working place	2.5%	12.5%	<u>32.5%</u>	30%	22.5%
	Transportation convenience	7.5%	12.5%	15%	<u>32.5%</u>	<u>32.5%</u>
	Housing cost	5%	20%	32.5%	25%	17.5%
	Distance to relatives and friends	22.5%	17.5%	27.5%	10%	22.5%

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