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**Understanding young skilled migrants' homeownership outcomes in
Guangzhou: the role of employer types and settlement intentions**

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Thesis Submitted For the Degree of Doctor of Philosophy

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Abstract

Industrial development and technological innovation depend heavily on knowledge-based activities. It is safe to say that skilled migrants play an essential role in economic growth, technological innovation, and progress that can drive cities' sustainable and rapid development. Thus, how to attract and retain skilled migrants in the permanent labour market has become a key focus of China's social policy agenda. Previous studies on migrant housing tenure choice and settlement intentions have mainly emphasized the role of demographic and socioeconomic characteristics, migration characteristics, and institutional constraints in determining homeownership outcomes. However, the literature linking migrants' employment types and homeownership outcomes, and how employment types interact with settlement intentions, has been surprisingly silent.

In order to take a step forward, this thesis uses a mixed methods approach, combining quantitative statistical analysis and qualitative interview methods, to disentangle the underlying mechanism of income levels and settlement intentions in shaping the relationship between employer types and homeownership outcomes.

There are four key findings from this thesis. Firstly, young skilled migrants working in the public sector are more likely to become homeowners in Guangzhou than those working in the private sector. Secondly, as income grows, the positive role of public sector jobs in shaping homeownership outcomes becomes less pronounced. Thirdly, long-term settlement intentions mediate the relationship between young skilled migrants' employer types and homeownership outcomes. Fourthly, three key life domains of employment, settlement intentions, and homeownership outcomes are intricately and closely linked.

This thesis calls for policymakers to consider the interplay between employment, settlement, and housing rather than looking at them in isolation when considering future policies to encourage private-sector employment, increase settlement intentions, and promote homeownership.

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Chapter 1: Introduction

1.1 Research objectives and gaps

This thesis uses a mixed methods approach, combining quantitative statistical analysis and qualitative interview methods to disentangle the underlying mechanism of income levels and settlement intentions in shaping the relationship between employer types and homeownership outcomes.

Like natives, migrants pursue homeownership dreams in destination cities (Lui, 2023). This is because homeownership means not only stable shelter but also greater social integration into local society, increased wealth accumulation, improved social status, and better access to public benefits (Or, 2018; Chen et al., 2022). However, housing affordability has become severe with spiraling housing prices and precarious employment. Homeownership has become an unrealistic goal for skilled migrants (Chen et al., 2019), even if they are considered middle class and earn decent salaries in urban areas (Or, 2018). Given the critical role of homeownership in shaping human life and well-being (Fong et al., 2021), if skilled migrants cannot move from renting to owning in destination cities, they may be forced to move to other cities or return to their home cities (Eskela, 2018; Chen et al., 2019). However, industrial development and technological innovation depend heavily on knowledge-based activities. It is safe to say that skilled migrants play an essential role in the economic growth and technological innovation and progress that can drive cities' sustainable and rapid development (Maslova & King, 2020; Jin et al., 2022). Thus, how to attract and retain skilled migrants in the permanent labour market has become a key focus of China's social policy agenda (Hu et al., 2022). A few studies have begun to focus on the determinants of skilled migrants' housing tenure choices/outcomes (Cui et al., 2016; Chen et al., 2022). In addition to focusing on different cohorts, the empirical analysis is largely based on the theoretical framework of migrants' housing tenure choices.

Previous studies on migrant housing tenure choice have mainly emphasized the role of demographic (gender, age, marital status) and socioeconomic characteristics (education and income), migration characteristics, and institutional constraints (hukou) in determining the

homeownership probability. For example, Allen and Ishizawa (2015) concluded that for Latino and Asian immigrants, if the household head is female, they are more likely to access homeownership than their counterparts whose household head is male. Inconsistent with Allen and Ishizawa (2015), Tang et al. (2017) found that for internal migrants in China, if the household head is male, they have a higher probability of becoming homeowners in urban destinations. In terms of age, Nygaard (2011) found that older immigrants are more inclined to be owner-occupiers in the UK than younger immigrants. Wang et al. (2020) supported Nygaard's finding. They pointed out that incomes and savings are positively associated with age, which explains why older rural migrants in China have a greater chance of becoming homeowners in destination cities than their younger counterparts. Regarding marital status, Painter et al. (2002), focusing on immigrants in the US, found that being married increases homeownership probability. For internal migrants in China, Liu and Liu (2023) provided more detailed findings that married migrants have a homeownership rate 2.58 times higher than their unmarried counterparts in destination cities.

In addition to demographic characteristics, most studies have also examined the effect of socioeconomic characteristics on migrant homeownership probability in destination countries or cities. Looking at income, Colom Andrés and Molés Mach í (2017) found that higher income levels allow immigrants to save more money for the down payment and interest costs of a mortgage, thereby increasing their homeownership probability in Spain. Although Liao and Zhang (2021) focused on different migrant cohorts, their findings are consistent with Colom Andrés and Molés Mach í (2017). They confirmed the positive association between income and homeownership probability. Although educational attainment is positively associated with income, and education can increase migrants' participation in the assimilation process in host countries (McConnell & Marcelli, 2007), the effect of education on homeownership has produced mixed results. For example, Constant et al. (2009) did not observe a significant association between immigrants' education and the probability of homeownership in Germany, even though they used educational experiences in the home country and Germany to capture their educational background. Nevertheless, Chen (2016) studied migrants' homeownership decisions in Guangzhou and concluded that homeownership is more accessible among migrants with good educational backgrounds.

Beyond demo-socioeconomic characteristics, some studies have disentangled the role of migration characteristics in shaping homeownership probability. For example, Constant et al.

(2009) found that the longer immigrants stay in Germany, the greater the chance of buying a house in Germany. The positive role of length of stay in increasing the chances of homeownership was also confirmed by Tao et al. (2015). They concluded that an additional year of stay in Shenzhen could increase the probability of access to homeownership for rural migrants by 1.16 times. In addition, some existing literature on immigrant housing tenure choices has focused on differences in homeownership probabilities between ethnic minorities. Nygaard (2011) concluded that Asian immigrants are more likely to buy a home in the UK than their minority counterparts. This could be partly explained by differences in endowments (such as better education and higher income) (Painter et al., 2001; Mundra & Oyelere, 2018). For internal migrants in China, some studies have paid more attention to the effect of place of origin on homeownership decisions. Liu and Liu (2023) concluded that intra-provincial migrants are more inclined to access homeownership than inter-provincial migrants.

Finally, some Chinese scholars have studied how hukou status (rural hukou vs. urban hukou) affects migrant housing tenure choices. Noticeably, the hukou, which is unique in the Chinese context, does not exist in Western countries. Tao et al. (2015) showed that migrants with rural hukou are more likely to rent a home in Shenzhen than their counterparts with urban hukou. A recent study by Liu and Liu (2023) also confirmed this finding, pointing out that hukou still plays a vital role in shaping the probability of homeownership for rural or low-skilled migrants.

While the literature on housing tenure choice/outcome is extensive and has contributed to understanding how socio-demographic characteristics, migration characteristics, and institutional constraints determine migrant homeownership probabilities, there are still six key knowledge gaps. First, although some studies have examined how employment status affects migrants' housing tenure choices (e.g., McConnell & Marcelli, 2007; Chen, 2016; Tang et al., 2017), these studies have only considered the role of whether migrants are employed or whether they are employers or employees. The literature linking employer types (public employment vs. private employment) to the probability of homeownership among migrants is surprisingly silent. To the best of my knowledge, except for Camilli and Gomes (2023), who examine the difference in homeownership outcomes between public and private employees in Italy and show that public employees are more likely to become homeowners than private employees, no study has considered the effect of employer type on homeownership probability. Furthermore, the target group of the work by Camilli and Gomes

(2023) is not migrants and is not based in China. It remains unclear whether the effect of employer type on homeownership outcome differs when based on different target groups and geographical units. Camilli and Gomes (2023) have focused on the general population. More importantly, no studies have paid attention to the role of employer types in shaping migrants' housing experiences in destination cities in the Chinese context.

Camilli and Gomes (2023) pointed out that the global pandemic exposed the dichotomy between private and public employment. The choice between working in the public or private sector depends not only on an individual's preferences, needs, and career goals but also on their educational background and ability to pass required exams in China. Working in the Chinese public sector requires one to pass the exam and is very competitive (for example, out of 10 people, only one may be admitted). Twenty years ago, most Chinese preferred to work in the private sector because working in the private sector generally can see higher salaries and better material rewards. Many jobs in the private sector are focused on increasing profits. It also gives many talented young people a fairer chance of promotion and a pay rise if they can make the company profitable. However, as jobs become increasingly precarious, young people in China seem more inclined to work in the public sector (Miao et al., 2019). This is possible because working in the public sector can offer greater job security and a more consistent work-life balance. Although this social phenomenon has become increasingly evident over the past five years, to my knowledge, few studies have disentangled how employer types shape homeownership outcomes in the Chinese context, particularly for young skilled migrants. Understanding the differences between the public and private sectors and how they lead to different homeownership outcomes among young skilled migrants is important for developing economic and wage policies to achieve equity in public and private employment. This can avoid housing inequalities caused by differences in employment between the public and private sectors, thereby better achieving social equity.

The second research gap relates to the absence of considering the moderating role of income in shaping the association between employer types and homeownership probability. More specifically, Camilli and Gomes (2023) highlighted the benefits of public employment in Italy, which increased the homeownership rate of public employees, in particular, greater job security and higher wages after the Great Recession. However, public employment in the Chinese context differs from that in Italy. Although public employment may offer greater job security, the wages in public employment that are obviously higher than those in private

employment have not been observed in China. In particular, those with good education and skills tend to earn more by working in the private sector, because private sectors seek to maximize profits. If the company is profitable, it can pay its employees high wages and bonuses. In contrast, the public sector, such as government agencies and public institutions, primarily focuses on serving the people, and state-owned enterprises are driven by making a small profit rather than seeking a high return. Thus, the public sector is unlikely to offer public employees very high salaries. Nevertheless, working in the public sector tends to offer more job stability. In this context, an interesting question is how different types of advantages for working in the public and private sectors shape homeownership outcomes.

The third research gap is the mediating role of settlement intention in shaping the relation between employment status and homeownership decisions, and the bi-directional relation between settlement intentions and homeownership. In fact, the literature on migrants' settlement intentions and housing tenure choices are two separate research areas that have not been fully explored together. Previous studies have only examined the direct effect of employment status on migrants' homeownership probability (e.g., Sweden - Kauppinen et al., 2015; Tang et al., 2017) and have ignored the effect of employment on homeownership through settlement intentions. For example, Zhang et al. (2017) concluded that migrants with job contracts are more likely to stay in destination cities than self-employed migrants. Another study by Tang et al. (2017) found that migrants who are willing to settle permanently in destination cities are more likely to buy a house there. Meanwhile, two studies by Xie and Chen (2018) and Zhang and Yan (2022) confirmed that homeownership can increase migrants' long-term settlement intentions in destination cities. The above research findings strongly link migrants' employment, settlement intentions, and homeownership outcomes. That is, employment may directly predict migrant homeownership probability. In addition, employment may determine homeownership by influencing settlement intentions. Finally, settlement intentions and homeownership may influence each other. In other words, the underlying mechanism of employment, settlement intentions and homeownership has not been fully explored in the existing literature. Addressing this issue could be a step forward in understanding the link between migrants' employment, settlement intentions, and homeownership outcomes rather than treating them as two separate research areas.

The fourth gap is related to research design and research approaches. In terms of research design, some previous literature on housing tenure choice has only considered the effect of

micro characteristics (demographic and socioeconomic characteristics and migration characteristics) on homeownership probability while ignoring the role of macro characteristics (e.g., Painter et al., 2001; Chen, 2016; Tang et al., 2017; Oladiran et al., 2019; Zou & Deng, 2022; Lui, 2023; Camilli & Gomes, 2023). Coulter (2018) looked at the combined effect of micro and macro characteristics on housing outcomes. His work identified the role of regional economic performance in determining housing outcomes. However, his work did not consider the hierarchical nature of data. That is, each respondent is nested within different regions. In other words, the data has two levels, with the lower-level units (respondents) nested within the higher-level units (regions). Coulter (2018) used the multinomial logit models, which cannot ignore this issue and potentially produce unreliable estimations. Given the impact of micro and macro characteristics on homeownership probability and the hierarchical nature of the data, multilevel analysis can provide more accurate estimations than traditional regression models (Leeuw & Meijer, 2008).

The fifth research gap is related to the analytical approach. Previous literature on migrants' housing tenure choices has mainly conducted traditional regression models, such as logistic and probit regression models (e.g., McConnell & Marcelli, 2007; Constant et al., 2009; Tang et al., 2017; Camilli & Gomes, 2023). However, the main limitation of the research approach is that differences in homeownership outcomes could be caused by the key explanatory variable and confounding characteristics. This could produce biased estimations. For example, Camilli and Gomes (2023) have used logit regression models to examine the differences in homeownership outcomes between public and private employment in Italy. Although they observed that public employees in Italy are more likely to access home ownership than private employees, the differences in home ownership could be caused by employer type and demographic and socio-economic characteristics. This is because their research is based on observational data rather than a randomized controlled trial. Put simply, a randomized controlled trial can generate control (private employment) and treatment (public employment) groups with similar confounding characteristics. In this way, the randomized controlled trial can produce the pure effect of public employment on homeownership. This is because public employees have similar socio-demographic characteristics to private employees. This issue is also called self-selection bias. If it is not taken into account when using observational data, it can cloud the estimations. In general, the propensity score matching (PSM) proposed by Rosenbaum and Rubin (1983) is commonly used to address self-selection bias.

The final research gap is related to the research methodology. Previous literature has mainly used quantitative analysis to disentangle the determinants of housing tenure choices. Although the statistical association between the dependent and independent variables has been identified in most literature (e.g., McConnell & Marcelli, 2007; Constant et al., 2009; Tang et al., 2017; Zou & Deng, 2022; Camilli & Gomes, 2023), these studies did not explore the detailed and underlying reasons for these findings. This could be attributed to the limitations of using quantitative research methodology.

1.2 Research questions

Research question 1: How do young skilled migrants' employer types shape their homeownership outcomes in Guangzhou?

Sub-research question (1): If the employer type matters in determining homeownership outcomes, how do income levels change the relation between employer types and homeownership outcomes?

Research question 2: Do long-term settlement intentions mediate the relationship between employer types and homeownership outcomes?

Research question 3: How do young skilled migrants understand the relation between employer types, long-term settlement intentions, and homeownership outcomes in Guangzhou?

Sub-research question (1): What meaning do young skilled migrants attach to different employer types?

Sub-research question (2): What are the meanings of homeownership in Guangzhou for contemporary young skilled migrants?

In order to address the above research questions, this thesis will employ mixed methods, quantitative analysis followed by qualitative analysis. More specifically, based on the existing survey data on migrant housing in Guangzhou conducted by the Real Estate Institute of Guangzhou University, this thesis will first carry out a quantitative analysis, including four steps. The first step is to use propensity score matching (PSM) to generate balanced samples between those working in the public and private sectors. The second step is to carry out a multi-level analysis to disentangle whether there are differences in homeownership outcomes

in destination cities between young skilled migrants working in the public sector and those working in the private sector after controlling for micro- and macro characteristics. The third step is to include the product term of employer type and income in the models and check whether income modifies the relationship between employer type and homeownership outcomes. The fourth step is the mediation effect analysis, which examines whether settlement intentions mediate the relationship between employer type and homeownership outcomes. After finishing the quantitative analysis, based on the phone and name in the original dataset, follow-up semi-structured interviews were conducted to understand the meaning of working in different employer types, the meaning of homeownership in destination cities, how young skilled migrants interpret the relation between employer types, settlement intentions, and homeownership outcomes. This thesis, therefore, uses a mixed-method approach to answer three main research questions and three sub-research questions. Research questions 1 and 2 will be addressed in the quantitative analysis (chapter six), and research question 3 will be answered in the qualitative analysis (chapter seven).

1.3 Target group selection and definition

Noticeably, the target group of this thesis is young skilled migrants for one main reason. Population movement has become a key focus of China's social policy agenda as the economy develops and urbanization accelerates. A typical manifestation of this is that big cities attract more young people moving from small cities seeking better job opportunities and better social resources, resulting in population surging in big cities and population shrinking in small cities (Chen et al., 2022). Large-scale migration to big cities has fuelled the tremendous progress in economic development. Nevertheless, China is still seen as the world's labour factory. Against this background, many local governments have developed policies to attract skilled migrants across China to work in large cities, aiming to shift from a labour-intensive to a knowledge-intensive pattern. For example, many local governments have relaxed the institutional constraints (e.g. hukou, the Chinese household registration system). Migrants with an associate degree can transfer their hukou status to other cities. Even in some cities (e.g., Shenzhen), local governments offer rent subsidies to young, skilled migrants if they are willing to transfer their hukou to these cities. Thus, after attracting large numbers of young skilled migrants in big cities, how to retain them in the permanent labour force have become a policy concern and a topical research area. By understanding the complex drivers of homeownership outcomes, policymakers can design housing policies that

help people realize homeownership dreams and retain people and talents long-term in destination cities. Meanwhile, this thesis believes that focusing on the employment, settlement intentions, and homeownership outcomes of young skilled migrants adds value to the existing literature in terms of integrating three important life domains for migrants in the destinations and understanding how they interact.

Based on the definitions of skilled migrants (hukou status and education) and young people (age) in Chinese literature (e.g., Deng et al., 2016; Zhang & Yan, 2022; Chen et al., 2022), young skilled migrants are defined as those working or living in Guangzhou but without Guangzhou hukou, with an associate college degree or bachelor's degree or higher, aged 18-35.

1.4 Case study choice

Guangzhou is selected as a case study for three reasons. First, Guangzhou is China's second-largest migrant city. It has a large migrant population after Shenzhen. Guangzhou can become a representative case study for studying migrant housing issues. Second, although house prices in Guangzhou have risen sharply over the past decade, compared to the other super cities (Beijing, Shanghai, and Shenzhen), Guangzhou is a relatively affordable city. For example, in 2023, house prices in Guangzhou stand at 33,986 Yuan/square meter, lower than Beijing's 60,647, Shanghai's 52,576, and Shenzhen's 59,273 (Anjuke, 2023). Nevertheless, Guangzhou's public housing system seems to protect locals, leaving migrant workers vulnerable regarding their housing status. More specifically, Guangzhou and Shenzhen's public rental housing system is divided into two sub-systems, one based on local citizenship and one based on migrants (Gong & MacLachlan, 2021; Du et al., 2024a). Nevertheless, the provision of public rental housing in Shenzhen and Guangzhou has taken very different trajectories (Gong & MacLachlan, 2021). The public housing system based on local citizenship focuses more on the social welfare system in China. This means governments must provide public housing for low-income and low- and middle-income families with local Hukou. The migrant-based public housing system aims to attract skilled migrants to work and stay longer in local cities to achieve industrial upgrading and industrial innovation and promote rapid urban development (Tian et al., 2020). Given Shenzhen's few low-income indigenous residents, the Shenzhen government has allocated many public housing units to migrants (Tian et al., 2020). In contrast, as Guangzhou has many low- and middle-income

local people and a limited supply of public housing, the Guangzhou government provides public housing primarily to locals and relatively few public housing units to migrant workers (Du et al., 2024b). Against this background, the story of young skilled migrants in Guangzhou can serve as a comparative study case for other international super-immigrant cities. It can also provide lessons and warnings for other immigrant cities on better securing the housing needs of young skilled migrants.

1.5 Thesis structure

This thesis is structured as follows: Chapter 2 introduces the research context, including housing reform and hukou policy in China. Chapter 3 provides a brief overview of previous research on migrants' housing tenure choices and settlement intentions. Chapter 4 develops the theoretical framework and research hypotheses. Chapter 5 presents the research design and methodology. Chapter 6 presents the findings of the quantitative analysis based on an existing dataset. Chapter 7 presents the findings of qualitative analysis based on follow-up semi-structured interviews. Chapter 8 compares the findings of this thesis with previous literature. This chapter also discusses the double precarity experienced by migrants in China, the importance of work in shaping young skilled migrants' lives, public sector vs. private sector, the importance of homeownership for young skilled migrants, and the bidirectional relation between settlement intentions and homeownership outcomes. Chapter 9 concludes with the main findings of this thesis, develops several policy implications, and presents the limitations of this thesis.

Chapter 2: Research in Context

The purpose of Chapter 2 is to introduce the housing reform and hukou policy in China. The first subsection will introduce China's housing reform in six stages: socialist housing regime (1949-1978), early development of a market-based housing system (1979-1988), housing market expansion (1988-1998), soaring housing prices (1998-2010), policy interventions to control soaring housing prices (2010-2020), the development of various policies to stimulate housing demand and stabilize housing prices (2020-present). The second subsection will introduce hukou and how it shapes migrants' housing and work experiences in destination cities.

2.1 Housing reform in China

China's modern housing system has evolved from a socialist housing regime to a market-based system. More specifically, after the Communist Party of China established the Republic of China in 1949, the development of China's housing system can be grouped into six stages, including socialist housing regime (1949-1978), early development of the market-based housing system (1979-1988), housing market expansion (1988-1998), soaring housing prices (1998-2010), policy interventions to control soaring housing prices (2010-2020), the development of various policies to stimulate housing demand and stabilize housing prices (2020-present).

When the new China was founded in 1949, it adopted and built a socialist planned economy (Zhao & Bourassa, 2003). During this period (1949-1978), housing was treated as a welfare good associated with employment rather than a commodity (Chen et al., 2010). Most urban residents worked in public sectors, such as government agencies, public institutions, and state-owned companies. The residential housing for these urban residents was provided by their work units at lower prices or even free prices (Chen et al., 2023). Rural residents built the dwellings on the land allocated by the villages or the villages directly granting them the dwellings (Du & Zhang, 2015). Under this public-sector-dominated housing system in China, housing shortages and financial burdens on the government become severe social and economic problems (Chen et al., 2023). As the nominal rent did not encourage housing investment and improvement, or worse, did not cover the cost of basic maintenance, the housing stock shrank, living conditions deteriorated, and the financial burden on the

government increased (Chen et al., 2020). During this period, the housing market to sell or buy houses did not exist in China.

To address these problems, the old housing system was phased out, and a market-based housing reform was launched in 1979. In 1983, the central government wrote private property rights into the draft constitution, although the state still owns land (Chen et al., 2011). The period 1979-1988 saw the early development of a market-based housing system.

In 1988, the central government selected some cities to reform housing policies, mainly by raising rents and selling public housing units to existing renters at heavily subsidized prices to relieve fiscal pressure (Chen et al., 2020). In 1991, this housing policy was implemented nationwide. Furthermore, the central government encouraged private-sector firms to invest and construct housing (Chen et al., 2020). However, instead of selling to individuals, housing units were bought by work units and resold to their employees at lower prices, which greatly hindered the healthy development of the emerging housing market (Wu, 2015). During the period 1988-1998, the market-oriented housing system expanded rapidly.

In response to the 1997 Asian financial crisis, central governments introduced a series of reforms to stimulate the economy (Chen et al., 2010). For example, the central government entirely prohibited work units from buying or providing housing for their employees and encouraged individuals and urban employees to buy housing in the housing market (Wu, 2015). This housing reform saw the complete abolition of housing allocation and the introduction of the market mechanism.

After 1998, the strategy of financialisation of housing was introduced by central governments, and housing mortgages for individuals also appeared in China (Wu, 2015). Due to the progress of housing marketization, the boom in the housing market also stimulated the rise in housing prices in urban areas (Chen et al., 2017). Based on the National Bureau of Statistics, average housing prices between 1998 and 2010 rose from 2063 RMB/m² to 5032 RMB/m², increasing more than tripled (NBS, 2011). The rapid housing prices in urban areas have, on the one hand, affected the healthy development of the national economy (Li & Xu, 2016) and, on the other hand, caused housing affordability concerns for most Chinese families and affected individual well-being (Du & Zhang, 2015; Zhu et al., 2018).

The central government has launched a series of real estate regulatory policies, especially home purchase restrictions in excessively hot housing markets, to prohibit excessive housing investment and return housing to its residential character, thereby curbing the soaring housing prices in urban areas ((Du & Zhang, 2015; Li & Xu, 2016). In 2010, Beijing first imposed the home purchase restriction and implemented it incrementally in more than 40 cities (Du & Zhang, 2015). More specifically, people without local hukou can only buy one unit in big cities, and buyers need to provide local tax receipts or social security records for one year (Du & Zhang, 2015). Besides, governments generally prohibit people with local hukou from purchasing more than two units in big cities (Du & Zhang, 2015). Home purchase restrictions are seen as a strict housing policy to control the speculative nature of housing and make housing affordable. Although home purchase restriction policies have effectively curbed excessive housing price increases, housing prices still show an upward trend in the decade 2010-2020.

After 2020, the pandemic hugely impacts China's housing market. Except for four super cities (Beijing, Shanghai, Guangzhou, and Shenzhen), the housing market in other cities showed a trend of declining turnover and falling housing prices. In order to stabilize the housing markets, most Chinese cities have lifted home purchase restrictions and taken three major measures to stimulate housing demand. The first measure is reducing the down payment requirement from 30% to 15%. The second measure is to reduce the interest rate on commercial loans from 4.85% in 2019 to 3.85% in 2024. The third measure is that the government directly acquires unsold commodity housing and uses it for affordable purchased housing or affordable rented housing. These measures have, to some extent, alleviated the problem of low homebuyer confidence in the housing market and weak housing demand, thereby stabilizing the housing market.

2.2 Hukou policy in China

The hukou system is unique to China and does not exist elsewhere in the world. Hukou is one of the most important institutional arrangements associated with welfare access, housing experience, and labour market outcomes (Afridi et al., 2015; Chen, 2019; Liao & Zhang, 2021; Gu & Zhao, 2024). Hukou, also known as the household registration system, was officially introduced in 1958 to discourage rural residents from moving to urban areas. At the time, China operated a planned economy in which the government provided basic necessities

such as food, housing, and medical care to public employees living in urban areas. However, rural residents did not obtain these services. This prompted the rural residents to seek jobs in the cities. Given that public resources in urban areas were limited and governments expected rural residents to farm in rural areas to provide agricultural products for urban areas, the hukou system was introduced to control the excessive movement of rural residents to urban areas (Liao & Zhang, 2021).

Under the hukou system, hukou status has two parts: hukou type and hukou place (Afridi et al., 2015; Shi et al., 2024). Hukou types can be grouped into rural hukou and urban hukou (Huang et al., 2014). Also, hukou place can be grouped into different provinces and cities based on geographic attributes. More specifically, every Chinese citizen can obtain a hukou status at birth. The hukou status of newborns inherits the hukou status of their parents (Huang et al., 2014).

More importantly, the hukou place is tied to access to public services (such as education, health care, and affordable housing), especially in supercities (Shi et al., 2024). For example, residents with Guangzhou hukou are entitled to public education in Guangzhou. Furthermore, even though a small amount of public rental housing remains available to the migrants, Guangzhou's existing housing system still prioritizes providing public housing to residents with local hukou. That is, without a Guangzhou hukou, migrants are unlikely to live in public rental housing in Guangzhou. For low-skilled migrants, their lower incomes make them more likely to choose to rent in informal settlements to reduce housing costs (Gurran et al., 2022). However, informal settlements are usually associated with poor housing conditions, long commutes, and difficult access to public services. For skilled migrants, even if they are paid a decent wage, they may choose to rent in informal settlements with poorer living conditions or commodity housing with higher rents. Whether low-skilled or skilled migrant, they may experience different dimensions of housing precarity in super cities.

In addition to housing experiences, hukou status also affects migrants' labour market outcomes. This is because many companies believe that migrants usually change jobs frequently. Therefore, many companies prefer to recruit employees with local hukou. It is safe to say that despite recent hukou reforms aimed at decoupling the link between hukou places and access to public services, without a local hukou, migrants are still at a disadvantage in destination cities (Shi et al., 2024).

2.3 In summary

This chapter has outlined the developments in China's housing system over the past few decades and then looked at the hukou system in China. The next chapter will review the relevant literature on migrants' housing tenure choices and settlement intentions.

Chapter 3: Literature Review

This thesis aims to investigate whether settlement intentions mediate the relationship between employer types and homeownership outcomes. However, given the paucity of literature on the determinants of tenure outcomes, this chapter will mainly review the literature on the determinants of tenure choice. This chapter will then review the literature on determinants of settlement intentions. This is because when treating the settlement intentions as the mediator in the relationship between employer types and homeownership outcomes, the effect of employer types on settlement intentions is also examined. That is, settlement intentions are treated as dependent variables when examining the effect of employer type on settlement intentions in this thesis. By reviewing the existing literature, I gain an understanding of the existing research and debates relevant to the research area. This can further identify the research gaps in this area and provide a better basis for constructing regression models for employer types, settlement intentions, and homeownership outcomes.

3.1 Explaining homeownership outcomes

In this subsection, I will review the literature on housing tenure choices, particularly the emergence of housing tenure as a research area, theory, or theoretical perspective used to explain tenure, methodologies, and variables for tenure choice/outcome research. The literature review on housing tenure choice could update the current knowledge on homeownership patterns and lay the foundation for understanding the homeownership patterns of young skilled migrants in Chinese super cities.

3.1.1 The emergence of housing tenure choice among immigrants and internal migrants as a research area

Housing tenure is a classic concept in the housing literature. According to the definition of OECD (2024), housing tenure refers to “the arrangements under which the household occupies all or part of a housing unit.” There are different tenure types across countries, but the common types include social rental, private rental, and owner occupation (without a mortgage or with a mortgage) (Dol & Boumeester, 2018). In many empirical analyses, housing tenure is further simplified to rental and homeownership (Arimah, 1997; Raya & Garcia, 2012; Munford et al., 2020; Chen et al., 2022; Zhang, 2023). There are two reasons

for the dichotomy in the housing literature between owner-occupiers and renters. Firstly, as noted by Ruonavaara (1993), although owner-occupiers without and with mortgages are two different tenure types, they represent two different stages in the housing career of owner-occupiers. As owner-occupiers with mortgages gradually pay off the debt on the dwelling, they become owner-occupiers without mortgages (Ruonavaara, 1993). Thus, Ruonavaara (1993) argued that owner-occupiers with and without mortgages can be roughly equated. More importantly, the owner-occupier owns the dwelling outright or through a mortgage (Hiscock, 2001). Nevertheless, public or private renters do not own the property and need to pay the rent to landlords (Hiscock, 2001). Second, public/social rental accounts for a small share of all housing tenure types due to homeownership rates above 80% in many countries (e.g., the US and China) and a limited supply of public/social housing (Chen, 2016). When modeling housing tenure choice, the relatively small number of observations for some groups (e.g., public/social renting) may distort the estimations. Taken together, although some recent literature casts doubt on the owner/renter dichotomy (Zhang, 2023), given the robustness of the estimates and the fact that information on whether owner-occupiers have mortgages is not available in the dataset, I still treat housing tenure as renting and owning.

Over the past several decades, housing tenure choice, particularly homeownership choice/probability, has been a continuing research area of interest in academia and policy debates in developed and developing countries. This is because the benefits of a higher homeownership rate accrue to households and society. For households, access to homeownership can improve the quality of the residential environment and enhance happiness and well-being (Arimah, 1997), health (Munford et al., 2020), provide a stable home (Chen et al., 2022), accumulate wealth (Raya & Garcia, 2012), boost social status (Mulder et al., 2015), and promote educational outcomes (Haurin et al., 2002). For societies, transitioning from living in one's parent's home or renting to owning indicates a transition to adulthood (Druta & Ronald, 2017). As a result, given the substantial social and economic benefits of homeownership, there is a social norm in many countries (such as the US, UK, Australia, and China) that homeownership is a preferred tenure over renting (Lux et al., 2018; Chen et al., 2022). In light of this, how to formulate housing policies to increase homeownership rates remains an important policy goal (Das et al., 2019; Kim, 2020). This has motivated researchers from many different disciplines (e.g., economists, sociologists, and geographers) to disentangle the determinants of homeownership.

In addition to examining housing tenure choices among the general population, many studies have focused on immigrant/migrant homeownership. For international migrants, many developed countries (such as the UK and the US) entered a prolonged period of net migration in the 1980s (Nygaard, 2011). For internal migrants in China, after the reform and opening up in 1978, many rural migrants moved to urban areas to find work or pursue their well-being (Chen et al., 2022). In fact, regardless of whether they are international or internal migrants, they pursue homeownership in the destination countries and cities just like natives (Tang et al., 2017; Mundra & Oyelere, 2018). This is because homeownership can improve immigrants' social status, better integration into local societies, and a sense of security (Lui, 2023). Given that homeownership is tied to public benefits in China, access to homeownership is an indicator of enjoying social welfare in destination cities for internal migrants (Chen et al., 2022). However, while overall homeownership rates have increased over the past few decades, the gap in homeownership rates between immigrants and natives is even wider (Painter et al., 2001; Chen, 2016; Mundra & Oyelere, 2018). Furthermore, both immigrants and migrants create significant economic benefits for host countries and cities (Nygaard, 2011; Chen et al., 2022). As a result, the determinants of housing tenure choice among international and internal migrants have become a focus of policy attention, motivating an extensive literature in this sub-research area.

Put it simple, housing tenure choices is like a question: should individuals or households buy a house or just rent it? (Seko & Sumita, 2007). Before explaining the housing tenure choices, I discuss some terms generally used interchangeable in housing tenure research. Housing tenure choices and preferences are usually used interchangeably, but these two terms are somewhat different (Chen et al., 2022). Choice operates within demand, and it is determined by constraints and the availability of alternatives (Olanrewaju & Woon, 2017). Consumers may like it or dislike it (Olanrewaju & Woon, 2017). Nevertheless, preferences refer to consumers prefer to specific goods or services based on their tastes and values, whether there are alternatives or not (Olanrewaju & Woon, 2017). According to work by Preece et al. (2020), housing tenure choices are conceptualized as individuals or households' decisions relating to choosing to rent a home or buy it. Housing tenure preferences are conceptualized as the expression of individuals' or households' desire or want to rent or own (Preece et al., 2022). That is, for the term "housing tenure choice", individuals or households may take financial constraints into account when deciding whether to buy or rent. However, housing tenure preferences only consider the desire of individuals or households to rent or buy, rather

than actual financial conditions.

Overall, tenure choices reflect the combined influences of preferences, economic resources, market conditions and availability (Sylvia et al., 2011). Housing tenure preferences reflect the tenure choices of individuals or households under relatively unconstrained conditions (Sylvia et al., 2011). That is, housing tenure choice captures the likelihood of access to homeownership, and housing tenure preference may not be strongly related to actual behavior. These two terms reflect subjective attitudes and behaviors rather than outcomes. There may be a gap between choices or preferences and actual outcomes (Chen et al., 2022). Housing tenure outcomes could better capture housing affordability (Olanrewaju & Woon, 2017). For example, individuals or households may decide to buy a house. However, they may not actually purchase it if they consider the risk of paying the debt and employment precarity. Therefore, as Chen and her colleagues (2022) argued, disentangling the determinants of tenure outcomes could better capture the factors that actually contribute to making homeownership ultimately achievable, rather than choice or preference as conceived. The focus of this study is on homeownership outcomes rather than preferences or choices. Given that a large number of studies have examined the determinants of housing tenure choice instead of outcomes, I will review the literature in this area in order to provide the empirical basis for studying the homeownership outcomes of young skilled migrants.

3.1.2 Theoretical perspectives on tenure choices

In this subsection, I will discuss housing tenure choices from four classical theoretical perspectives: neoclassical economic theory, family lifecycle theory, life course theory, and investment perspective.

1. The Neoclassical economic theory

Neoclassical economic theory was developed in the 1900s to challenge the earlier theories of classical economics (Veblen, 1900). Earlier economic theory pointed out that product or service costs plus labour costs determine their prices (Veblen, 1900). Neoclassical economic theory held that consumers' perceived value of products or services determined their prices, also known as utility (Veblen, 1900). That is, consumers intend to maximize their utility based on their utility evaluations of a product or service when making purchase decisions. Nevertheless, neoclassical economic theory is subject to three assumptions. The first

assumption is related to rational thinking. That is, consumers will make rational choices based on the values that each choice generates. The second assumption is linked to maximization. That is, when consumers make choices, they will maximize the utility of products or services. The final assumption is information, that is, that consumers understand all the information about products or services.

The neoclassical economic theory is usually used to predict some dependent variables in housing research, such as housing tenure choices, housing prices, and the probability of moving (Sylvia et al., 2011). This study pays particular attention to how previous studies have used neoclassical economic theory to explain housing tenure choice. In the neoclassical economic analysis of the housing market, housing tenure choices can be modeled as functions of the price or rent of the dwelling and the demographic and socioeconomic characteristics of households (Hsieh, 2002; Sylvia et al., 2011). As Hsieh (2002) pointed out, housing tenure choice differs from conventional consumer choice in two ways. The first is that conventional consumer choices are generally continuous, but housing tenure choices are discrete (renting vs. owning) (Hsieh, 2002). The second is that housing is considered a durable good (Hsieh, 2002). Consumers may consider the durability of housing when making housing tenure decisions (Hsieh, 2002).

As Hsieh (2002) argued in his Ph. D. thesis, households ultimately choose housing tenure based on the utility of renting versus owning, subject to financial resources. For example, if households have sufficient savings and earn higher incomes, they will make rational choices between renting and owning. In the post-pandemic era, employment is precarious, and future income is increasingly uncertain. Buying a home can put people at risk of being unable to pay their debts. Meanwhile, the debt that households need to pay off each month also competes with other goods to consume. That is, when households buy a house, they may reduce their consumption of other goods because their financial resources are limited. However, households do not have to pay rent after buying a house. As a result, the decision to buy or rent a home depends on their perception of the utility of renting versus owning. If they choose to rent a home, they perceive that renting can maximize their utility at this point and vice versa. Indeed, when households do not have enough financial resources to buy a house, renting seems to be a rational choice.

Although neoclassical economic theory is widely used in housing tenure research, some

researchers have also pointed out the flaws. For example, Boelhouwer (2011) argued that neoclassical economic theory assumes that consumers can have perfect knowledge of the housing market. However, the housing market is imperfect due to a lack of information and the complexity of the product. Thus, it is difficult for households to make rational housing tenure choices.

2. The family lifecycle theory

Family lifecycle theory was developed by Wells and Gubar (1966) in the field of marketing research in order to target consumers. Unlike the natural life cycle (age), family lifecycle theory focuses on the progression of family development over time (Clark, 2017). Amirtha et al. (2017) noted that family lifecycle theory is linked to the household head's age, marital status, presence or absence of children, and family size within a theoretical framework to describe the formation, maintenance, change, and dissolution of marital and family relationships. Over time, the individual or family follows a fixed trajectory to the next family lifecycle stage (Carter & McGoldrick, 1980). Nevertheless, family lifecycle theory is based on two assumptions (Clark, 2017; Chen et al., 2022). The first is that each individual will marry or form a family. The second is that each family will have children.

The notion of the family lifecycle stage is widely used in the literature on housing choices (Clark, 2017). Many researchers have highlighted that the specific stage of the family lifecycle has different housing needs and preferences, which trigger the family's different housing choices (Chen et al., 2022). For example, when individuals intend to enter into marriage, males are more likely to buy a house rather than rent (Hu & Wang, 2020). This is because access to homeownership prevents male disadvantage in the marriage market (e.g., in China). In addition, newly married couples are more likely to buy a home in China if they intend to have children (Chen et al., 2022). This is because homeownership is tied to public education. Even if the family's economic resources are limited and buying a home is unrealistic, when they have children, they prefer to rent larger dwellings (Clark, 2017). Taken together, linking family life cycle theory to housing tenure choice can partially capture the homeownership needs and preferences of families at different stages of the family life cycle. Nevertheless, the limitations of the family lifecycle theory have gradually become apparent as more individuals and families have followed different life trajectories (Clark, 2017). For example, individuals may marry later or not at all, and families may have children later or not at all. These social phenomena violate two basic assumptions of the family lifecycle theory.

An increasing number of researchers have recognized that the static and incremental trajectory of family development cannot respond to changes in family structure (Elder, 1985; Coulter et al., 2013). Against this background, research has shifted from the normative sequencing and timing of events to focus on the dynamics of family events, also known as life courses (Coulter et al., 2011).

3. The life course theory

Life course theory seeks to understand how the multiple factors that shape people's lives from birth to death, including household careers, housing careers, education careers, and work careers (Coulter et al., 2011; Coulter et al., 2013; Clark, 2017). In other words, households can be regarded as networks of relationally "linked lives" (Coulter et al., 2011; Coulter et al., 2013; Clark, 2017). Given that life course perspectives could better respond to social and demographic changes, many studies have used life course perspectives to explain housing tenure choices (Li & Li, 2006; Strom, 2010). Life events are seen as triggering events that cause changes in housing needs and preferences. For example, the birth of a child is associated with stronger demands for housing stability (Du et al., 2024b). Renting is seen as a lack of tenure security (Waldron, 2022). Thus, households may prefer to access homeownership. In addition, when one household member obtains a job or loses a job, the change in job career can affect the household's income level, ultimately influencing housing tenure choices (Clark, 2017). In this scenario, they may continue to rent rather than own because owning is associated with higher risks if they have difficulty meeting mortgage payments (Kim & You, 2021). In addition, divorce or separation could increase the likelihood of moving from owning to renting (Helderman, 2007). As Coulter et al. (2016) pointed out, life course perspectives could be used to highlight the importance of past biographies and life course trajectories in shaping people's housing tenure choices and outcomes. However, the life course perspective relies heavily on longitudinal datasets because information on people's biographies is required, which is time-consuming and expensive to collect. Thus, despite the many advantages of life course theories, they are relatively underused by researchers in developing countries due to the lack of longitudinal datasets.

4. The investment issue

Beyond neoclassical economic theory, family lifecycle theory, and life course theory, some literature has considered housing tenure choice as an investment issue (Goodman, 1988). For example, when households buy a house, they invest their savings in property instead of other

assets or consumption, such as stocks and bank deposits (Hsieh, 2002). In this sense, buying a house could be considered as part of a portfolio decision (Hsieh, 2002). When households allocate their savings to different portfolio choices, they have different rates of return and different levels of risk and liquidity (Hsieh, 2002). The investment attributes of homeownership could be seen as a strong motivator for households to enter the housing market (Arimah, 1997), especially in light of rising housing prices in international housing markets (Chiu et al., 2019). In the next subsection, I will review the literature on the determinants of housing tenure choice for international or internal migrants.

3.1.3 The literature on empirical analysis

Housing tenure choices, in general, are complex and particularly important for international and internal migrants because homeownership epitomizes their long-term economic achievement and strong attachment to destination societies (Painter et al., 2001; Wang et al., 2020). Some studies have identified that homeownership plays an important role in shaping the health, well-being, and social integration of migrants (Mundra & Oyelere, 2018; Lui, 2023). In most previous studies, migrants' socio-demographic and migration characteristics have been offered as explanations for the determinants of housing tenure choice.

In fact, few studies have examined the determinants of tenure outcomes, and most studies have paid more attention to tenure choice. Within tenure outcomes, choice does come into play, but some people's choices are more limited due to the socio-demographic factors - affecting their tenure outcomes. As such, I begin by reviewing the role of demographic characteristics in determining migrants' housing tenure choices in destination societies. With regard to gender, most literature has treated gender as a control variable and produced inconsistent findings. For example, Allen and Ishizawa (2015) analyzed the 2007 American Community Survey (ACS) dataset, and the results from their probit regression analysis concluded that when the household head is female, Latino and Asian immigrants are more prone to access homeownership than their counterparts whose household head is male. However, the difference in homeownership between female and male household heads was not observed for Latino and Asian immigrants. They explained this by the fact that around a third of each sample in the dataset was female. Thus, focusing on the household head's gender could produce biased results. Another recent paper has also disentangled the role of gender in shaping immigrant homeownership in the US. Using microdata for the years 2000–

2012 in the US, Mundra and Oyelere (2018) employed the Probit regression analysis and found that gender is essential for determining immigrant's housing tenure choices. In particular, they showed that although female immigrants have a lower homeownership rate than male immigrants, female household heads are more likely to access homeownership. However, Constant et al. (2009), drawing on the German Socio-economic Panel (GSOEP) survey data, included gender as the dummy variable in Probit regression models. They concluded that the regression coefficients for household heads' gender are non-significant in the models.

For internal migrants in China, the literature on the effect of household heads' gender on homeownership in destination cities has also produced mixed results. For example, Tang et al. (2017) analyzed data from a 2010 survey conducted in Jiangsu Province, and the logistic regression models showed that if the household head of rural migrant households is male, they have a higher probability of becoming homeowners in urban destinations. They argued that the fact that in Chinese culture, males take on more responsibility for buying a house than females could be interpreted to explain this finding. However, based on data from the National Migrants Population Dynamic Monitoring Survey (NMPDMS), Wang et al. (2020) ran the multivariate probit models. They concluded that rural migrants whose household head's gender is female are more prone to buy a house in destination cities than their counterparts whose household heads are male. Using data from the 2017 China Migrants Dynamic Survey, Zou and Deng (2022) performed the OLS regression models to support the findings by Wang et al. (2020). In contrast, using data from the 2013 China Household Finance Survey (CHFS), Liao and Zhang (2021) did not find that the household head's gender was a significant predictor of migrant homeownership in destination cities. For international or internal migrants, empirical analysis based on different geographical units and migrant cohorts may explain the mixed findings on the effect of gender on migrant homeownership.

With regard to age, most existing studies have consistently found that age is positively and significantly associated with homeownership, either for international or internal migrants. For example, Painter et al. (2001) used census microdata from 1980 and 1990 in the US and treated age as a categorical variable. They coded age into four levels: age 18-24, age 35-44, age 45-54, and age 55-64. Using age 18-24 as the reference group, they found that older immigrants were more likely to become homeowners than younger immigrants in the US.

Despite the different coding methods for age, Mundra and Oyelere (2018) treated age as a continuous variable and concluded that the age of the household head can increase the probability of homeownership in the US. In addition to focusing on immigrants in the US, using data from the Quarterly Labour Force Survey (QLFS), Nygaard (2011) found that immigrants are more likely to be owner-occupiers in the UK as they age. Using the data from the 2001 Los Angeles County Mexican Immigrant Residency Status Survey, the different pattern in the effect of age on homeownership was observed by McConnell and Marcelli (2007). They entered age and age squared in logistic regression models and found that age is positively associated with homeownership and age squared is negatively related to homeownership. This indicated the inverted U-shaped relation between them. Looking at rural migrants in Jiangsu province, Tang et al. (2017) divided age into two levels: 30 or age under 30 and age over 30. They treated ages over 30 as the reference group. The negative association between age and home ownership was observed in their study, suggesting that rural migrants over the age of 30 are more inclined to buy homes in Jiangsu provinces than their counterparts aged 30 or younger. The subsequent work by Wang et al. (2020) confirmed this finding. The fact that wealth, savings, and income are positively related to age may explain why age is positively related to homeownership (Nygaard, 2011; Tang et al., 2017). However, using data from the 2013 China Household Finance Survey (CHFS), Liao and Zhang (2021) found a different pattern, suggesting an inverted U-shaped relationship between age and homeownership. Noticeably, they included the age and age squared in the ordinary least squares (OLS) models, which allow for non-linearities (Abreu et al., 2015). The inconsistent findings on the effect of age on homeownership could be attributed to the different methods of coding age.

When looking at marital status, most researchers coded marital status as a binary variable (unmarried vs. married) and produced inconsistent results regarding the effect of marital status on homeownership. On the one hand, for international migrants, Painter et al. (2002) found that being married increases the probability of homeownership for immigrants in the US. Focusing on the foreign-born Latinos and Asians in the US, Allen and Ishizawa (2015) identified that being married is a significant and positive predictor of immigrant homeownership in the US. This marriage effect on home ownership was also found in the UK. Nygaard (2011) concluded that married immigrants had a higher probability of becoming homeowners because they had dual incomes in the UK. However, McConnell and Marcelli (2007) showed that being married reduces the probability of owning a home in the US. They

offered the possible interpretation that most Mexican immigrants may be married, but their spouses stay in Mexico. Thus, they are more likely to buy a home in Mexico than in the US. On the other hand, the positive role of marriage in homeownership was observed for China's internal migrants. For example, using Guangzhou as a case study, Chen (2016) applied finite mixture regression methods and concluded that marriage increases the probability of migrant homeownership. She explained this finding by the fact that access to homeownership in China is seen as the marital foundation for marriage. Similarly, based on data from the 2017 China Migrant Dynamic Survey (CMDS), Liu and Liu (2023) found that married migrants had a homeownership rate 2.58 times higher than their unmarried counterparts. They offered the possible interpretation that homeownership is seen in Chinese norms as a prerequisite for marriage.

Beyond demographic characteristics, most studies have examined the influence of migration characteristics on migrant homeownership, paying particular attention to the length of stay in the host country/city and the original place. Looking first at the length of stay in destination countries and cities, the existing literature has produced similar results for either international or internal migrants. For example, by analyzing the housing tenure choices of German immigrants, Constant et al. (2009) concluded that years since migration to Germany is a positive and significant predictor of homeownership probability. Consistent with Constant et al. (2009), using the National Immigrant Survey in Spain, Colom Andrés and Molés Machí (2017) employed the binomial logit models and obtained the equivalent results. They concluded that the longer immigrants stay in Spain, the more likely they are to access homeownership in Spain. They explained that longer stays in host countries can increase immigrants' integration into host societies and thus increase their likelihood of homeownership. Similarly, using US immigrants as a case study, Mundra and Oyelere (2018) found that the longer immigrants stayed in the US, the higher their probability of buying a home in the US. The positive role of length of stay in increasing the chances of homeownership was also confirmed for internal migrants in China. Based on housing survey data in Shenzhen, Tao et al. (2015) conducted the multinomial logistic regression models and found that an additional year of stay in Shenzhen can increase the probability of access to homeownership for rural migrants by 1.16 times. Fang and Zhang (2016) conducted a logistic regression using data from the 2009 housing survey in six large cities (Shanghai, Shenyang, Xi'an, Wuhan, Fuzhou, and Guangzhou) and found similar results. They concluded that for each year that migrants stay in the destination cities, the odds of buying a house in the

destination cities increase by 1.1 times. A study by Tang et al. (2017) confirmed this finding, although they coded length of stay in destination cities as a categorical rather than a continuous variable. Specifically, they divided the length of stay into three levels (less than 0.5 years, 0.5-2 years, and more than 2 years) and treated a stay of less than 0.5 years as the reference group. They also observed a positive association between length of stay and homeownership. They attribute this to the fact that longer stays in destination cities could reduce potential moving costs caused by floating between cities and increase local contacts and a sense of belonging.

A substantial body of research has linked migrants' place of origin to homeownership decisions. The literature on immigrants' housing tenure choices has focused on differences in homeownership probabilities between different ethnic minorities. For example, Painter et al. (2001) analyzed the determinants of homeownership decisions among racial and ethnic groups in Los Angeles. They found that Asian immigrants are as likely to choose homeownership as whites, but Latino immigrants are slightly less likely to be homeowners than whites. Painter et al. (2001) argued that the gap in homeownership probabilities between whites and Latino immigrants could be fully explained by differences in endowments (such as education, income, and immigration status). Nevertheless, immigrant status did not lead to lower homeownership probability among Asian immigrants. Nygaard (2011), based on a study of the homeownership probabilities of immigrants in the UK, found similar results. Nygaard (2011) confirmed that Asian immigrants have the highest probability of becoming homeowners compared to other minority groups. Asian immigrants have a higher homeownership rate than other minority groups, which may be due to their sensitivity to income and encourage them to increase savings (Nygaard, 2011; Mundra & Oyeler, 2018). In contrast, the literature on homeownership probabilities of internal migrants in China has paid more attention to whether migrants moved within provinces. For example, using data from the China Migrant Dynamic Survey (CMDS), Liu and Liu (2023) concluded that intra-provincial migrants have higher homeownership rates than inter-provincial migrants. Using data from the National Migrants Population Dynamic Monitoring Survey (NMPDMS), Wang et al. (2020) found similar results. They did not provide the possible interpretations. This phenomenon may be explained by the fact that intra-provincial migrants are more familiar with local culture and customs and have more local contacts than interprovincial migrants. Intra-provincial migrants are more likely to stay in the destination cities and earn higher incomes than their comparable counterparts moving from other provinces, thereby

increasing the likelihood of homeownership.

Turning to socio-economic characteristics, previous literature has consistently found that income plays a positive role in predicting the likelihood of homeownership. This finding is not too controversial and is in line with expectations. For example, Constant et al. (2009) took the logarithm of household income in the case of Germany and concluded that higher income is the positive predictor of immigrant homeownership probability. Similarly, Colom Andrés and Molés Mach í (2017), based on data from the Spanish National Immigration Survey, found that higher-income immigrants are more likely to buy a home in Spain. They argued that higher income levels allow them to save more money for the down payment and interest costs of a mortgage. In addition, Mundra and Oyelere (2018) confirmed that household income is positively associated with immigrant homeownership probability in the US. The positive association between income and homeownership probability was also observed among internal migrants in China. For example, Huang et al. (2014), based on the 2009 migrant housing survey in Jiangsu Province, treated personal income as a categorical variable (monthly income below 1600 yuan vs. monthly income of 1600 or higher). Despite treating income as a categorical rather than a continuous variable, they still found a positive relationship between income and homeownership. Notably, treating income as a categorical variable may lead to missing information on income, and inadequate income categorization may also lead to biased estimates. Furthermore, using data from the 2013 China Household Finance Survey (CHFS), Liao and Zhang (2021) took the logarithm of household income and confirmed that higher income may increase the probability of homeownership.

A number of studies have also examined the effect of educational attainment on homeownership probability but have produced inconsistent results. For example, Mundra and Oyelere (2018) supported that higher educational attainment can increase immigrant homeownership probabilities in the US. Although immigrants' educational attainment is considered a key factor in their participation in the assimilation process in host countries (McConnell & Marcelli, 2007), some literature has not found a significant relationship between education and homeownership probability. Constant et al. (2009) studied immigrant housing tenure choice in Germany, considering immigrants' educational backgrounds in their home countries and in Germany. They divided immigrants' educational attainment in their home countries into four types: incomplete school in their home country, complete school in their home country, vocational school in their home country, and college in their home

country. Meanwhile, they also categorized immigrants' educational background in Germany into four levels: no degree in Germany, primary/lower secondary in Germany, higher education in Germany, and college education in Germany. However, these variables, which capture immigrants' educational attainment in their home countries and Germany, were non-significant in the probit regression models. Allen and Ishizawa (2015) do not distinguish whether immigrants' educational attainment derives from home or host country education. They analyzed the housing tenure choices of Latinos and Asians in the USA. They divided educational attainment into three levels: less than high school, high school, no college degree, and college or more. They applied the probit models to predict their likelihood of homeownership in the US. They concluded that no significant association exists between immigrants' educational attainment and homeownership probability in the US. In addition, Colom Andrés and Molés Machí (2017) analyzed immigrants' decisions for tenure in Spain. They coded educational attainment into three types: no or primary school education, secondary school education, and university education. Unlike other researchers who included education as a categorical variable in their models, they included it as three binary variables. They concluded that immigrants with a university degree are less likely to buy a home. They offered the potential interpretations: immigrants with better education are more likely to move and increase their savings in order to buy a quality home.

Although different researchers have used different methods to code education or different indicators to capture education, the positive association between education and migrant homeownership probability has been consistently found by Chinese housing or demographic researchers. For example, Chen (2016) studied migrants' homeownership decisions in Guangzhou and coded education on a scale of 1-9. She concluded that homeownership is more accessible among migrants with good educational backgrounds. The heterogeneity analysis results further indicated that education's positive role in determining the probability of homeownership is more sensitive for skilled migrants than natives. Focusing on the rural migrants' housing tenure choices in Jiangsu Province, Tang et al. (2017) divided education into three types: primary school and below, middle school, and college and above. They concluded that higher education could increase rural migrants' human capital, thereby increasing the likelihood of homeownership in destination cities. Consistent with the findings of Tang et al. (2017), Wang et al. (2020) studied migrants' housing tenure choices in China and coded education into four types (elementary school, senior middle school, junior middle school, and college or higher). They pointed out that better education increases migrants'

chances of finding stable jobs in destination cities, thus providing them with a stable income to achieve homeownership. Huang et al. (2014) studied rural migrants' homeownership decisions in Yangzhou. They coded their educational status into two types: nine years of compulsory education and less than nine years of compulsory education. They confirmed that longer years of schooling positively predict the likelihood of homeownership for rural migrants in Yangzhou.

Social security is the predictor used to determine migrants' housing tenure choices in the Chinese context, which does not exist in the international context. Social security, or social insurance, is the collective name for five types of insurance: pension, work compensation (work injury insurance), medical insurance, unemployment insurance, and maternity insurance. It should be noted that social security does not include the Housing Provident Fund. A part of the literature has examined the influence of social security/insurance on migrant homeownership probabilities, while others have looked at the role of one or more specific types of insurance in shaping homeownership probabilities. For example, Tao et al. (2015) found that rural migrants not covered by social security in Shenzhen have a higher probability of renting a house in Shenzhen than their counterparts covered by social security. Similarly, Tang et al. (2017) concluded that rural migrants with social insurance are more likely to become homeowners in destination cities. They offered the possible explanation that rural migrants with social security have greater job stability and do not move frequently between cities, thereby improving homeownership rates. In addition, Huang et al. (2014) included whether migrants have pension, medical, unemployment, and working injury insurance in binary logistic regression models. They found that migrants with pension and unemployment insurance have a better chance of becoming homeowners than their counterparts without these two types of insurance. The regression coefficient for medical insurance is non-significant in the models. Migrants covered by working injury insurance are more likely to rent homes than those not covered.

The impact of hukou status is also unique to the Chinese study on migrant housing tenure choices. Most existing studies have found that hukou status (rural hukou vs. urban hukou) plays an important role in shaping the probability of homeownership among migrants, and the results are consistent. For example, focusing on the probability of homeownership among migrants in Shenzhen, Tao et al. (2015) showed that migrants with rural hukou are more likely to rent a home in Shenzhen than their counterparts with urban hukou. Similarly, Liu

(2019) analyzed the migrant housing tenure choices in Beijing and found that migrants with urban hukou are more likely to become homeowners in Beijing than migrants with rural hukou. A recent study by Liu and Liu (2023) also supported this finding. However, they did not explain why hukou status continues to play such an important role in migrants' housing tenure choices. One possible interpretation is that the gap in homeownership probabilities between rural and urban hukou holders may reflect the imbalance between urban and rural development (Zhu & Chen, 2010). More specifically, urban hukou holders may have higher human capital than rural hukou holders, implying that urban hukou holders may receive better education and earn higher incomes, and thus increase homeownership rates.

Many studies have examined the effect of migrants' employment status on their housing tenure choices, paying particular attention to whether migrants are employed. The findings are inconsistent. For example, based on longitudinal survey data in three Nordic countries - Denmark, Finland, and Sweden - Kauppinen et al. (2015) concluded that being employed can predict entry into homeownership, and this effect is most pronounced in Helsinki. In contrast, McConnell and Marcelli (2007) looked at immigrant housing tenure choices in Los Angeles and found no significant association between employment and homeownership probability. Consistent with McConnell and Marcelli (2007), Chen (2016) also reported that employment status is non-significant in the models. Unlike the above literature, Tang et al. (2017) used whether rural migrants work as employees or employers to capture their employment status. They concluded that being an employer can significantly increase the homeownership probability. In the next section, I will review the literature on settlement intentions.

3.2 Settlement intentions

The literature review on settlement intentions includes three parts. Firstly, I will introduce why settlement intentions are becoming an important research area in the migration literature and present the definition of settlement intentions. Secondly, I will introduce some classic theories and perspectives used to explain settlement intentions. Thirdly, I will review the literature on empirical analysis to identify which factors determining settlement intentions are commonly agreed upon and which are still debated. By reviewing the literature on settlement intentions, I can fully understand the current knowledge, identify the research gap, and lay the foundation for the subsequent empirical analysis.

3.2.1 The emergence of settlement intention as a research area

Due to the importance human mobility and movement, migration and settlement are usually intertwined (Zhang et al., 2017). In the era of the globalized economy, people migrate in search of a better life, higher salaries, and quality educational resources in either developed countries or cities (Zhang & Yan, 2022). Some international cities, such as New York and Sydney, are hubs for international migration and settlement because of their abundance of social, cultural, economic, and educational resources (Allen et al., 2021). Over time, these cities have attracted immigrants, and either skilled or low-skilled migrants have contributed positively to population and economic growth, particularly in the context of labour shortages (Hugo, 2008; Bakshi, et al., 2024). However, there is uncertainty about the extent to which these immigrants continue to settle permanently in their destination countries or return to their home countries. Against this background, numerous sociologists and demographers have devoted much attention to the determinants of immigrant settlement outcomes and behavior in the US and European countries.

Likewise, labour migration from small cities to large cities has been a central feature of China's urbanization process, enabling the economy to take off rapidly in recent decades (Wang et al., 2019). According to the Seventh National Population Census released by the National Bureau of Statistics on 11 May 2021, the total number of migrants in China has increased significantly from 221.43 million in 2010 to 375.82 million in 2020, with an average annual growth rate as high as 6.97%. Most migrants have flocked to cities for skilled and unskilled jobs in response to the high demand for labour, contributing largely to economic development and industrial upgrading (Zhang et al., 2017; Huang & Chen, 2022). Against this background, Chinese academia and policymakers are paying more attention to whether these migrants will stay in the destination cities in the long term rather than why they decide to move to cities. As a result, settlement intentions have become a timely and important research topic and urban and regional research and government agenda in China (Zhang & Yan, 2022). Settlement intentions are usually defined as migrants' willingness or intention to settle in destination cities permanently (Sheng & Yang, 2020).

Notably, Chinese migration research has mainly focused on internal migrants rather than immigrants for two reasons. Firstly, internal migrants account for about 25% of China's total population, or even higher (The National Bureau of Statistics, 2021). Secondly, China is still

a developing country and there are not many immigrants in China.

In the following sub-section, I will review some classic theories and perspectives in the migration literature. Although these theories have usually been used to explain migration intentions, much literature has used these theories to explain settlement intentions. Migration and settlement intentions are essentially the same issues since they examine the drivers, barriers and processes of human mobility.

3.2.2 Theoretical perspective of settlement intention

Given that migration is complex and multifaceted to be understood in a single theory (King, 2012), there are four classical perspectives used in the international migration literature to explain migration intentions, including the push-pull theory, the neoclassical migration theory, the new economics of labour migration, and the sociological perspective - the socio-cultural integration of immigrants in destination countries (Massey, 1987; Constant & Massey, 2003). Firstly, the push-pull theory must be emphasized. Human mobility is simultaneously driven by a number of push factors in the place of origin (e.g., unemployment, low social status, political repression) and pull factors in the destination (e.g., higher income, education, and job prospects).

Lee (1966) established four levels of factors that shape human mobility, making the push-pull theory as one of the most important frameworks in the migration literature. In addition to pull and push factors, Lee (1966) pointed out that intervening barriers and personal factors can also play an important role in shaping human mobility or the feasibility of moving. For example, there are a number of barriers to overcome when deciding to migrate or settle, such as physical distance, policy regimes, cultural and language barriers, and different lifestyles. Also, different individuals may respond differently to different permutations of pull and push factors, considering their different economic situations, family lifecycle stages, and preferences (King, 2012). Those with a weak economic base may be more attuned to job prospects and higher incomes in the destination area, while those who are married may be more attuned to educational resources in the destination area. Older people may be attracted to the healthcare resources in the destination areas.

The pull-push migration framework developed by Lee (1966) dominated much migration

discourse until the 1960s, reflecting the neoclassical economic paradigm. This paradigm is based on utility maximization, rational choice, geographical differences, and labour mobility (King, 2012). Subsequently, the seminal work of Sjaastad (1962), based on the neoclassical economic paradigm, envisioned individuals' or households' decisions to move from one area to another as their desire to maximize their net economic return on human capital. In fact, neoclassical migration theory is generally used to explain labour mobility in terms of international or internal migration. If the benefits of moving are greater than the benefits of staying, workers will move from one area to another.

The neoclassical migration theory explains labour mobility from micro and macro perspectives. At the macro level, international or internal labour mobility is triggered by wage-level disparities between countries or regions (Hunter & Simon, 2023). This theory also suggested that the bulk of labour migration moves from small cities to large. Nevertheless, labour migration will stop if income differentials between geographical units are eliminated. At the micro level, potential migrants' decisions to move are influenced by the costs and benefits of moving to alternative locations. In addition to wages, individual characteristics may affect human capital in destination cities or countries and, therefore, the probability of moving (Sjaastad, 1962). Overall, in the paradigm of neoclassical migration theory, migration decisions are determined by the rational choice of individuals to maximize expected income by moving across regions or countries (Massey et al., 1994). However, Dustmann (1996) noted that neoclassical migration theory cannot explain why some migrants who earn higher wages and have good jobs in destination cities or countries still return to their home cities or countries after working for a few years. In fact, neoclassical migration theory emphasizes maximizing individual utility by moving and ignores the role of family members in the migration process (Zhang et al., 2017). Stark and Bloom (1985) argued that migration is not an individual decision but is often made jointly by families. As a result, migration is not only about maximizing individual utility but also about minimizing household risks (De Haas, 2010).

The new economics of labour migration regarded migration as a temporary measure to maximize benefits and minimize risks in the household's livelihood strategy (Constant & Massey, 2003). According to this logic, migrants may return to their place of origin when they have enough money (Zhang et al., 2017). Obviously, these two economic theories can better explain the impetus for migration but not the continuation of migration. In this respect,

sociological approaches show more potential for explaining migration as a dynamic social process (Chen & Liu, 2016).

The perspective of socio-cultural integration of immigrants highlighted the crucial role of socio-cultural attachment to destination and home cities or countries in shaping immigrants' decisions to move or settle (Massey, 1987). Specifically, socio-cultural attachment to destination and home cities or countries is associated with social and cultural integration. Social integration involves international or internal migrants becoming part of the host society by interacting with locals and engaging in the social life of the host society (Wachter & Fleischmann, 2018). Cultural integration refers to the ability of immigrants or migrants to assimilate into the local culture and combine the home and host cultures, ideologies, and values into a unified whole (Wachter & Fleischmann, 2018). Existing studies have shown that language skills in the host country influence immigrants' decisions to move or settle (Blake et al., 2019). Likewise, some Chinese migration scholars have confirmed that internal migrants with better language skills in the host city are more likely to stay in the destination city (Wei et al., 2019). This is because they chose Guangdong provinces as their study area. Many locals in Guangdong speak Cantonese instead of Mandarin (the common language in China). There are huge differences between these two languages, such as pronunciation and expression. Wachter and Fleischmann (2018) argued that language proficiency in the host society can influence immigrants' performance in the local labour market and their ability to understand the local culture, thereby determining their socio-cultural integration. In addition to language skills, Chen and Liu (2016) noted that migrants are more likely to return if they have family members in their home cities. Meanwhile, they pointed out that if migrants can maintain frequent interaction with locals, this can increase their social attachment to destination cities, thereby increasing the probability of staying.

Taken together, these four classic perspectives can help explain migration decisions, settlement intentions, and the process of integration (Massey, 1987; Constant & Massey, 2003). Noticeably, the above review is based on theoretical perspectives. Next, I will devote more attention to reviewing the literature on empirical analysis, which is generally used to prove theories or perspectives.

3.2.3 Empirical evidence of settlement intentions

1. The measures of settlement intentions

Before reviewing the literature on the determinants of settlement intentions, I first focus on measures of settlement intentions. In the literature, settlement intentions have mainly been coded as binary or ordinal dependent variables based on different datasets (e.g., national, regional, and individual city research data). Firstly, the China Migrants Dynamic Survey (CMDS), conducted by the National Health Commission of China (NHCC), has been used to analyze settlement intentions as a national and large sample of migrants in China. The CMDS was conducted annually from 2009 to 2018 (Wang et al., 2021). However, most Chinese scholars generally used the 2017 CMDS to examine migrants' settlement intentions due to the high quality of data in that year (Guo & Zhong, 2023). In 2017 CMDS, the survey question used to measure settlement intentions was "Do you intend to live in the inflow city for a long time (more than 5 years) in the future?" There are four alternatives: "intend to," "return to my hometown," "continue to move," and "have no idea."

However, even when analyzing migrants' settlement intentions in the same datasets (2017 CMDS), different scholars have coded settlement intentions differently. Guo and Zhong (2023) treated settlement intention as a binary variable: whether migrants intend to stay in the destination cities long term (yes vs. no). Given that they could not accurately identify the settlement intentions of those who chose the "have no idea" option, they removed the samples who chose this option. They combined the "return to my hometown" and "continue to move" samples into responses that were not prepared to stay permanently in destination cities and treated the "intend to" sample as prepared responses. A similar coding approach for settlement intentions was used by Huang and Chen (2022). Somewhat differently, Gong et al. (2024) did not remove samples that chose the "have no idea" option. They coded the options "return to my hometown," "continue to move," and "have no idea" as not settling permanently in destinations, and the option "intend to" as settling permanently in destinations.

In terms of national data, in addition to the CMDS, some researchers have utilized the Rural-Urban Migration in China (RUMiC) project to understand settlement intentions. RUMiC data was collected in 2008 and 2009 in 15 different cities across nine provinces and municipalities in China, covering more than 10,000 samples (Xie et al., 2017). In this dataset,

rural-urban migrants were asked a survey question to understand their attitudes towards urban settlement: “If policy allowed, how long would you like to stay in cities?” There are four options: “1 year,” “1-3 year,” “more than 3 years,” “permanently,” and “not sure.” Drawing on the RUMiC dataset, Xie et al. (2017) coded settlement intentions as a binary variable (permanent vs. other). Xie et al. (2017) coded the above options into two categories: respondents who selected the options “1 year”, “1-3 years”, “more than 3 years”, and “not sure” were categorized as “other”, and respondents who selected “permanent” were categorized as “permanent”. Compared to the CMDS dataset, the RUMiC dataset may be outdated despite the large sample sizes in both datasets.

Secondly, some researchers have used regional migrant survey datasets to measure settlement intentions. For example, Zhang and his colleagues (2017) conducted a migrant survey in three cities in Gansu and obtained a sample of 1918. They measured settlement intentions by asking: “What are your plans for future settlement?” There are four choices: “staying in the current city (stay),” “going back to the hometown afterward (return),” “moving to another city (transfer hub),” and “undecided.” Interestingly, they did not remove the samples that chose the “undecided” options and treated settlement intentions as an ordinal variable. In the multinomial logistic regression analysis, they treated “stay in the current city” as the reference group versus the other three groups. Cao et al. (2015) conducted a migrant survey in 12 Chinese cities in 2019, including Beijing, Shanghai, Chengdu, Chongqing, and some cities in Guangdong, Jiangsu, Zhejiang, Hebei, and Shandong provinces. They eventually received 2365 samples. Settlement intentions were captured by the survey questions: “In the long term, do you plan to settle in a city or return to your hometown?” They offered respondents three options: “settle in a city if possible,” “return to my hometown,” and “undecided.” They coded the responses “settle in a city if possible” as respondents willing to settle and other responses as respondents not willing to settle. That is, they did not remove the “undecided” response and treated settlement intentions as a binary variable.

Thirdly, some researchers have looked at migrants’ settlement intentions in a single city or two or three cities. For example, based on the migrant survey data in Ningbo in 2014, Yang and Guo (2018) studied migrants’ settlement intentions in China’s medium city. This survey produced a total of 1659 valid samples. They used three indicators to measure settlement intentions: permanent residence intention, hukou transferring intention, and housing ownership. Their measures of settlement intentions are unique in the migration literature.

Also, based on the Beijing and Shenzhen 2017 survey dataset, Zhang and Yan (2022) obtained 750 samples in each city. They treated settlement intentions as the binary variable: “stay in the host city” and “go to hometown/other cities.”

Taken together, although the definitions of settlement intentions in the migration literature are similar, the measures of settlement intentions are somewhat different for two reasons. The first reason is related to the different datasets that include different survey questions to measure settlement intentions. The second reason is that different researchers have different understandings of options, especially the “undecided” option or similar. For example, some researchers removed the sample who chose the “undecided” option, but others did not. In addition, some researchers coded settlement intentions as a binary variable, while others treated them as an ordinal variable. The measures of settlement intentions reflect different understandings of settlement intentions and preferences for methods of analysis. There is no good or bad or right or wrong way to do it.

2. The determinants of settlement intentions

The existing literature has mainly identified personal factors (socio-demographic characteristics), institutional constraints (hukou), housing experiences (e.g., housing tenure, conditions and affordability) and some pull factors (e.g., livable environment, stable jobs and good public services) as being significantly associated with migrants’ settlement intentions. Furthermore, the literature on settlement intentions could be divided into two types based on the different target groups. Most literature has focused primarily on rural-urban or low-skilled migrants’ settlement intentions, while some recent literature has begun to understand skilled migrants’ settlement intentions.

With regard to demographics (gender, age, marital status, the modes of migration, and the length of stay in destination cities) and socio-economic characteristics, most literature has treated them as control variables when disentangling the determinants of settlement intentions. Looking at the effect of gender on settlement intentions, the existing literature has produced mixed results. On the one hand, some researchers have found that gender is significantly related to settlement intentions. For example, Chen and Liu (2016) analyzed the data from a twelve-city survey 2009 and found that females have higher intentions to settle in destination cities than males. Although gender still plays a significant role in shaping settlement intentions, Huang and Chen (2022) found the opposite. Based on the 2017 CMDS dataset,

Huang and Chen (2022) showed that male rural-urban migrants are more likely to settle permanently in destination cities than their female counterparts. On the other hand, some literature has found that gender does not significantly influence settlement intentions. For example, Xie et al. (2017), based on the survey data from the Rural Urban Migration in China, indicated that gender is not significantly associated with rural-urban migrants' settlement intentions. Guo and Zhong support the findings of Xie et al. (2017). Drawing on data from the China Migrants Dynamic Survey (CMDS), Guo and Zhong (2023) found nil association between gender and settlement intentions. Overall, the different findings on the effect of gender on settlement intentions could be attributed to the fact that the questionnaire surveys targeted the household heads of migrant families. There are some migrant families headed by males and some by females. That is, the settlement intentions reported by the household head may represent the settlement strategy of the whole family, not the individual. Thus, the mixed findings could be explained by different family settlement strategies rather than gender differences.

The effect of age on settlement intentions has also yielded mixed findings. Meanwhile, age was also coded in different types of variables: continuous and categorical. On the one hand, the bulk of the literature has found that age is significantly associated with settlement intentions. For example, drawing on data from the Special Survey on Social Integration and Mental Health of Migrants (SIMHM), Wang and Shen (2023) treated age as the continuous variable. They used structural equation modeling (SEM) and found that older migrants were more likely to stay in destination cities for the long term than younger migrants. Although age is still significant in the models, Xie et al. (2021), based on survey data from 15 Chinese cities, found an inverted U-shaped curve relationship between age and settlement intentions. This finding suggested that migrants' settlement intentions increase and decrease with age. Noticeably, they included age and age squared in the models. On the other hand, some literature has suggested that age does not seem to influence the probability of permanent settlement. For example, based on data from two surveys conducted in Fujian Province in 2006 and 2002, Zhu and Chen (2010) coded age as a categorical variable: younger than 25, 25-29, 30-39, and 40-49. They treated those younger than 25 as the reference group and found no relationship between migrants' age and settlement intentions. Despite different coding for age, Wang et al. (2019) found similar findings. Using data from Rural-Urban Migration in China (RUMiC), Wang et al. (2019) included age as a continuous variable in a two-stage least squares regression analysis. They indicated that despite the positive regression

coefficient for age, it was non-significant at the 0.05 level. Overall, these inconsistent findings could be interpreted as differences in datasets and different methods of coding age.

Likewise, the relationship between marital status and settlement intentions has generated inconsistent findings. In the existing literature, marital status was coded as a binary or categorical variable. Some literature has shown that migrants' marital status exerts the significant influence on settlement intentions. Tang & Feng (2015) used data from a 2010 survey of rural migrants in Jiangsu Province and classified marital status as a categorical variable: single, married separated, and married together. They conducted a logistic regression analysis and concluded that rural migrants who are married and living with their spouses, or single migrants, have a greater desire to settle in destination cities than those who are married but not living together. In contrast to most researchers who only show the statistical relationship between marital status and settlement intentions, they provided possible interpretations. They argued that married but separated could be seen as an unstable status and those migrants might move to another city to reunite the family. In addition, based on the data from the China Migrants Dynamic Survey, Fang et al. (2022) coded marital status as the binary variable: unmarried vs. married. They used the IV-Probit models and indicated that married migrants have the stronger intentions to settle in destination cities than unmarried migrants. Nevertheless, some literature has shown that marital status does not affect migrants' settlement intentions. For example, drawing on data from the 2014 China Labour-force Dynamics Survey (CLDS), Li & Liu (2020) categorized marital status into three types: single, married and spouse living together, and married and spouse living apart. Despite different ways of coding marital status, Xie et al. (2023) coded marital status as the binary variable (unmarried vs. married) and concluded similar findings. Using the 2014 China Migrants Dynamic Survey (CMDS), they used multilevel logistic regression and found that there exists no significant relationship between marital status and settlement intentions. Inconsistent findings may be attributed to the fact that different coding methods and analyses were based on different datasets and that different statistical methods were used to identify the relationship between marital status and settlement intentions.

In addition to marital status, several literatures have disentangled the role of the family structure of migrants on settlement intentions. This is because migration types have gradually changed from individual to family-based (Wu et al., 2023). Marital status only takes into account whether migrants have spouses, not whether they have children and whether their

children live with them. Wang et al. (2019) employed the RUMiC survey data and classified the family structure of migrants into three types: sole migrants, couple migrants, and family migrants. They defined “single migrants” as migrants who live alone and work in destination cities, leaving their spouses and children back in their hometowns. Couple migrants were defined as migrants who live and work with their spouses in destination cities but leave their children behind in their hometowns (Wang et al., 2019). Family migrants are defined as migrants who work and live in destination cities with their spouses and children (Wang et al., 2019). Using maximum likelihood seemingly unrelated regression (SUR) models, they found that family migrants have stronger intentions to settle in destination cities than single and couple migrants. Similarly, based on a nationwide survey in 2020, Wu et al. (2023) performed binomial logistic models and showed that migrants who live in destination cities with their spouses or whole families (spouses and children) are more likely to settle in destination cities than those who migrate individually. They gave the possible interpretations: family migrants can better gain a sense of belonging and 'home' in the destination cities. Noticeably, these two studies did not consider migrants who are single and those who are married but have no children.

Regarding migration characteristics, the existing literature has examined the effect of length of stay in destination cities and interprovincial migration on settlement intentions. With regard to the length of stay in destination cities, the existing literature has yielded inconsistent findings. Most literature has identified the positive role of length of stay in destination cities in shaping migrants' settlement intentions for rural-urban or skilled migrants. For example, Huang et al. (2018) analyzed the 2013 wave of the National Migrant Population Dynamic Monitoring Survey (MDMS) in China. They coded the length of stay in destination cities as a continuous variable. They carried out multilevel logit regressions and found that a longer stay in the destination cities for rural-urban migrants increases their desire to settle in the current cities. Zhang and Yan (2022) found similar results to Huang and colleagues, but the target group of Zhang and Yan's research focused on skilled migrants. Using data from a large-scale household survey conducted in Beijing and Shenzhen in 2017, Zhang and Yan (2022) also treated the length of stay in destination cities as a continuous variable. They adopted a structural equation model (SEM) and found that length of stay in host cities could positively predict settlement intentions. However, a small body of literature has found no association between the length of stay in destination cities and settlement intentions. For example, Zhang et al. (2017) used survey data from three cities in Gansu, China, and coded the length of stay

in destination cities as a binary variable: less than two years and two years or longer. Using a multi-nominal logit approach, Zhang and his colleague found no significant relationship between the length of stay in destination cities and settlement intentions. Coding the length of stay in destination cities as a binary variable may lead to a loss of information about the continuous nature of the variables. This may also partly explain the inconsistent findings on the effect of length of stay in destination cities on settlement intentions.

In addition to the duration of stay in destination cities, some literature has examined the effect of sources of migration on settlement intentions, with particular attention to inter-provincial or intra-provincial migration. Based on a survey of migrants in 12 cities, Cao et al. (2015) conducted fixed-effects ordinary least squares (OLS) models and found that intra-provincial migrants reported stronger intentions to settle permanently in destination cities than inter-provincial migrants. They argued that this finding was expected because intra-provincial migrants may experience less institutional discrimination and adapt better to the local language, culture, and customs. Similarly, Huang et al. (2021) analyzed data from the Migrant Dynamic Monitoring Survey (MDMS) and showed that intra-provincial migrants exhibit stronger settlement intentions than inter-provincial migrants. Nevertheless, Zhu and Chen (2010), based on data from two surveys conducted in Fujian Province in 2002 and 2006, performed a logistic regression method and found that intra-provincial migration does not seem to contribute significantly to increasing settlement intentions.

Regarding socio-economic characteristics, most studies have examined the effect of income, educational attainment, and whether migrants have social security in destination cities on settlement intentions. The findings were also inconsistent when looking at the relationship between income and settlement intentions. The bulk of the literature has treated income as a continuous variable and taken the logarithms of income. Existing literature has found that migrants with higher incomes are more likely to settle in destination cities. For example, Dang et al. (2019) implemented a multilevel binomial response model based on data from the 2015 Migrant Dynamic Monitoring Survey in the Yangtze River Delta and coded income as a continuous variable. They found that higher incomes are associated with settlement intentions. Drawing on data from a 12-city migrant survey conducted in 2009, Liu et al. (2017) coded income as a continuous variable. They supported that income plays a positive role in shaping settlement intentions. In addition, some studies coded income as a categorical variable. Xie et al. (2021) analyzed the survey data from 15 Chinese cities and categorized incomes into four

types. They treated salaries of less than 1000 yuan as the reference group. They found that the settlement intentions of migrants whose salaries were between 1000 and 2000 yuan or 2000 and 3000 yuan were not significantly different from those of migrants whose salaries were less than 1000 yuan. However, when salaries exceed 3000 yuan, migrants report a stronger desire to settle permanently in destination cities than those earning less than 1000 yuan. However, somewhat surprisingly, the null relationship between income and settlement intention has been found in some literature. For example, based on data from Rural-Urban Migration in China (RUMiC), Wang et al. (2019) included income as a continuous variable in a two-stage least squares regression analysis. They showed that income does not influence the probability of permanent migration. Despite coding income as a categorical variable, Zhu and Chen (2010) found similar results. Zhu and Chen (2010) divided incomes into four groups: 800 yuan and less, 801-1000 yuan, 1001-2000 yuan, and more than 2000 yuan. They treated the income of 800 yuan and below as the reference group and found no significant difference in the settlement intentions across migrants based on income level. Overall, the inconsistent findings on the correlation between income and settlement intentions could be attributed to different survey datasets and coding methods.

With regard to educational attainment, the existing literature has generally coded educational attainment as a categorical variable but produced inconsistent findings. Some literature has identified differences in settlement intentions among migrants with different educational levels. For example, You et al. (2018) analyzed data from the 2014 National Monitoring Survey and classified education levels as primary school or less, junior high school, senior high school, and university degree or higher. They treated having a university degree or higher as the reference group in binary logistic regression analysis. They indicated that migrants with a university degree or higher have a greater desire to settle in destination cities than those without a university degree or lower. Guo et al. (2024) argued that higher educational attainment, associated with higher earnings, can increase human capital. Based on data from the Rural-Urban Migration Survey (RUMiC) in China, Xie and Chen (2018) found different findings from the study by You et al. (2018). Xie and Chen (2018) also grouped education levels into primary education or below, middle school, high school, and university education or above. However, they treated primary education and below as the reference group, which is different from the study by You et al. (2018). Using a logistic regression model, Xie and Chen (2018) concluded that migrants with a university education or higher were more likely to express willingness to settle in destination cities than those with

primary education or lower. However, the settlement intentions of migrants with middle and high school education do not differ from those with primary education or less. Despite this, Zhang et al. (2017) found no relationship between educational attainment and settlement intentions. Noticeably, Zhang et al. (2017) only categorized educational attainment into two types: junior high or below and high school or above.

Regarding social security, a small number of studies have investigated the association between whether migrants have social security and migrants' settlement intentions. Some studies have examined the influence of social security/insurance on settlement intentions, while others have looked at the role of one or more specific types of insurance in shaping settlement intentions. For example, based on the 2014 China Labour-force Dynamics Survey (CLDS) data, Li and Liu (2020) included social insurance participation in the logistic regression models. They observed that social insurance participation neither encourages nor discourages migrants' settlement intentions. Zhu and Chen (2010) found similar results. Based on data from the 2002 and 2006 surveys in Fujian Province, Zhu and Chen (2010) concluded that pension and medical insurance were not associated with settlement intentions. Differently, Chen and Wang (2019) used the 2014 National Household Survey data to examine the influence of pension and medical insurance participation on settlement intentions. They conducted the Probit regression models and identified the positive and significant role of pension and medical insurance participation in shaping settlement intentions. This suggested that migrants with pension and medical insurance were more prone to settle in destination cities than their counterparts without these insurances. Inconsistent results could be due to the different datasets used in the analysis.

In addition to socio-demographic characteristics, most studies have linked hukou status to settlement intentions. Fifteen years ago, many Chinese migration researchers highlighted the important role of hukou status (rural hukou vs. urban hukou) in determining settlement intentions. Zhu and Chen (2010) analyzed migrants' settlement intentions in Fujian Province in 2002 and 2006. They found that migrants with urban hukou expressed a stronger desire to settle in destination cities than their counterparts with rural hukou. Zhu and Chen (2010) attribute this finding to the fact that public services are tied to urban hukou, especially affordable housing and public education. In other words, the urban hukou provided migrants with more opportunities to access public benefits, thereby boosting their settlement intentions. In a subsequent study, Wang and Fan (2012) supported the argument of Zhu and Chen (2010).

Based on the survey conducted in Wuhan, Wang and Fan (2012) conducted the OLS and logit regressions and concluded that rural-urban migrants suffer from the institutional constraints (hukou system) in urban areas. They further stated that the hukou system is a persistent barrier to migrants settling permanently in destination cities. In recent years, Ren et al. (2023) concluded, based on data from the China Migrants Dynamic Survey (CMDS), that migrants with urban hukou are more likely to stay in destination cities than migrants with rural hukou. However, as noted by Liu et al. (2017), this explanation is insufficient. In addition to rural and urban hukou, the lack of local hukou may also weaken migrants' settlement intentions. Wang et al. (2021) argued that local hukou may affect migrants' employment performance in the labour market because employers tend to recruit employees with local hukou. Employees with the local hukou are more likely to stay in one job for a long time and not change jobs frequently. Thus, without a local hukou, migrants may experience discrimination in destination cities, thereby discouraging their settlement intentions (Liu et al., 2017). Nevertheless, Zhang and Yan (2022) argued that the hukou restriction is a major obstacle to rural migrants or low-skilled migrants settling in cities rather than skilled migrants. This is because skilled migrants tend to be highly educated and can easily obtain a local hukou. When skilled migrants obtain a local hukou, they can access public benefits along with locals (Zhang & Yan, 2022).

While previous studies have debated whether socio-demographic characteristics and institutional constraints (hukou status) are important in shaping migrants' settlement intentions, much less attention has been paid to migrants' housing outcomes and employment status. In terms of housing outcomes, the existing literature has highlighted the important role of housing tenure and conditions in determining settlement intentions. For example, based on data from the Rural-Urban Migration Survey in China (RUMiC), Xie and Chen (2018) found that access to homeownership was the strongest predictor of migrants' permanent settlement in destination cities. Despite analyzing different datasets, Gu et al. (2021) obtained similar results to Xie and Chen (2018). Based on data from the 2016 China Migrant Dynamic Survey (CMDS), Gu et al. (2021) conducted Probit models to disentangle the relationship between migrants' housing tenure in destination cities and their return intentions. They concluded that migrants who access homeownership in destination cities may weaken their return intentions. The possible reason is that homeownership provides stability for migrants' lives in the long term (Gu et al., 2021). In addition, Zhang and Yan (2022) argued that homeownership increases the economic attachment to destination cities, thereby increasing settlement

intentions. Although Xie and Chen (2018) and Gu et al. (2021) have contributed to understanding the relationship between homeownership outcomes and settlement intentions, their studies did not consider the bi-directional relation between homeownership outcomes and settlement intentions. A study by Zou and Deng (2020) supported this concern. Using data from the China Labour-force Dynamics Survey (CLDS) in 2012 and 2014, they concluded that migrants with stronger return intentions are more likely to rent rather than buy a home in destination cities. That is, when examining the effect of homeownership outcomes on settlement intentions, ignoring the reverse causality from settlement intentions to homeownership may underestimate or overestimate the role of homeownership. The instrumental variable approach is usually used to deal with endogeneity issues caused by reverse causality.

Beyond homeownership, Xie and Chen (2018) indicated that migrants live in better housing conditions, particularly housing quality, size, and location, have greater intentions to settle in destination cities. Similarly, Huang and Chen (2022) derived data from the 2017 China Migrants Dynamic Survey and showed that better housing conditions are positively associated with settlement intentions. A major concern is that these two studies did not consider self-selection bias. More specifically, differences in settlement intentions may be driven not only by housing conditions but also by demographic and socio-economic characteristics. Ignoring the self-selection bias problem could distort the estimations. The propensity score matching (PSM) approach can address self-selection bias issues.

Indeed, in addition to Cao et al. (2015), most literature has treated migrants' employment status as a control variable rather than a key explanatory variable in explaining settlement intentions. Using data from a survey of migrants in 12 Chinese cities, Cao et al. (2015) conducted fixed-effects ordinary least squares (OLS) model to disentangle the role of self-employment in shaping settlement intentions. They coded self-employment as a binary variable: self-employed and not self-employed. They concluded that self-employed migrants are more willing to stay permanently in destination cities than their wage-earning counterparts. Xie et al. (2017) used whether migrants had a job contract in destination cities to capture employment status and obtained the opposite finding from Cao et al. (2015). Although Xie et al. (2017) treated migrants' employment status as a control variable, based on survey data from the Rural-Urban Migration in China (RUMiC) project, they found that rural-urban migrants with job contracts were more prone to settle in destination cities than

their counterparts without job contracts. Self-employed people do not have job contracts, and wage earners generally have job contracts. Similarly, although the focus of the study was not on employment status, the findings of Zhang et al. (2017) supported the findings of Xie et al. (2017). Zhang et al. (2017) concluded that migrants with job contracts are more likely to stay in destination cities than self-employed migrants. Their studies did not provide a possible interpretation of this finding. I argue that job contracts can provide a “safety net” for migrants because job contracts imply that migrants can have a stable income and avoid the risk of losing income in the short term. If income is uncertain, this may discourage migrants from permanent settlement.

Additionally, Huang and Chen (2022) used whether migrants worked in the informal or formal sector as a proxy for employment status. They concluded that migrants working in the formal sector expressed higher intentions to settle in destination cities than their counterparts working in the informal sector. However, their study did not define informal and formal jobs and did not explain this finding. Ben Yahmed (2018) noted that working in the informal sector lacks job stability and is associated with low wages and few benefits. When migrants work in the informal sector, they are disadvantaged in the labour market, which reduces their settlement intentions.

3.3 Identifying the research gaps

Taken together, the existing literature has contributed significantly to explaining homeownership outcomes and settlement intentions, either for rural-urban migrants or skilled migrants. Nevertheless, to the best of my knowledge, the literature examining the relationship between employer types and settlement intentions has been surprisingly silent. Employer types may help capture job stability. In the Chinese context, working in the public sector is usually associated with greater job stability and better benefits, but the income ceiling won't be particularly high. In contrast, private sector work may provide higher incomes but lack job security and few benefits. It is worth investigating how different employer types shape different settlement intentions. I argue that employment types should receive more attention in the migration literature because employment could be seen as the most important issue for migrants. Migrants need a job to support them, build a social network, and integrate into local societies, which may shape their settlement intentions and housing experiences in destination cities. As a result, the focus of this thesis is to disentangle the relationship between migrants'

employer type, settlement intentions, and homeownership outcomes in destination cities and to provide detailed interpretations of the findings. A more detailed discussion of the research gaps is provided in the introduction. In order to avoid excessive repetition between the introduction and the literature review, I leave out the details of the research gaps in the literature review.

3.4 In summary

This chapter focused on two research areas: housing tenure outcomes and settlement intentions. This chapter began with a review of the literature on housing tenure choice. The first subsection introduces the emergence of housing tenure choices as the research area. The second subsection introduced some theoretical perspectives used in the literature on housing tenure choice. The third subsection reviewed the determinants of migrant's housing tenure choices. Similarly, the literature review then looked at settlement intentions. The first subsection explained why settlement intentions are a key research area in China. The second subsection outlined some classic theories used to explain migrants' settlement intentions. The final subsection reviewed the determinants of settlement intentions. The next chapter will develop the theoretical framework and research hypotheses.

Chapter 4: Theoretical Framework and Hypothesis Development

Based on life course theory, neoclassical economic theory, and the perspective of socio-cultural integration of migrants introduced in chapter 3, this chapter aims to construct the theoretical framework and develop three research hypotheses. More specifically, life course theory will be used to explain the direct effect of employer type on homeownership outcomes. Neoclassical economic theory will be drawn to analyze how income changes the relationship between employer type and homeownership outcomes. Finally, the perspective of migrants' socio-cultural integration will help explain the mediating role of settlement intentions in shaping the association between employer type and homeownership outcomes.

4.1 The direct effect of employer types on homeownership outcomes

This thesis uses life course theory to explain the direct effect of employer type on the homeownership outcomes of young skilled migrants in Guangzhou. As mentioned in Chapter 3, housing careers, household careers, education careers, and work careers can influence each other and shape individuals' lives together (Coulter et al., 2011; Coulter et al., 2013; Clark, 2017). Here, I focus on young skilled migrants' work and housing careers.

For young skilled migrants, I assume that work is more important than housing. This is because they need a job to support themselves in Guangzhou. Most skilled migrants may initially rent in Guangzhou unless they have housing support from their parents, but this is a tiny proportion (Chen et al., 2022). Although some may receive their parents' housing support, they usually need to confirm that they are comfortable in their jobs and happy in their lives before considering buying a home in Guangzhou. Housing prices in Guangzhou are very high, and buying a home in Guangzhou could be a major expense for most families, often wiping out the savings of two generations. Therefore, I assume that when young skilled migrants move to Guangzhou, they prioritise considerations about work more than buying a house.

As Camilli and Gomes (2023) pointed out, public employment is more stable, and public employees are less likely to lose their jobs than in the private sector. In addition, the public sector may provide better public benefits for employees than the private sector, such as lunch subsidies, rent subsidies, and higher housing provident funds. On the one hand, even if the income levels of private and public employees are close, public employees may have higher

savings. This is because lunch and rent subsidies could reduce living expenses and increase savings. Meanwhile, higher housing provident funds can reduce the cost of taking out a loan to buy a home, as a housing provident fund loan in China is around 2% cheaper than a commercial loan. On the other hand, jobs are stable, which means that future incomes are predictable, increasing confidence in buying a home. When workers are at higher risk of losing their jobs, their future income is uncertain. Buying a house could be risky because if they do not make their mortgage payments on time, they risk defaulting on their mortgage. In this case, not only will they lose the down payment on their house, the banks will repossess the house; and worse, they will still have to pay off the rest of the outstanding loan. That is, working in the public sector is more likely to cause young skilled migrants to move from renting to owning than working in the private sector or being self-employed. Taken together, I develop the first hypothesis:

H1: Young skilled migrants working in the public sector have a higher probability of buying a home in Guangzhou than their counterparts working in the private sector (See Figure 4-1).

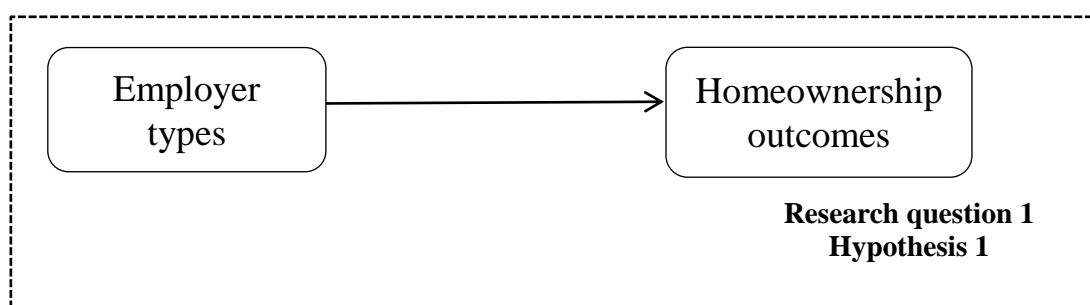


Figure 4-1. The conceptual model of employer types and homeownership outcomes.

4.2 The moderating role of income levels in shaping the relation between employer types on homeownership outcomes

In developing the first hypothesis, an important assumption is that public and private employees and the self-employed have similar incomes. However, when income increases, it may reshape the relation between employer types and homeownership outcomes. As mentioned above, uncertainty about future income, higher living costs, lower savings, and higher risk of buying a home discourage private employees from becoming homeowners. According to neoclassical economic theory, if individuals or households have sufficient savings and earn a higher income, they will make a rational choice between renting and owning. While the disadvantages of working in the private sector mentioned above remain,

higher incomes increase their savings, improve their purchasing power, and boost their confidence in buying a home. That is, as incomes rise, higher incomes can offset some of the negative effects of precarious employment and increase the likelihood of homeownership. As such, I develop the second hypothesis.

H2: The income levels can modify the association between employer types and homeownership outcomes. More specifically, if young skilled migrants can obtain higher incomes, they can still access homeownership in Guangzhou even if they do not work in public sectors (See Figure 4-2).

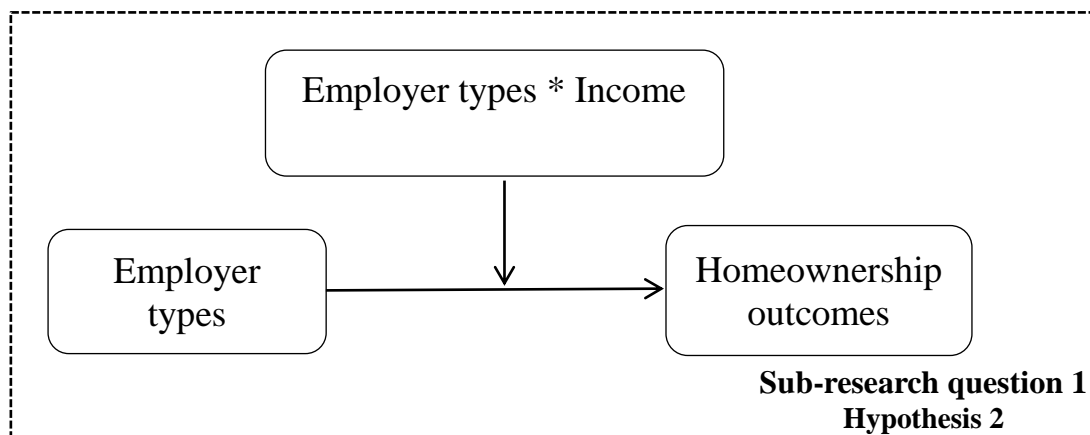


Figure 4-2. The conceptual model of income, employer types, and homeownership outcomes.

4.3 The mediating role of settlement intentions in determining the relation between employer types on homeownership outcomes

Finally, from the perspective of the socio-cultural integration of migrants, the socio-cultural attachment to destination cities plays a crucial role in shaping migrants' decisions to move or settle (Massey, 1987). In China, public sector employees are likely to work less overtime, as the public sector strictly adheres to the eight-hour working day. In the private sector, however, private employees often have to work overtime to achieve higher profits and cope with increased market competition. As a result, young, skilled migrants working in the public sector may have more time to make friends, build local connections, and learn about Guangzhou's culture. This can help increase their social and cultural integration into Guangzhou and boost their settlement intentions. Meanwhile, when young skilled migrants intend to stay in Guangzhou permanently, they are more likely to buy a house in Guangzhou. This is because homeownership can provide them with a stable home, strengthen their identity, and increase their well-being. As such, I develop the third hypothesis.

H3: Settlement intentions mediate the relationship between employer types and homeownership outcomes. In particular, young skilled migrants working in the public sector are more inclined to stay in Guangzhou than their counterparts working in the private sector and the self-employed. If they report a higher intention to settle in Guangzhou, they have a greater chance of becoming homeowners in Guangzhou (See Figure 4-3).

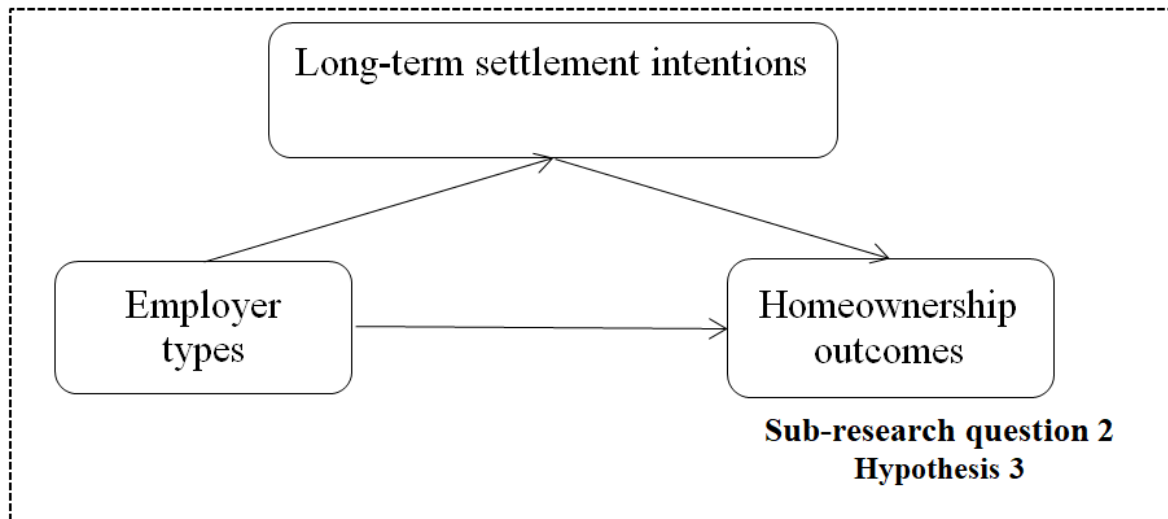


Figure 4-3. The conceptual model of settlement intentions, employer types, and homeownership outcomes.

4.4 In summary

This Chapter has constructed the theoretical framework and developed the three hypotheses. These hypotheses will be tested in the quantitative analysis (Chapter 6). In the next chapter, I will present the research design and methodology.

Chapter 5: Research Design and Methodology

This chapter aims to outline the research design and methodology. There are seven sections in this chapter. The first section presents the research aims and questions. The second section introduces the research methodology (mixed method approach) used in the analysis and provides the reasons for its use. The third section offers some context for the study area, Guangzhou, and explains why Guangzhou could be a unique and important case study in China for migrant housing issues. The fourth section focuses on data and methods for quantitative analysis, including data source and data collection, selection and measurement of variables, data processing, and empirical strategy. The fifth section discusses the data and method for qualitative analysis, including sampling and recruitment, developing topic guides, conducting the fieldwork, transcription, and thematic analysis. The sixth section highlights the research ethics and permissions. The final section provides a summary of this chapter.

5.1 Research aims and questions

As mentioned in the introduction, the overarching aim of this study is to disentangle the relation between young skilled migrants' employer types and their homeownership outcomes in Guangzhou and explore the underlying mechanism between them. Also, based on the findings of the quantitative analysis, combined with the follow-up semi-structured interview, this research seeks to explain why employer type is crucial in shaping homeownership outcomes in a megacity, Guangzhou, in China. This study aims to address three specific research questions using a mixed-method approach.

Research question 1: How do young skilled migrants' employer types shape their homeownership outcomes in Guangzhou?

Sub-research question (1): If the employer type matters in determining homeownership outcomes, how do income levels change the relation between employer types and homeownership outcomes?

Research question 2: Do long-term settlement intentions mediate the relationship between employer types and homeownership outcomes?

Research question 3: How do young skilled migrants understand the relation between employer types, long-term settlement intentions, and homeownership outcomes in Guangzhou?

Sub-research question (1): What meaning do young skilled migrants attach to different employer types?

Sub-research question (2): What are the meanings of homeownership in Guangzhou for contemporary young skilled migrants?

In fact, the above research questions were not generated overnight, but combined with data analysis. Below I will briefly describe the journey that led to the emergence of my research question. In the early stages of the research, the initial research question was broader and aimed to identify the determinants of homeownership outcomes for young skilled migrants in Guangzhou. After a preliminary analysis of the second-hand data, I noticed that the variable “employer type” surprisingly affects homeownership outcomes. In particular, there are differences in homeownership outcomes between different employer types. Therefore, I have refined my research question to focus on the more specific question: How does employer type affect young skilled migrants’ home ownership outcomes in Guangzhou? Also, I was very interested in how income levels would affect the relationship between employer type and homeownership outcomes. As such, I asked the other research question: how does income level change the relationship between employer type and homeownership outcomes? Meanwhile, I would like to disentangle whether settlement intentions act as a mediator between employer type and homeownership outcomes to understand the mechanisms at play. This led to the second research question: do long-term settlement intentions mediate the relationship between employer type and homeownership outcomes?

I addressed them in the quantitative analysis. I found that young skilled migrants who work in the public sectors are more likely to buy a home in Guangzhou than their counterparts working in the private sectors. Furthermore, I conclude that the positive effect of employer types on homeownership outcomes weakens as income increases. Finally, I found that young skilled migrants who work in the public sector are more likely to stay in Guangzhou for the long term, and thereby have higher probabilities of becoming homeowners in Guangzhou.

These findings generated an interesting research question: How do young skilled migrants understand the relationship between employer types, long-term settlement intentions and

homeownership outcomes in Guangzhou? In addition, young skilled migrants working in the public sector are more likely to buy a home in Guangzhou, which makes me very interested in why this phenomenon has arisen. I was therefore interested in understanding the meanings of different employer types and the meanings of homeownership in destination countries. Addressing these research questions could be a step forward in understanding the relationship between young skilled migrants' employment, settlement, and homeownership in the Chinese context.

5.2 Mixed Method approach

A mixed-method strategy is established to answer these specific research questions robustly, employing quantitative and qualitative methods in different stages of this research. The mixed-method approach's benefit is that such a research design would establish an extensive and simultaneously in-depth understanding of the research themes (Fetters and Freshwater, 2015). In the later section, I will explain the reasons for employing mixed rather than quantitative or qualitative methods alone to answer the research questions.

Before choosing specific research methods, it is important to discuss the distinction between methodology and method. The term "methodology" contains "ology" at the end of the word, which refers to a branch of knowledge. Method is viewed as a tool for answering specific research questions; however, the methodology justifies employing a specific research method (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Meanwhile, the methodology aims to determine the accuracy and efficiency of the research method chosen to address specific research questions (Gromo, 2019; Liamputtong, 2019; Hall, 2020).

Quantitative, qualitative, and mixed methods are three common approaches in the social sciences and are discussed in terms of philosophical frameworks (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Indeed, there are important differences in the philosophical paradigms of quantitative, qualitative and mixed methods approaches. For example, quantitative research is commonly related to the positivist paradigm (Gray, 2013; Robison, 2018). Positivism asserts that knowledge should be based on observable phenomena and empirical evidence (Gray, 2013; Robison, 2018). That is, reality exists objectively, and research collects objective measures of reality (Gray, 2013; Robison, 2018). Quantitative research admits that

knowledge evidence can be collected using a specific method, and results are interpreted objectively (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Unlike quantitative research, qualitative research is typically linked to interpretivism (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Interpretivism emphasizes understanding the world through the subjective experiences of individuals. That is, social reality is constructed through human interaction (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Meanwhile, social phenomena and behavior are constructed through language, symbols and social interactions (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Qualitative research maintains that social interaction is highly complex and meaningful and that quantitative measures cannot interpret complex social phenomena (Gromo, 2019; Liamputtong, 2019; Hall, 2020).

Due to different philosophical paradigms, quantitative and qualitative research methods are frequently dichotomous, which may not be conducive to a more comprehensive and deeper understanding of social interaction. In contrast to quantitative and qualitative research, mixed methods research blends both quantitative and qualitative research elements and is typically associated with the pragmatism paradigm (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Mixed method emphasizes the integration of theory and practice and advocates the selection of appropriate methods based on the imperatives of the research questions, rather than adherence to a single research paradigm (Gromo, 2019; Liamputtong, 2019; Hall, 2020). In other words, the mixed-methods approach focuses on addressing practical considerations rather than paying too much attention on addressing issues arising from debates on relying on one paradigm only. Second, the quantitative method's shortcomings can be compensated for by the qualitative approach's strengths and vice versa (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Specifically, quantitative methods may be beneficial in inferring results to a bigger population, thereby generating generalizable findings. However, quantitative methods may also fail to interpret the underlying reasons of empirical findings, thereby fail in comprehending the social interaction (Gromo, 2019; Liamputtong, 2019; Hall, 2020). Conversely, the qualitative approach can give detailed elucidations of individual acts or social phenomena. Nevertheless, researchers may find it challenging to generalize the results (Gromo, 2019; Liamputtong, 2019; Hall, 2020).

The mixed method can enable researchers to utilize the strengths of different methods to compensate for the weaknesses of the particular methods (Gromo, 2019; Liamputtong, 2019; Hall, 2020). In addition, quantitative and qualitative methods may be used to answer different

research questions, resulting in divergent research findings. A mixed-method approach could integrate these findings to provide a comprehensive and in-depth understanding of the research questions (Gromo, 2019; Liamputtong, 2019; Hall, 2020).

A quantitative method can determine whether young skilled migrants' employer types are important in shaping their homeownership outcomes in Guangzhou. However, the quantitative method does not provide a detailed and nuanced interpretation of why the employer types matter in shaping homeownership outcomes. The qualitative method can provide a more comprehensive understanding of young skilled migrants' perceptions, emotions, and experiences of employer types in Guangzhou, as well as the complexity of the relationship between employer types and homeownership outcomes. A mixed-method approach can provide an in-depth insight into the role of employer types in determining homeownership outcomes of young skilled migrants and understanding their housing experiences in Guangzhou.

Taken together, I will use both quantitative and qualitative methods to answer the research questions. Specifically, Research questions 1 and 2 will be addressed in Chapter 6 (quantitative data analysis).

5.3 Study Location

Guangzhou, the capital of Guangdong province, is located in south China and is one of China's four super cities (Beijing, Shanghai, Guangzhou, and Shenzhen). Geographically, Guangzhou has a total area of 7434.40 km² and is divided into eleven administrative districts, namely Yuexiu, Haizhu, Liwan, Tianhe, Baiyun, Huangpu, Huadu, Panyu, Nansha, Conghua and Zengcheng (see Figure 5-1). Guangzhou is only the 30th largest city in China by area. However, its GDP is the fourth largest in China. In 2021, Guangzhou's total GDP was 2823 billion RMB yuan or 313 billion GBP, an increase of 8.1% compared to 2020 (Guangzhou City Bureau of Statistics, 2022). Guangzhou's GDP ranked fourth in China in 2021, after Beijing, Shanghai, and Shenzhen (Guangzhou City Bureau of Statistics, 2022). Besides, the GDP contribution of Guangzhou's tertiary industry was 2020 billion RMB yuan or 224 billion GBP, accounting for 71.6% of Guangzhou's GDP, making it the first driving force of Guangzhou's economic growth (Guangzhou City Bureau of Statistics, 2022). It is safe to say that Guangzhou is one of the most prosperous cities in China.

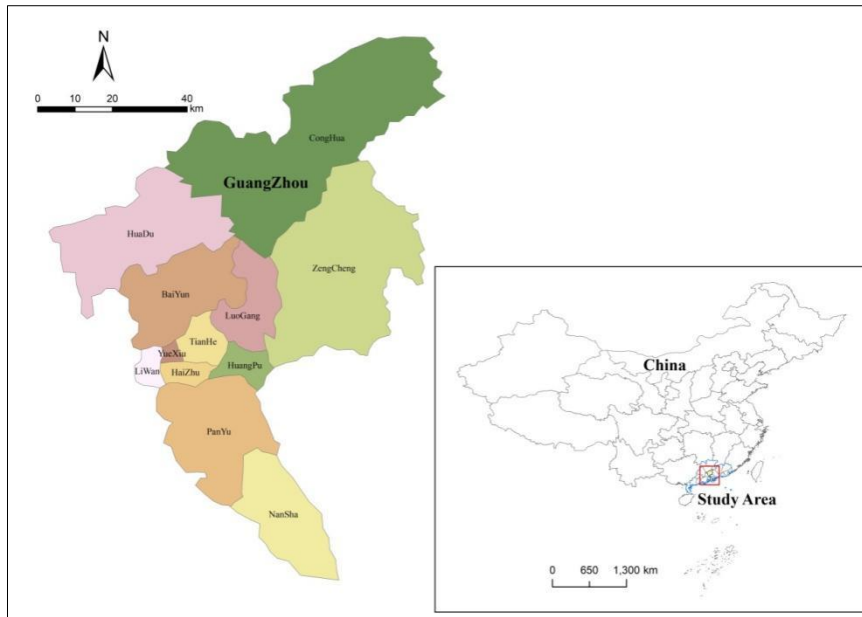


Figure 5-1. The survey map of Guangzhou, China.

In terms of population trend, Guangzhou's total population reached 18.81 million in 2021, ranking third in China after Beijing and Shanghai. The number of migrants reached 8.7 million in 2021, accounting for 46% of the population, making it the second-largest migrant city after Shenzhen (Guangzhou City Bureau of Statistics, 2022). Figure 5-2 shows that Guangzhou's migrant population grew from 4 million to 8 million between 2012 and 2021. The share of migrants increased from 35% in 2014 to 46% in 2021. The large number of migrant workers flowing into Guangzhou is a key driver of Guangzhou's economic growth (Chen, 2016). However, Figure 5-3 reports that Guangzhou's house prices almost doubled from 18,440 Yuan/per square meter in 2014 to 36,622 Yuan/per square meter in 2022. Although house prices fell to 33,985 in 2023 due to the economic downturn caused by the pandemic, Guangzhou's higher house prices are still unaffordable for migrant workers, even young skilled migrants.

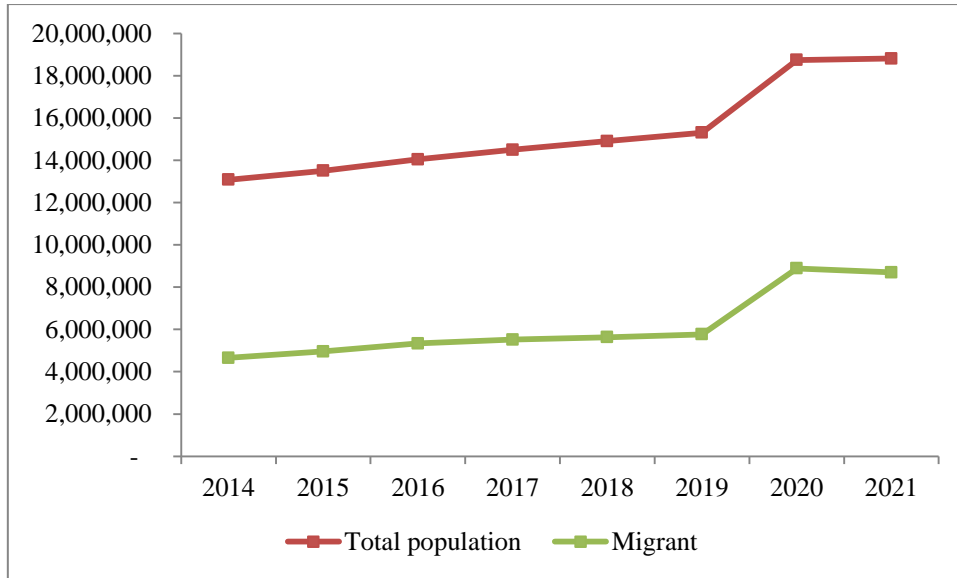


Figure 5-2. Population development of Guangzhou from 2014-2021.

Source from: Guangzhou City Bureau of Statistics

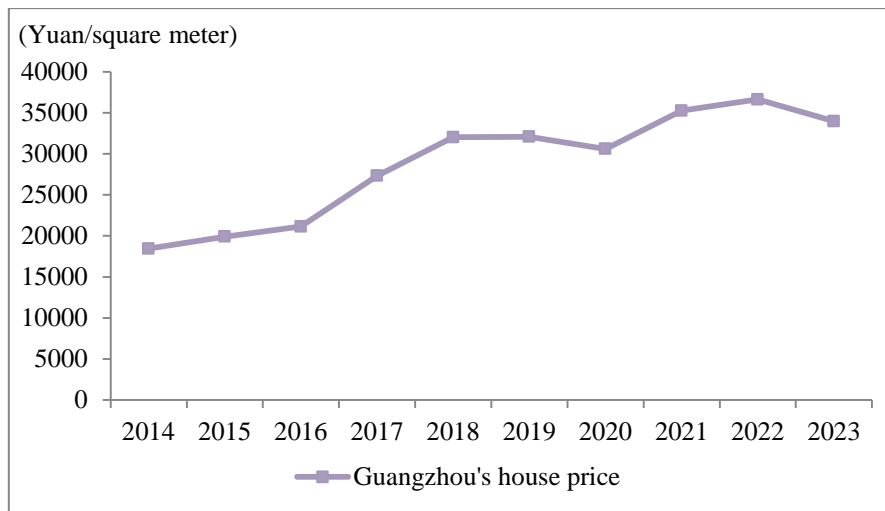


Figure 5-3. Guangzhou's average house price from 2014-2023.

Source from: Anjuke, 2023.

5.4 Data and methods for quantitative analysis

5.4.1 Data source and data collection

The data for the quantitative analysis were based on two datasets: micro-level and macro-level. The micro-level data are from the 2019 Guangzhou Migrant Housing Survey. The macro-level data (GDP, investment in fixed assets, and housing supply in 11 districts of Guangzhou in 2019) were derived from the Guangzhou Municipal Bureau of Statistics. I then merged the micro-data with the macro dataset, based on the districts where young skilled

migrants lived in 2019. In other words, I combined individual-level and contextual factors to analyse the effects of young skilled migrants' employer types on their homeownership outcomes in a unified analytical framework to improve micro-econometric model estimates.

1. Micro-level data

The Real Estate Institute of Guangzhou University provided micro-level data for young skilled migrants on homeownership outcomes, employer types, long-term settlement intentions, and other basic demographic and socio-economic characteristics. The Real Estate Institute of Guangzhou University employed a probability sampling technique by directly distributing questionnaires to a single representative from each family within the dataset of migrant families provided by the Guangzhou government. The dataset provided by the Guangzhou government includes the telephone numbers of migrant families. As a result, the Real Estate Institute of Guangzhou University can send text messages to migrant workers inviting them to fill out the questionnaire and include a link to the questionnaire in the text message. The target group of this survey was the residents without Guangzhou Hukou who live in Guangzhou. The survey was conducted from January to June 2019, with the survey duration of six months. A total of 20,000 questionnaires were distributed, and 15,643 were returned, yielding a response rate of approximately 78.22%.

Why do I use data from this dataset conducted by the Real Estate Institute of Guangzhou University rather than other datasets? In fact, several other datasets study migrant workers in China, such as the China Labour-force Dynamic Survey (CLDS) (Sun Yat-sen University, 2016), the China Migrants Dynamic Survey (CMDS) (National Health Commission of the PRC, 2018), and the China Family Panel Studies (CFPS) (Institute of Social Science Survey, Peking University, 2022). These datasets could provide more detailed information on migrants' demographic and socioeconomic characteristics. However, three major limitations to these datasets have discouraged me from using them to answer my research questions. First, these datasets focus on national surveys. Therefore, there are not many samples from large cities, only a few hundred eligible samples (Beijing, Shanghai, Guangzhou, and Shenzhen). Besides, some of these datasets do not strictly distinguish the city where the sample comes from. For example, in the CFPS dataset (Institute of Social Science Survey Peking University, 2022), Guangzhou is included in the Guangdong province. Samples from Shenzhen and other cities in the Pearl River Delta are included in Guangdong Province. Thus,

I found it impossible to determine which samples were from Guangzhou. More importantly, I intend to conduct the follow-up semi-structured interview to gain more insight into changes in their housing status and understand the housing experiences of young skilled migrants in super cities. The dataset conducted by the Real Estate Institute of Guangzhou University can provide large samples in China's major cities and the telephone number of the sample for the follow-up survey. This can ultimately allow for the combination of quantitative and qualitative analysis. I kept the phone number of the samples very secure because it is a privacy issue. I stored numbers in an encrypted and password protected storage drive. At the same time, I successfully obtained ethical approval from the University of Glasgow and permission from the Real Estate Institute of Guangzhou University to continue the follow-up interview.

2. Macro-level data

I included three macro-level variables in the regression analysis, namely GDP (RMB Yuan), floor space completed (sq.m), and investment in fixed assets (RMB Yuan). These three macro-level variables in Guangzhou in 2019 are derived from the 2020 Guangzhou Statistical Yearbook (Guangzhou City Bureau of Statistics, 2020). The Statistical Yearbook lags one year behind and the 2020 Statistical Yearbook provides macro data for 2019.

5.4.2 Selection and measurement of variables

The variables used in the quantitative analysis are divided into three types: dependent variables, independent variables, and control variables.

1. Dependent variable

The dependent variable is young skilled migrants' homeownership outcomes in Guangzhou, which were measured by asking respondents whether they have accessed homeownership in Guangzhou. This is a single-choice question, and respondents can choose yes or no. I have coded the answer "yes" as one and the answer "no" as zero (See Table 5-1). Notably, this survey question focused on whether respondents had bought houses in Guangzhou rather than whether they had bought houses in China. In fact, most of the migrants may have bought a house in their hometowns.

Table 5-1. The coding of homeownership outcomes

Whether respondents have accessed homeownership outcome	Coding
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in Guangzhou	
No	0
Yes	1

2. Independent variable

The key independent (explanatory) variable of my interest is employer type. The employer types were measured by the following question: “What is the nature of your work units?” This is a single-choice question, and respondents can have five alternatives: government agencies, public institutions, companies (private and public companies), self-employed, and unemployed. I then used the names of the units they provided to identify whether they worked in state-owned or private (including foreign) enterprises.

In fact, there are broad and narrow definitions of public sectors in China. The public sectors are broadly defined as government agencies, public institutions, and state-owned enterprises. In a narrow sense, public sectors include only government agencies and public institutions. This study defined public sectors as government agencies, public institutions, and state-owned enterprises. The main reason is that although state-owned enterprises are responsible for their profits and losses, they often offer greater job stability and security than the private sector and self-employed. Since state-owned enterprises are socially responsible, they cannot lay off workers at will and strictly abide by labour laws. Even if there are layoffs, workers are given fair compensation. The quantitative analysis did not consider the effect of *bianzhi* on homeownership outcomes.

The *bianzhi* refers to jobs offered by the public sector (government agencies and public institutions) through examinations and interviews conducted by the governments. The most important feature of *bianzhi* is the high level of job stability. If workers with *bianzhi* do not break the law, they are usually expected to keep their posts long-term. The quantitative analysis did not examine the impact of the *bianzhi* on the young skilled migrants’ homeownership outcomes in Guangzhou for two reasons. First, many units usually require candidates to have local hukou when recruiting *bianzhi* employees. The target group of this questionnaire is migrant workers without a local hukou. Therefore, even if migrants were working in the public sector at the time, most of them may not have the *bianzhi*. Second, the information on *bianzhi* is not available in the dataset used for the analysis. As a result, I

cannot disentangle the effect of *bianzhi* on the homeownership outcomes of young skilled migrants in Guangzhou in the quantitative analysis. Nevertheless, I will use a follow-up semi-structured interview to add rich information on *bianzhi* and use qualitative analysis to examine the role of *bianzhi* in shaping the young skilled migrants' homeownership outcomes in Guangzhou.

I have coded government agencies, public institutions, and state-owned enterprises as one and private enterprises and the self-employed as zero (see Table 5-2).

Table 5-2. The coding of employer types.

Whether respondents worked in public sectors	Coding
Private companies	No=0
Self-employed	
Government agencies	Yes=1
Public institutions	
State-owned companies	

3. Control variables

Control variables were divided into micro-level and macro-level variables. The micro-level variables were obtained from the 2019 Guangzhou Migrant Housing Survey data, including demographic and socio-economic characteristics. The demographic section includes gender, age, Hukou status (urban hukou and rural hukou), marital status, whether spouse lives in Guangzhou, and the length of stay in Guangzhou.

First, gender was measured by the question, “Are you male or female by gender?” respondents were given two choices: male and female. I coded the “male” as one and the “female” as zero. I controlled for gender by including a dummy variable for young, male skilled migrants.

Table 5-3. The coding of the gender.

Gender	Coding
Female	0
Male	1

A fill-in-the-blank question measured age, and respondents were instructed to enter their age

in the online questionnaire. I treated age as a continuous rather than a categorical (discrete) variable. In some previous studies, age was coded as a categorical variable, leading to information loss (Khashei et al., 2023). Also, there are many limitations when trying to group samples by age. I defined young skilled migrants as 18-35 years old, and age as a continuous variable may help us better screen qualified samples. If age is defined as a discrete variable, including 18-28, 28-38, 38-48, and 48 and over, I may not be able to capture young skilled migrants by age accurately. Therefore, age was coded as a continuous variable. Likewise, I used age and age squared to examine the effect of the young skilled migrants' age on their homeownership outcomes in order to allow for non-linearities (See Table 5-4).

Table 5-4. The coding of the age.

Age in 2019	Coding
Age	Continuous variable
Age squared	Continuous variable

Hukou status was documented by answering the following questions: “Is your hukou registered in an urban or rural area?” Respondents were asked to choose between two alternatives: rural hukou and urban hukou. In China, every Chinese citizen can receive a hukou at birth, which is issued in specific regions (Afridi et al., 2015). Hukou plays an important role for all Chinese citizens because Hukou is bound to specific areas. Hukou status is registered and indicates eligibility for public welfare such as education, healthcare, and affordable housing (Maarten et al., 2015). Here, under the hukou system, hukou can also be classified into rural urban hukou (Huang et al., 2014). Rural and urban hukou can reveal whether the birthplace of the respondent's original family is rural or urban. Also, having a rural or urban hukou can signify wealth inequality, and rural residents are often disadvantaged (Song, 2014). The hukou status of young skilled migrants is rural or urban, which may reflect the level of housing support provided by their parents when young skilled migrants plan to buy a house in Guangzhou. I examined the influence of hukou status on young skilled migrants' homeownership outcomes in Guangzhou by including hukou dummies, which take the value of one if the respondent reports that he or she has the rural hukou and zero if he or she has the urban hukou (See Table 5-5).

Table 5-5. The coding of the Hukou status.

Hukou status	Coding
Urban hukou	0

Rural hukou	1
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Marital status was recorded to answer the following question: What is your marital status? There were four responses, including single, married, divorced, and widowed. In fact, marital status was a categorical variable with four levels. Using marital status as a predictor in regression analysis, I must convert it to dummy variables (Barreto & Howland, 2005). However, there are two ways of coding marital status. First, since marital status is a four-level categorical variable, I can generate the three dummy variables, such as the married dummy, divorced dummy, and widowed dummy. In other words, the single dummy is treated as the reference group. However, coding marital status in this way can lead to fragmented information. This is because the choices of reference groups determine the significance of the dummy variables. For example, when the single cohort is chosen as the reference group, the divorce cohort's significance and coefficient are different from when the married cohort is chosen as the reference group. Single, divorced, or widowed all describe the respondent's status without a spouse. As a result, I controlled for the effect of marital status on young skilled migrants' homeownership outcomes in Guangzhou by including a dummy variable indicating whether the respondent is married, which equals one if the respondent reports being married and zero otherwise (See Table 5-6).

Table 5-6. The coding of the marital status.

Marital status	Coding
Single	0
Divorced	
Widowed	
Married	1

Whether the respondents' spouses live in Guangzhou was measured by the survey question: Do you live with your spouse in Guangzhou? Respondents were asked to select "no" or "yes". Suppose the respondent's marital status is single, divorced, or widowed. In that case, this question (whether spouses live in Guangzhou) can automatically be returned as "no." In other words, only married respondents had to answer this survey question. I controlled for the spouse effect on homeownership outcomes by including a dummy variable indicating whether the respondents' spouse lives in Guangzhou, which values one if the respondent reports that their spouse lives in Guangzhou and zero if they have no spouse or their spouses,

do not live in Guangzhou (See Table 5-7).

Table 5-7. The coding of whether the respondent's spouse lives in Guangzhou.

Whether the respondents' spouses live in Guangzhou	Coding
No	0
Yes	1

Additionally, educational attainment was measured by the survey question: "What is your educational attainment?" Respondents were asked to choose from six alternatives: middle school or below, high school, technical secondary school ("Zhongzhuan"), associate college degree (Dazhuan), bachelor's degree, and master's degree or higher. The coding of educational attainment was carried out in two steps. First, noticeably, young skilled migrants were defined as migrants aged 18-35 with at least an associate college degree. As a result, the sample with a technical secondary school or below was not included in the subsequent analysis (See Table 5-8). In the following sections I will explain how I processed the data and present the sample characteristics.

Table 5-8. The coding of educational attainment (Step 1).

Educational attainment	Coding
Middle school or below	Remove
High school	Remove
Technical secondary school ("Zhongzhuan")	Remove
Associate college degree ("Dazhuan")	1
Bachelor's degree	2
Master's degree or higher	3

After removing the sample with technical secondary education or below, educational attainment was still a categorical variable from six to three levels. Given the categorical nature of educational attainment, I converted the educational attainment into three dummy variables, including associate college degree, bachelor's degree, and master's degree or higher (See Table 5-9). I chose the associate college degree as the reference group because I am interested in examining whether there is a positive correlation between educational attainment and homeownership outcomes. To this end, I controlled for the effect of educational background on homeownership outcomes by including two dummy variables (bachelor's degree and master's degree or higher) in the subsequent regression analysis, with

associate's degree as the reference group.

Table 5-9. The coding of educational attainment (Step 2).

Associate college degree (Dazhuan)	Coding	Dummy 1
No	0	
Yes	1	
Bachelor's degree	Coding	Dummy 2
No	0	
Yes	1	
Master's degree or higher	Coding	Dummy 3
No	0	
Yes	1	

The length of stay in Guangzhou was measured by a fill-in-the-blank response to the following questions: “How long have you lived in Guangzhou?” Respondents were asked to fill in the years they had lived in Guangzhou. This question gives some hints. For example, the unit for this question is years. If the respondent has lived in Guangzhou for less than one year, they should fill in one year. If the respondent has lived in Guangzhou for more than one year, for example, two years and three months, the respondent should enter two years. If the respondent has lived in Guangzhou for two years and five months, the respondent should give three years. Months were rounded. I, therefore, controlled for years of stay in Guangzhou by including a continuous variable in the regression analysis (See Table 5-10).

Table 5-10. The coding of the length of stay in Guangzhou.

The length of stay in Guangzhou	Coding
The length of stay in Guangzhou	Continuous variable

Whether respondents own social security in Guangzhou was measured by the following question: “Do you own social security in Guangzhou?” The respondents were asked to choose no and yes. Whether the employer provides social insurance can be seen as one of the main differences between formal and informal employment (Wang et al., 2021). I controlled for the effect of social security on homeownership outcomes by including a dummy variable indicating whether respondents have social security in Guangzhou, which takes the value of one if the respondent reports having social security in Guangzhou and zero if they do not have social security in Guangzhou (See Table 5-11).

Table 5-11. The coding of social security.

Social security	Coding
No	0
Yes	1

Personal monthly income was measured by answering the following questions: “What is your monthly disposable income (RMB)?” Respondents were asked to report their actual income. It should be noted that monthly personal income includes only wage income and excludes self-employment business income and income from public transfers. For example, personal income from some second jobs is included in self-employment business income. Housing subsidies provided by governments are included in income from public transfer. As the questionnaire does not provide information on self-employment business income and income from public transfers, I can only examine the impact of wage income on homeownership outcomes. Despite this, wage income can be considered the main income of young skilled workers in Guangzhou. This is because the number of government grants is minimal, and the amount is small. Also, young skilled migrants tend to have better academic backgrounds, so most work in companies except for some self-employed. Working hours in China are generally from 9 a.m. to 6 p.m., sometimes with overtime. Most of them do not have the time to hold down a second job. Even if they have a second job, such as driving for Didi (China’s Uber) after work, the second job hours are short, and the pay is not high.

Personal monthly income was treated as a continuous variable. Income could be right-skewed or left-skewed. In cases where the income distribution is skewed to the right, individuals with significantly higher incomes disproportionately influence the mean, causing it to be significantly higher than the median and vice versa. Taking the logarithm of income can normalize the distribution and adjust for the skewness in the income distribution because some incomes are too high and some are too low (Li & Galdames-Retamal, 2021). Therefore, I took the logarithmic transformation of income to minimize the estimation error in the regression analysis (See Table 5-12).

Table 5-12. The coding of personal monthly income.

Personal monthly income	Coding
Ln (Personal monthly income)	Continuous variable

In terms of migration characteristics, the questionnaire asked respondents to indicate their place of origin, typically the province from which they came. I included in the model whether respondents are from Guangdong province because their place of origin may also play a key role in shaping homeownership outcomes. For example, Guangzhou has its dialect (Cantonese), and other cities in Guangdong province, except Chaozhou, Shantou, and Meizhou, also speak Cantonese. Cantonese is quite different from Mandarin, and insufficient proficiency in Cantonese can have a negative impact on migrant workers' lives and employment in Guangzhou. Migrant workers from other provinces often speak Mandarin or their local dialect. In the end, I controlled for the effect of migration characteristics on homeownership outcomes by including a dummy variable indicating whether respondents are from the Guangdong province or from other provinces, where the value is one if the respondent reports being from the Guangdong province and zero if they are from other provinces outside Guangdong (See Table 5-13).

Table 5-13. The coding of intra-provincial migration.

Intra-provincial migration	Coding
No (other provinces outside Guangdong)	0
Yes (Guangdong)	1

In addition to the micro-level variables mentioned above, I also controlled for three macro-level variables: GDP (RMB Yuan), investment in fixed assets (RMB Yuan), and floor space completed (sq.m). I matched macro-level to micro-level variables using the districts where the respondent lives. The district chosen by migrant workers for housing can be seen as a comprehensive decision for the "economic man" based on housing affordability, commuting, living environment, and personal preferences. In other words, they are more likely to buy a house in the district where they currently live. GDP can directly affect housing affordability, determining young skilled migrants' homeownership outcomes. This is because where GDP is high, per capita income is high, and average house price is high. Likewise, homeownership outcomes are also determined by the housing market supply. If there is an ample housing supply in a particular district, residents are more likely to buy a house if they have the economic capacity to afford it. Moreover, investment in fixed assets can reflect the development of the district's infrastructure, which is also an important factor in choosing where to buy a house. I did not control for other macro indicators, such as house price or population density, because house prices and population density are closely related to GDP.

Multicollinearity arises when the control variables in a regression model are highly correlated, such as house prices, population density, and GDP, thereby clouding the estimations (Alin, 2010). As a result, I only included the GDP, investment in fixed assets, and floor space completed in the subsequent regression analysis. More importantly, given that GDP, investment in fixed assets, and floor space completed are skewed, I also take the logarithmic transformation of these three variables to adjust for the skewness in the data distribution (See Table 5-14).

Table 5-14. The coding of house price and floor space completed.

Macro-level variables	Coding
Ln (GDP)	Continuous variable
Ln (investment in fixed assets)	Continuous variable
Ln (floor space completed)	Continuous variable

5.4.3 Data processing

Before introducing the data process, I first explain how I gained access to the existing data. The existing data used in the quantitative analysis was provided by the Real Estate Institute of Guangzhou University. The head of the Real Estate Research Institute of Guangzhou University is my Master's supervisor. I emailed her to ask if I could get access to the data and use it for my PhD. She has been very supportive of my research career, with no conditions attached to providing me with the data and allowing me to use it for my dissertation.

In fact, the data processing procedure is not complicated because the survey data collected by the Real Estate Institute of Guangzhou University is of high quality. There are two main advantages. First, the questionnaire is completed via links; all questions are mandatory. Thus, there are no missing values. For example, if there are too many missing values in the datasets, this may lead to sample deletion. Worse, if there are too many missing values for key variables, it can lead to an inappropriate research design. Second, the sample size is relatively large and allows the use of more econometric methods to obtain more reliable estimations. For example, the propensity score matching (PSM) approach (I will use this econometric method to create the balanced samples) requires that the sample size is not too small. This method allows the treatment and control groups to have similar covariates by removing unmatched samples.

The data processing procedure has two steps. The initial total number of observations is 15,643. The first step is to select samples of young skilled migrants. Based on the definition of young skilled migrants, I narrowed the sample to 18-35-year-olds, those with an associate college degree or higher, and those not in this age range ($n = 7,607$) or those without the associate college degree or higher ($n = 1,891$) were excluded from the analysis. This reduced the total number of available observations to 6,685. Also, I excluded the samples who do not live in Guangzhou ($n = 141$), further reducing the total number of available observations to 6,004 (See Table 5-15).

Table 5-15. Sample deletion.

Sample deletion	Observations
The initial total number of observations	15,643
Exclude those not aged 18-35	7607
Exclude those without associate college degree or higher	1891
Exclude those who did not live in Guangzhou	141
The total number of available observations	6,004

The second step is to merge the two levels of data: micro and macro variables. No samples were deleted in the second step of data processing. I drew a schematic diagram of how to merge the data, as shown in Figure 5-4. Figure 5-4 consists of four parts: the micro dataset, the macro dataset, the matching fields, and the data to be entered. The first column of the table on the left represents micro-data, and the circle on the right represents macro-data. The third column of the table on the left shows the matching fields; that is, macro and micro data are merged using the area of the respondent's residence. The fourth column of the table indicates that the macro data in the circle on the right needs to be filled in here. After the above steps, I will have a dataset containing macro and micro-level variables.

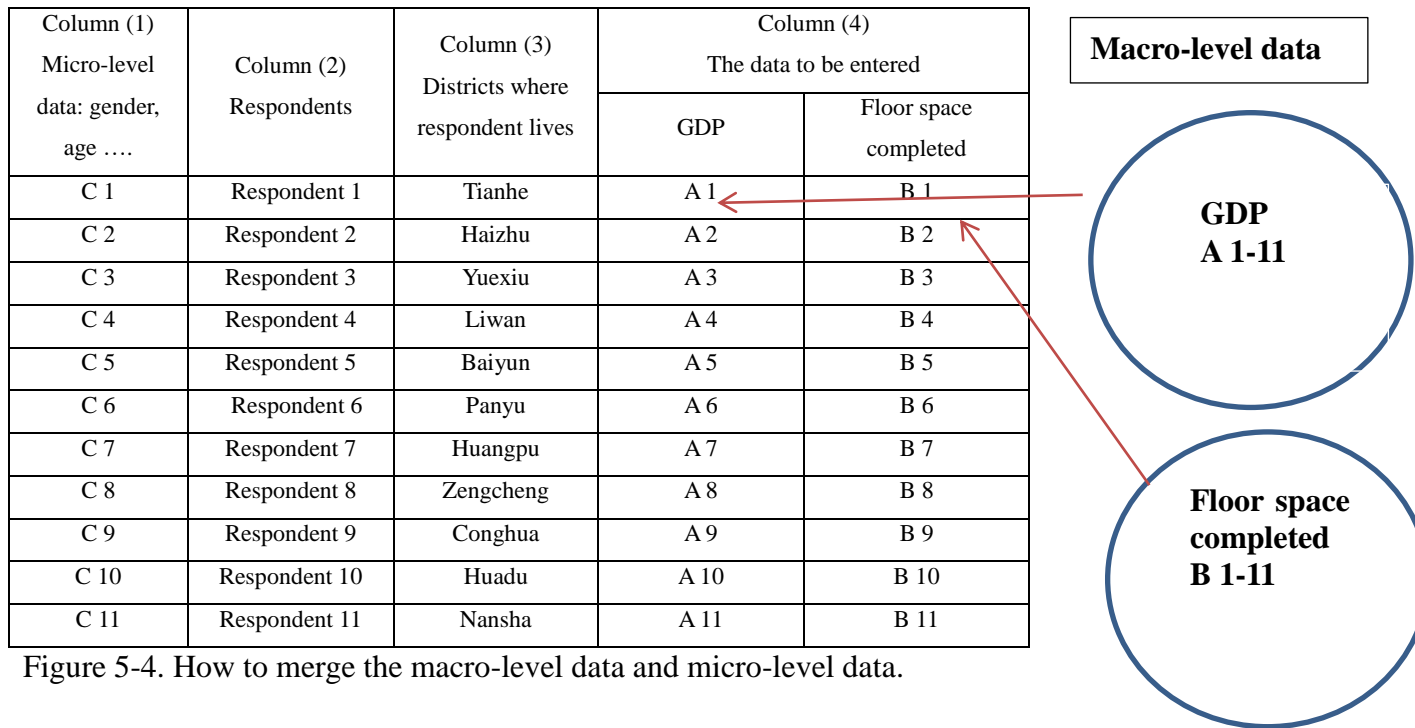


Figure 5-4. How to merge the macro-level data and micro-level data.

5.4.4 Analytical strategy

This subsection presents the analytical strategy used in chapter six. The analytical strategy used in quantitative analysis consists of four components: the basic empirical model, interaction effect analysis, mediation effect analysis, and robustness check. I provided the conceptual models in order to better illustrate the links between the dependent variable, the independent variable, the interaction terms, and the mediation variables (See Figure 5-5). Figure 5-5a shows the direct effect of employer types on homeownership outcomes, which is used to address research question one (How do young skilled migrants' employer types shape their homeownership outcomes in Guangzhou?). Based on Figure 5-5a, Figure 5-5b adds the interaction term between employer types and incomes to examine whether income changes the relation between employer type and homeownership outcomes. Figure 5-5b is used to answer sub-research question one (If the employer type matters in determining homeownership outcomes, how do income levels change the relation between employer types and homeownership outcomes?). Figure 5-5c illustrates the mediating role of long-term settlement intention between employer types and homeownership outcomes, which are employed to address research question two (Do long-term settlement intentions mediate the relationship between employer types and homeownership outcomes?).

I will introduce the binary logistic regression models, multilevel analysis, and propensity score matching (PSM) in the basic empirical model section. In examining the direct effect of employer types on homeownership outcomes, I will first compare the estimated results of the binary logistic regression model and the multilevel analysis. Based on the results of the regression models, I will explain why I use multilevel analysis as my primary analytical strategy. Then, I will use propensity score matching (PSM) approach to generate the balanced samples that treatment and control groups have similar covariates and compare the estimated results of the multilevel analysis using matched and unmatched samples. Finally, I will apply multilevel analysis to examine the direct effect of employer types on homeownership outcomes, the interaction effect between employer types and incomes, and the mediating role of long-term settlement intentions.

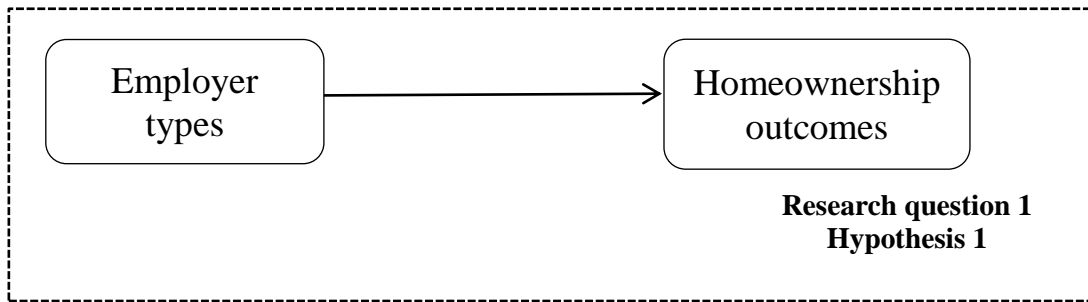


Figure 5-5a

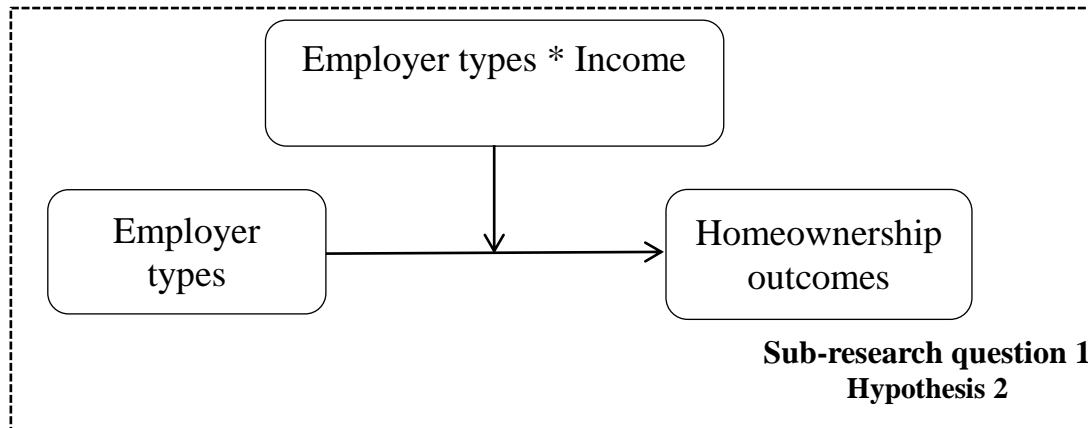


Figure 5-5b

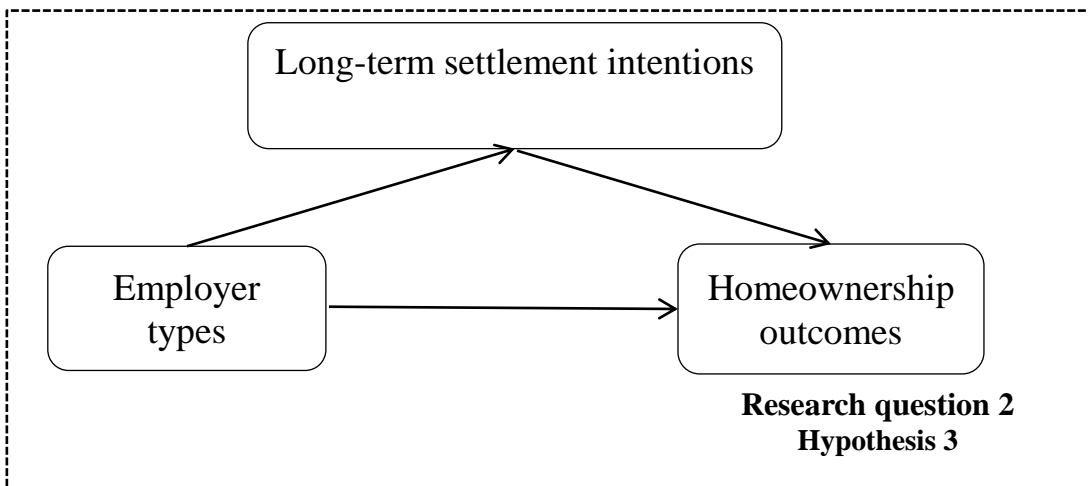


Figure 5-5c

Figure 5-5. The conceptual model of employer types and homeownership outcomes.

1. Basic empirical model

(1) Binary logistic regression:

The history of regression analysis can be traced back to the late nineteenth century (Golberg & Cho, 2010). The British anthropologist Sir Francis Galton was the first to introduce the

concept of regression into research (Golberg & Cho, 2010). Francis Galton was a biologist who discovered an interesting phenomenon: the taller the parents, the taller the children, and vice versa (Golberg & Cho, 2010). In addition to making a major contribution to the field of genetics, Francis Galton introduced the concept of regression, which is of great importance to the burgeoning field of statistics.

Regression analysis serves as an important statistical technique commonly used in the social sciences. This is because regression analysis can eliminate the influence of the other factors to hopefully get closer to the accurate and reliable relation between the dependent (outcome) variable and the independent (predictor, explanatory, or covariates) variable (Hosmer et al., 2013). In practice, there are many types of regression models used to address specific problems, including linear regression models, logistic regression models, multinomial regression models, count regression models, etc. The choices of regression models are usually based on the nature of the dependent variables and the type of model that provides the best fit (Chatterjee & Jeffrey, 2012).

As mentioned previously, this study aims to estimate the direct effect of employer types on young skilled migrants' homeownership outcomes in Guangzhou. Thus, the dependent variable is homeownership outcome, a dichotomous variable. Given that the dependent variable is dichotomous, the binary logistic regression model is the most commonly used in quantitative analysis (Hosmer et al., 2013). In addition to meeting the condition of the binary nature of the dependent variable, using binary logistic regression models requires meeting four other assumptions (Beacom, 2023). Indeed, most regression models need to satisfy these assumptions to obtain reliable estimations (Golberg & Cho, 2010).

The first assumption is the independence of errors. It refers to the fact that there should be no duplicate responses in the dataset under the assumption of error independence (Stoltzfus, 2011). This means that each sample can only be observed once. The second assumption is the absence of multicollinearity in the regression models. Multicollinearity occurs when two or more independent (predictor) variables are highly correlated in regression models (Thompson et al., 2017). If the assumption of the absence of multicollinearity is violated, the standard error of the coefficients will increase (Daoud, 2017). The coefficients for some or all of the independent (predictor) variables may be shown to be significantly different from zero (Daoud, 2017). In other words, by inflating or deflating the standard errors of the coefficients,

multicollinearity may cause some independent variables that should be significant to become statistically insignificant, or a change in the sign of the coefficient, where a positive effect may become negative and vice versa (Daoud, 2017; Tsagris & Pandis, 2021). As a result, multicollinearity can lead to serious problems with the reliability of the estimates of the parameters of the model. The Variance Inflation Factors (VIF) test is usually used to indicate the presence of multicollinearity (Hosmer et al., 2013). Despite the fact that there is no clear consensus in the statistical literature on the most appropriate VIF cut-off point, VIF values greater than ten may indicate the presence of multicollinearity in the regression models (Alin, 2010; Hosmer et al., 2013; Lee et al., 2016).

In addition to these assumptions, using binary regression models requires meeting the assumption of no outliers in the dataset and an adequate number of observations (Hosmer et al., 2013). Outliers in the dataset are extreme values that differ from most other data points in a dataset (Stoltzfus, 2011). If there are outliers in the regression models, outliers may bias the estimations (Wenzlick et al., 2022). For example, if the age variable appears as 1000 in the dataset, this can be considered an outlier. In addition, having a sufficient number of observations in the dataset is also important for obtaining reliable and robust estimates (Hosmer et al., 2013). However, how many observations (sample sizes) do regression analyses require? As Green (1991) suggested, the minimum number of observations in regression models is determined by the number of independent variables (predictors). The minimum number of observations is calculated using the following equation (Green, 1991):

$$N > 50 + 8p \text{ where } p \text{ is the number of independent (predictors) variables}$$

Assessing these assumptions is a crucial step before using regression analysis. Based on the sample size and research design, I will evaluate these assumptions in the second section of chapter six.

Overall, in order to identify the relation between young skilled migrants' employer types and their homeownership outcomes in Guangzhou, I estimate a binary logistic regression model, controlling for gender, age, married, spouse in Guangzhou, educational attainment, social security, personal monthly income, length of stay in Guangzhou, intra-provincial migration, GDP, investment in fixed assets, and floor space completed. The standard binary logistic regression model is as follows:

$$HO_i = \beta_{i,0} + \beta_{i,1}ET_{i,1} + Mic_{i,1} + Mac_{i,1} + \varepsilon_{i,1} \quad \text{Equation (1)}$$

where HO_i refers to the homeownership outcomes of individual i ; $ET_{i,1}$ refers to the employer types of individual i ; $Mic_{i,1}$ refers to the micro-level characteristics of individual i , including gender, age, married, spouse in Guangzhou, educational attainment, social security, personal monthly income, length of stay in Guangzhou, intra-provincial migration; $Mac_{i,1}$ refers to the macro-level characteristics of the area where individual i lives, including GDP, investment in fixed assets, and floor space completed; $\varepsilon_{i,1}$ is the error term; $\beta_{i,0}$ is the intercept, $\beta_{i,1}$ is coefficients to be estimated by the binary logistic regression model. Micro-level and macro-level variables are chosen with reference to previous work, while taking into account the data availability (Huang, 2004; Cui et al., 2016; Tang et al., 2017; Wu & Zhang, 2018; Chen et al., 2022; Zhang & Yan, 2022).

(2) Multilevel level analysis

Although binary logistic regression can initially derive the relationship between employer types and homeownership outcomes, there is an intrinsic limitation to binary logistic regression models in the research design. This is because the data used in this study is hierarchical. That is, each young skilled migrant is nested within different districts. The data has two levels, with the lower level unit (young skilled migrants) nested within the higher level units (districts). However, traditional regression models (binary logistic regression models) ignore the data's hierarchical nature, thereby potentially producing less accurate estimations. In contrast, as variables can be measured at different levels, multilevel analysis can provide a more accurate estimation of regression coefficients than traditional regression models (Leeuw & Meijer, 2008).

Multilevel analysis is seen as a collection of methods developed jointly by sociological methodologists and statisticians (Lazega & Snijders, 2016). In a classic work on the relation between individual and collective properties, Lazarsfeld and Menzel (1961) proposed that there is a necessity for unit sets at both the individual and collective levels. The individual refers to the individual human, for example, pupils; the collective refers to the set of individuals, for example, pupils within schools. They pointed out that the correlation between individual variables can be seen not only as a correlation between individuals but also

between collectives (Lazarsfeld & Menzel, 1961; Lazega & Snijders, 2016).

Additionally, Lazarsfeld and Menzel (1961) offered the typology of the level of variables. Put simply, multilevel research has three types of variables, mainly global, structural, and contextual variables (Lazarsfeld & Menzel, 1961; Hox, 2010). The global variable is defined as "variables only at the level at which they are defined, without reference to other units or levels" (Hox, 2010, p. 2). In the research design, young skilled migrants' gender, age, educational attainment, and other demographic and socioeconomic characteristics would be a global variable at the individual level. Meanwhile, GDP, investment in fixed assets, and floor space completed would be a global variable at the district level. Moreover, the structural variables refer to some variables at higher levels constructed by referring to the sub-units at a lower level (Hox, 2010, p. 2). For example, the district variable - 'average monthly income of young skilled migrants' as a higher-level variable is constructed from the lower-level variable. Finally, contextual variables refer to the values of lower-level units generated by higher-level units' values. For example, I assign to all young skilled migrants who live in a district the districts' GDP, investment in fixed assets, and floor space completed as three individual-level variables. This is the approach I use in multilevel analysis.

Overall, the multilevel analysis aims to examine not only the individual effect but also the contextual effect on the individual outcome variable by aggregating (the variables in the higher level are generated by the values in the lower level) or disaggregating (the variables in the lower level are generated by the values in the higher level) data to a single level of interest (Hox, 2010). It is safe to say that multilevel analysis is seen as the marriage of traditional individual analysis and contextual analysis (Leeuw & Meijer, 2008). Given the hierarchical data structures used in this study, I integrated the micro- and macro-level variables into a single model using multilevel analysis in order to obtain more precise estimates of the employer type effect on homeownership outcomes, but also taking into account the district effect on homeownership outcomes. The dataset used in this study has two level units. The individual level is the most detailed, also called the lowest level or level one. The district level is the highest level or level two. The multilevel models (hierarchical models) can be expressed as:

$$HO_{ij} = \beta_{ij,0} + \beta_{ij,1}ET_{ij,1} + Mic_{ij,1} + Mac_{ij,1} + \varepsilon_{ij,1} \quad \text{Equation (2)}$$

I denote the lowest level (level 1) units, individuals, by i and the highest level (level 2 units), districts, by j . The lowest level units are nested within the highest level units. HO_{ij} is the homeownership outcome as a dependent variable, defined for the lowest level unit i within the highest level unit j ; $ET_{ij,1}$ is the employer type as a key independent variable, defined for the lowest level unit i within the highest level unit j ; $Mic_{ij,1}$ is the micro-level variable and indicates the variable in the lowest level units; $Mac_{ij,1}$ is the macro-level variable and suggests the variables in the highest level units; $\beta_{ij,1}$ is the regression coefficient of employer types; $\varepsilon_{ij,1}$ is the error term.

(3) Propensity score matching (PSM) approach

Although multilevel analysis further improves the precision of the estimations, there is still an important limitation of the current research design. As mentioned earlier, the main purpose of this study is to identify the link between employer types and homeownership outcomes. I used secondary data (or observational data) rather than a randomized controlled trial (RCT) to answer this research question. However, observational data are subject to potential self-selection bias (Williamson & Forbes, 2014). Specifically, the different outcomes of homeownership could be caused not only by employer types but also by confounding characteristics. This can lead to inaccurate or even spurious estimates if substantial confounding factors exist between those working in the public and private sectors and the self-employed. In other words, there are likely to be fundamental differences between young, skilled migrants who work in the public sector and those who do not, and these differences are also likely to influence homeownership outcomes. This is known as self-selection bias. It is caused by the lack of randomization when using observational data (Gray, 2020).

A randomized controlled trial (RCT) aims to ensure that the treatment and control groups have similar characteristics to estimate the effect of the interventions on the experimental outcomes (Gray, 2020). However, there are two main reasons why I cannot carry out the randomized controlled trial (RCT) to answer the research question. First, it is unethical to randomly assign respondents (young skilled migrants) to work in the public sector, the private sector, or the self-employed. This is because each young skilled migrant has different career aspirations and preferences. Second, in practice, persuading different employer types to participate in the experiment is difficult. Therefore, the randomized controlled trial (RCT)

is unethical and infeasible in the research design. In this case, the propensity score matching (PSM) approach can be used instead to address the self-selection bias issue.

Propensity score matching (PSM) was first proposed by Rosenbaum and Rubin (1983) as a quasi-experimental method to adjust for confounding in many non-randomized studies (Rosenbaum & Rubin, 1983). The propensity score matching approach uses observational data to match treated observations (those working in the public sector) with comparable observations (those working in the private sector and self-employed) to eliminate self-selection bias. In other words, the propensity score matching approach can generate a control group with similar characteristics to treatment groups. Using the propensity score matching (PSM) approach, I can get a group of private and self-employed people with similar characteristics to public employees to mimic a randomized controlled trial for employer types.

There are generally six steps in applying the propensity score matching (PSM) approach. The first step is to determine which covariates to include in the estimation of the propensity score (Harris & Horst, 2016). Covariates are the more formal term used in the PSM literature. Covariates in this study refer to micro- and macro-level characteristics. When selecting covariates, an important criterion should be followed: the covariates should have good predictive power for the outcome variable. In particular, I need to look for the covariates that might be associated with the homeownership outcomes of young skilled migrants. For example, previous literature has found that migrants with higher incomes are more likely to become homeowners in destination cities (Wu & Zhang, 2018). Therefore, income should be chosen as a covariate. In fact, all the control variables used in this study should be selected as covariates to predict the propensity score. This is because these control variables have been identified in previous literature as having good predictive power in determining homeownership outcomes (Painter et al., 2001; Huang, 2004; Allen & Ishizawa, 2015; Cui et al., 2016; Tang et al., 2017; Wu & Zhang, 2018; Mundra & Oyelere, 2018; Chen et al., 2022; Zhang & Yan, 2022).

After selecting the covariates, the second step is to estimate the propensity score (Harris & Horst, 2016). The propensity score is defined as “the conditional probability of assigning a unit to a particular treatment condition (i.e., the likelihood of receiving treatment), given a set of observed covariates: $(z=i|X)$ ” (Olmos & Govindasamy, 2015, p. 71). z is the treatment; i is

the treatment condition; X is the observed covariate (Olmos & Govindasamy, 2015). In a randomized controlled trial, there is a 50% chance that each person will be assigned to a treatment group (Olmos & Govindasamy, 2015). That is, $(z=i|X) = 0.5$. However, the probability of each individual being assigned to a particular treatment group $(z=i|X)$ is unknown. The logistic regression models are widely used to calculate the propensity score $(z=i|X)$ (Harris & Horst, 2016). In this study, I included all micro- and macro-level variables as observed covariates in the models and estimated the propensity score using logistic regression. It is widespread in the propensity score literature to use logistic regression models to estimate the propensity score (Olmos & Govindasamy, 2015; Harris & Horst, 2016).

Once the propensity scores have been calculated, the third step is to generate the balanced treatment (intervention) and control (comparison) groups using a matching algorithm. In fact, there are many matching algorithms. Ideally, if the sample size is large or finite, all matching algorithms can produce perfect matching (Gray, 2020). As a result, the decision on which matching algorithms to use is a trade-off with sample size. This is because the matching process can reduce a large number of samples to achieve a balanced sample. A large sample reduction can also affect subsequent analyses (Inagaki, 2020). The K-Nearest Neighbour (KNN) algorithm is a popular machine-learning algorithm that matches samples (Szek   & Vathy-Fogarassy, 2020). The main idea behind the K-Nearest Neighbour (KNN) is to classify an unknown sample based on its distance to the K nearest samples in the dataset (Gweon et al., 2019). I chose the K-Nearest Neighbour (KNN) algorithm to create a matched sample. Notably, I also repeated the baseline analysis using different matching algorithms and reduced the covariates included to estimate the propensity score in the robustness check to check the sensitivity of the baseline results. I will provide detailed information in the robustness check section.

The fourth step is to assess the matching quality (Harris & Horst, 2016). A higher quality of the match means that the control and treatment groups have a similar distribution of covariates (Inagaki, 2020). Nevertheless, if the covariates are unbalanced between the control and treatment groups, the model will be misspecified, and the results could be biased (Harris & Horst, 2016). It is, therefore, important to improve the quality of the match in order to obtain reliable estimations. In fact, the numeric diagnosis of balance, for example, a t -test, can be used to evaluate the covariate balance (Harris & Horst, 2016). As shown in Table 5-16,

the t-test compares the means of the covariates between the control and treatment groups and indicates whether the covariates are balanced after matching. P values are significant at the 0.05 level, indicating that the covariates are unbalanced and vice versa. I give two scenarios in terms of the matching quality of the male variable before and after matching. It is just an example of how to use the t-test to assess whether the covariates are balanced. The t-test provides two p-values of the unmatched and matched samples in scenario one. Before matching (unmatched samples), the p-value is significant at the 0.05 level, suggesting the male variables are unbalanced between controlled and treatment groups. After matching, the p-value is insignificant at 0.05, indicating that the male variable is balanced between the controlled and treatment groups. It is safe to say that the quality of the match is excellent. In contrast, the male variable is also unbalanced before matching in scenario two. After matching, the male variable is also unbalanced, suggesting a lower matching quality.

Table 5-16. T-test for assessing the quality of the match (example).

Variables	Unmatched	Mean		t-test	
	Matched	Treated	Control	t	p>t
Male (Scenario one)	U	0.16	0.24	-7.85	0.00
	M	0.16	0.16	-0.68	0.50
Male (Scenario two)	U	0.16	0.24	-7.85	0.00
	M	0.16	0.24	-7.85	0.00

After matching and removing the unmatched sample, the fifth step assesses the average treatment for the treated (ATT) values, the most straightforward and common approach used to estimate treatment effects only for individuals who participated in the intervention (Harris & Horst, 2016). Suppose the average treatment for the treated (ATT) value is greater than 1.96. In that case, this suggests that young skilled migrants' homeownership outcomes in Guangzhou differ between those who work in the public sector and those who work in the private sector and are self-employed.

Regarding the final step, once the balanced sample has been generated, I will continue to use multilevel analysis to identify the relationship between employer types and homeownership outcomes. This is because I not only pay attention to the effect of employer types on homeownership outcomes but also take into account the individual and district effects on homeownership outcomes.

Overall, the baseline analysis contains three parts. The first part is to estimate the binary

traditional regression models. The second part is to conduct the multilevel analysis and compare the estimations between multilevel analysis and binary logistic regression. The third part is to generate balanced samples and perform the multilevel analysis. Building on this (balanced samples and multilevel analysis), interaction and mediation effects analyses will be conducted in the subsequent analysis.

2. Interaction effect analysis

The interaction effect has a long tradition and is widely used in social science research (Jose, 2013). Also, the interaction effect is generally interchangeable with the multiplicative effects, product terms, or moderation effects (Andersson et al., 2014). The interaction effect refers to a third variable that may modify the nature and strength of the relation between the independent (exposure) variable and the dependent (outcome) variable (Baron & Kenny, 1986; Jaccard, 2001). This third variable is usually called the moderator (Andersson et al., 2014).

In the interaction effect analysis, three causal paths are included in the regression models (See Figure 5-6). Path a indicates the effect of the independent (exposure) variable on the dependent (outcome) variable. Path b suggests the effect of the moderator on the dependent (outcome) variable. The path c indicates the effect of the product term of an independent variable and moderators on the dependent (outcome) variable. Paths a and b are called the “main effect,” and the path c is called the “interaction effect” (Baron & Kenny, 1986). When performing an interaction effect analysis, two main effects and an interaction effect must be included simultaneously in a regression model. Notably, the statistical significance and sign of the product term of the independent variable and the moderator should be used to interpret how the moderator affects the relationship between the independent variable and the dependent variable rather than the direct effect of the moderator on the dependent variable (Jose, 2013). More importantly, when including the product term of the independent variable and the moderator in a regression model, two main effects do not indicate the direct effect of the independent variable and moderator effect on dependent variables (Andersson et al., 2014). The statistical significance and sign of the two main effects indicate the specific conditional effect of the independent variable or moderator (Park & Yi, 2022). For example, suppose the effect of the independent variable on the dependent variable becomes non-significant, and the effect of the moderator on the dependent variable is still significant in the interaction effect analysis model. In that case, this suggests that the effect of the

independent variable on the dependent variables is conditional on the level of the moderator.

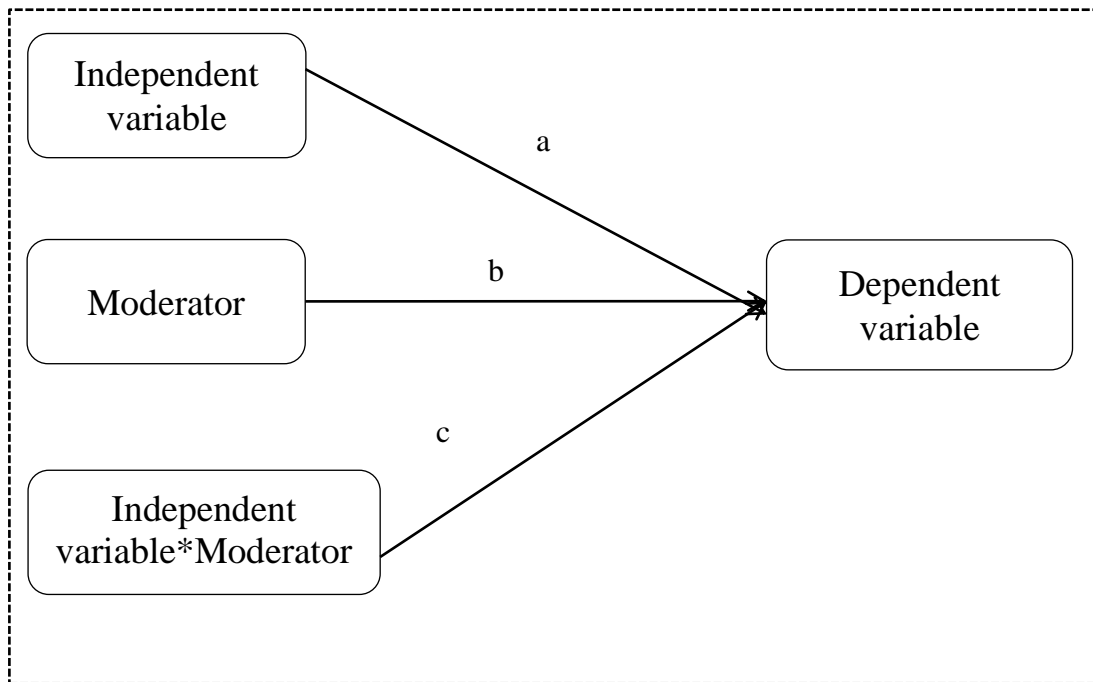


Figure 5-6. Moderator model.

In statistics, the interaction effect refers to the product term of two or even more variables on the dependent variable (Jose, 2013). Nevertheless, I only consider the effect of one independent variable and one moderator and the product terms of these two variables on the dependent variable in this study. A key reason is that the interaction effect is used not only to detect a statistically significant effect of the interaction between independent and moderating variables on the dependent variable but also to enrich the understanding of the relationship between employer types and homeownership outcomes by identifying the income level conditions under which such relationships hold or are stronger or weaker (Andersson et al., 2014). That is, the purpose of the interaction effect in this study is to examine how income level alters the relationship between employer type and homeownership outcomes. The regression equation would be:

$$HO_{ij} = \beta_{ij,0} + \beta_{ij,1}ET_{ij,1} + \gamma_{ij,1}INC_{ij,1} + \delta_{ij,1}ET * INC_{ij,1} + Control + \varepsilon_{ij,1}$$

Equation (3)

Noticeably, equation (3) is based on applying propensity matching scores to generate the balanced samples and using multilevel analysis to estimate the interaction effect of income and employer type. The product term of employer types and income is included in equation

(3). Similar to equation (2), I denote the lowest level (level 1) units, individuals, by i and the highest level (level 2 units), districts, by j . The lowest level units are nested within the highest level units. HO_{ij} is the homeownership outcome as a dependent variable, defined for the lowest level unit i within the highest level unit j ; $ET_{ij,1}$ is the employer type as a key independent variable, defined for the lowest level unit i within the highest level unit j ; $INC_{ij,1}$ is a moderator; *Control* includes all micro-level and macro variables except income. $\beta_{ij,1}$ is the coefficient of employer type. It does not represent the main effect of employer type on homeownership outcomes but rather a conditional effect, that is, the effect of employer type when the income values are zero. This is because employer type is part of the product terms. Likewise, $\gamma_{ij,1}$ is the coefficient of income. It does not represent the main effect of income on homeownership outcomes but rather a conditional effect, that is, the effect of employer type when the income values are zero. $\delta_{ij,1}$ is the coefficient of the product term between employer type and income. When $\delta_{ij,1}$ is statistically significant at the 0.05 level and positive, it suggests that income can positively adjust the relationship between employer type and homeownership outcomes, vice versa. $\varepsilon_{ij,1}$ is the error term.

3. Mediation effect analysis

The mediation effect has a long history. However, the terms mediation and moderation are confused, and the terms moderation and mediation are often used interchangeably by many social science researchers (Baron & Kenny, 1986). Nevertheless, there is a fundamental difference between the mediating and moderating effects. The moderation effect focuses on the third variable (moderator) changing or altering the strength and direction of the independent and dependent variables (Andersson et al., 2014). By contrast, the mediation effect is a statistical method used to assess how the independent variable transmits its effect on the dependent variable through the third variable (mediator) (Baron & Kenny, 1986). That is, the mediation effect is usually used to answer the specific research question: What is the mechanism by which the independent variable affects the dependent variable (MacKinnon, 2008)?

The mediation effect can be traced back to the 1920s (Baron & Kenny, 1986). Woodworth (1928) proposed the earliest prototype of the mediation effect, a stimulus–organism–response (S–O–R) model, to explain how the organism mediates the relation between the stimulus and response. Later, the mediation concept was translated into statistical methods, starting with

the simplest form of a relationship between the independent variable, mediator, and dependent variable (MacKinnon, 2008). Figure 5-7 shows that X is the independent variable, M is the mediator, and Y is the dependent variable. In this statistical model of mediation, there are two ways in which X can affect Y. The first pathway goes from X to Y without going through M, also known as a direct effect. The other pathway is from X to Y through M, also called the indirect effect. As a result, the total effect of X on Y is equal to the direct effect of X on Y plus the indirect effect of X on Y through M (MacKinnon, 2008). In such a model, the Figure 5-7 represents three equations:

$$Y = cX_i + \varepsilon_{1i} \quad \text{Equation (4)}$$

$$M = aX_i + \varepsilon_{2i} \quad \text{Equation (5)}$$

$$Y = c'X_i + bM + \varepsilon_{3i} \quad \text{Equation (6)}$$

The equation (4) indicates the direct effect of X on Y; the equation (5) suggests the direct effect of X on M; the equation (6) suggests the effect of X and M on Y. a, b, and c' are the regression coefficients. c can represent the total effect of X on Y; a*b can represent the mediation effect; c' can represent the direct effect of X on Y. That is, $c = c' + ab$.

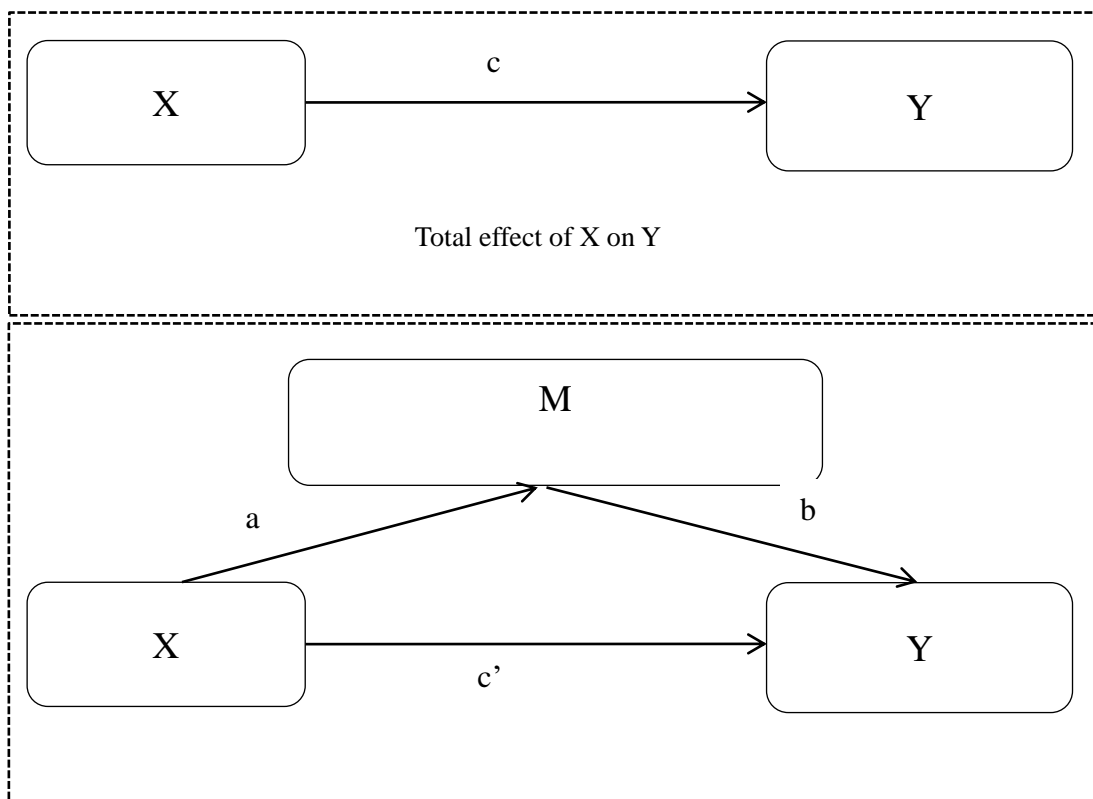


Figure 5-7. A statistical diagram of the simple mediation model.

One of the main purposes of this study is to understand the mechanism by which the employer type of young skilled migrants affects their homeownership outcomes in Guangzhou. As discussed above, employer type is the independent variable; long-term settlement intention in Guangzhou is the mediator variable; young skilled migrants' homeownership outcome in Guangzhou is the dependent variable. If I want to examine whether long-term settlement intentions play a mediating role between employer type and homeownership outcome (See Figure 5-8), the mediation effect tests are needed.

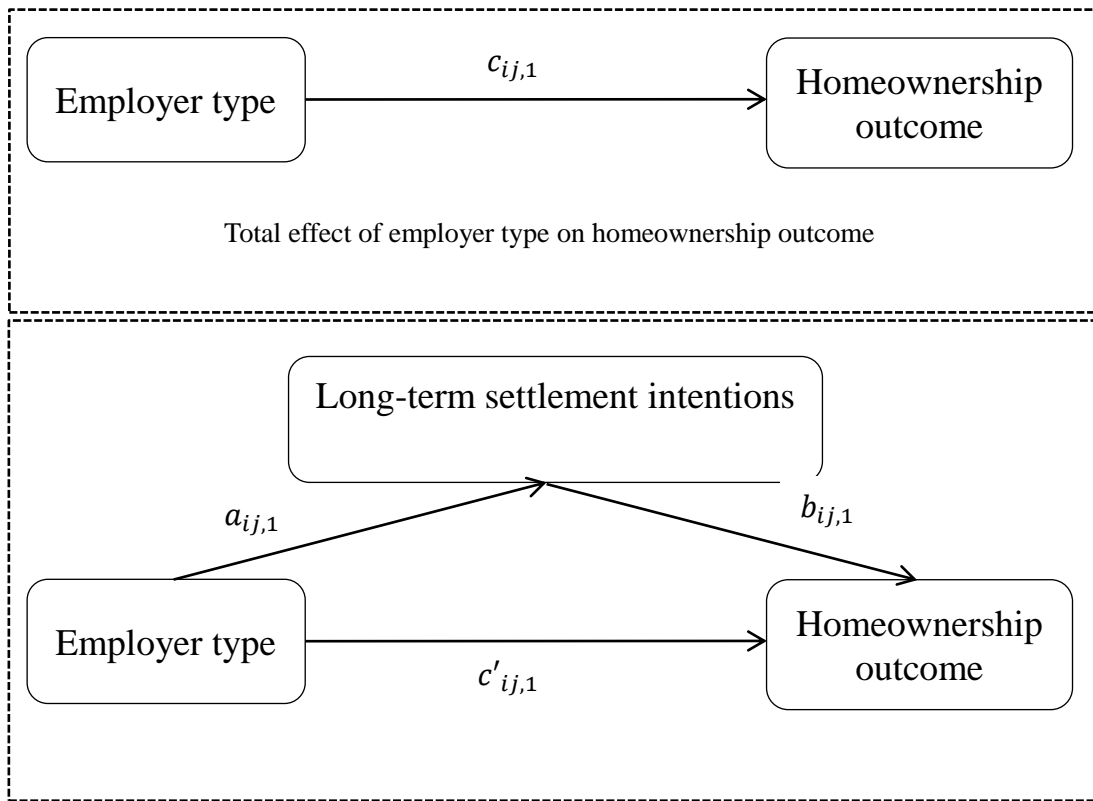


Figure 5-8. The mediating role of long-term settlement intention between employer type and homeownership outcome.

The procedures suggested by Baron and Kenny (1986) for testing mediation effects are widely used in social science research (Baron & Kenny, 1986). I use these procedures to test the mediating effect of long-term settlement intentions. Similarly, the Figure 5-8 represents three equations:

$$HO_{ij} = \beta_{ij,0} + c_{ij,1}ET_{ij,1} + Control + \varepsilon_{ij,1} \quad \text{Equation (7)}$$

$$LS_{ij} = \beta_{ij,0} + a_{ij,1}ET_{ij,1} + Control + \varepsilon_{ij,1} \quad \text{Equation (8)}$$

$$HO_{ij} = \beta_{ij,0} + c'_{ij,1}ET_{ij,1} + b_{ij,1}LS_{ij,1} + Control + \varepsilon_{ij,1} \quad \text{Equation (9)}$$

where HO_{ij} is the homeownership outcomes as the dependent variable; LS_{ij} is the long-term settlement intention as the mediator variable; $ET_{ij,1}$ is the employer type as the independent variable. Equations (7), (8), and (9) are employed to evaluate the mediation effect. I include employer type as a regressor in equation (7) to determine whether employer type influences the young skilled migrants' homeownership outcomes. I then put employer type as a key explanatory variable to estimate the young skilled migrants' long-term settlement intentions in equation (8). Finally, employer type and long-term settlement intentions are combined in equation (9) to examine these two effects on homeownership outcomes. If long-term settlement intention mediates employer type and homeownership outcomes, equations (7)-(9) must satisfy the following conditions.

First, it must be demonstrated that employer types can significantly affect homeownership outcomes in equation (7) (Baron & Kenny, 1986). Second, it must be shown that employer type influences the long-term settlement intentions in equation (8) (Baron & Kenny, 1986). Third, if long-term settlement intentions can significantly influence homeownership outcomes in equation (9), regardless of the effect of employer type can significantly influence homeownership outcomes in equation (9), the mediation holds (Baron & Kenny, 1986). If employer type affects long-term settlement intentions in equation (8) and long-term settlement intentions do not significantly affect homeownership outcomes in equation (9), or if employer type does not affect long-term settlement intentions in equation (8) and long-term settlement intentions affect homeownership outcomes in equation (9), the Sobel test or bootstrapping algorithms are required to test for mediation (Fiedler et al., 2018; Hsu & Chang, 2022). I, therefore, adopt multilevel analysis to estimate equations (7)-(9).

4. Robustness Check

Given the fragility of regression coefficient estimations, the robustness check in the empirical analysis is very necessary. This is because the robustness check can help detect the misspecification. Model misspecification refers to where regression analysis is in error, caused by omitting key variables from the regression models, including irrelevant variables in the regression models, and functional form misspecification (Davidson & MacKinnon, 1981; Leamer, 1983; Lu & White, 2014). Researchers typically test whether the regression coefficient of the key independent variable changes significantly, including the sign and magnitude, by modifying the regression specification, such as adding or removing control

variables and altering the methodology (Lu & White, 2014; Lorenz, 2018).

In this study, the robustness check has two steps. The first step is to examine the sensitivity of the main results by dropping some control variables and altering the matching algorithms. Specifically, I chose the different covariates and matching algorithms to estimate the propensity scores to obtain the new balanced sample. Then, I used binary logistic and probit regression models to estimate the effect of employer types on homeownership outcomes.

The second step is to examine whether the endogeneity issue can confound the mechanism of employer types and homeownership outcomes (See Figure 5-9). As mentioned in the mediation effect, I included employer types and long-term settlement intentions as regressors in equation (9) to estimate these effects on homeownership outcomes. The significance and signs of long-term settlement intentions can influence the results of the mediation effect test. However, I only considered the effect of long-term settlement intentions on homeownership outcomes in equation (9), ignoring the bidirectional causal relation between long-term settlement intentions and homeownership outcomes. This may lead to biased results.

Indeed, endogeneity issues caused by reverse causality are a common threat to the validity of housing research. This is because there is sometimes a bidirectional relation between the key explanatory (independent) variable and the dependent (outcome) variable (Jean et al., 2016). For example, when I estimate equation (9), long-term settlement intentions may affect homeownership outcomes; however, homeownership outcomes may also affect long-term settlement intentions (See Figure 5-9). More specifically, if young skilled migrants express the willingness to stay in Guangzhou for a long time, they are more likely to access homeownership in Guangzhou. Similarly, if young skilled migrants become homeowners in Guangzhou, they are more likely to stay in Guangzhou for the long term. As such, the estimations of equation (9) are vulnerable to the potential endogeneity. The instrumental variable approach is a popular statistical method for handling endogeneity issues (Hu et al., 2022). The main purpose of tackling the endogeneity issue is to determine whether potential endogeneity issues distort the mechanism of employer types and homeownership outcomes.

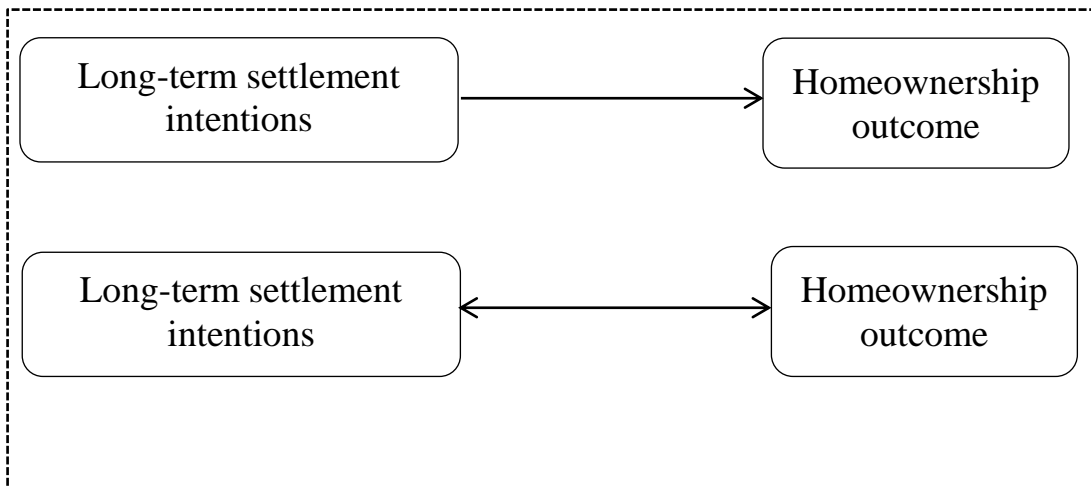


Figure 5-9. The endogeneity issue between long-term settlement intentions and homeownership outcome.

To improve the identification of equation (9), I introduced the instrumental variable approach to potentially overcome the potential endogeneity issue in equation (9). The main challenge of the instrumental variable approach is to find an appropriate instrumental variable, as it must meet two conditions: it must directly affect long-term settlement intentions, but at the same time, it must not directly affect homeownership outcomes (Vignoli et al., 2013; Hu et al., 2022). I expect that “the number of gardens per square kilometer in different districts in Guangzhou?” could be an appropriate instrumental variable. The number of gardens per square kilometer in different districts in Guangzhou can represent the quality of the urban environment, which may directly affect young skilled migrants’ settlement intentions in Guangzhou. However, more gardens do not translate into young skilled migrants being able to buy houses in Guangzhou. Therefore, I will use the “number of gardens per square kilometer in different districts in Guangzhou” as a potential instrumental variable to address the endogeneity issue.

In summary, although I performed a range of robustness checks to assess the sensitivity of my main results, it is important to recognize that robustness tests cannot eliminate all biases (Sheridan, 2008). Nevertheless, it is safe to say that the robustness check can increase the reliability of the results.

5.5 Data and methods for qualitative analysis

The quantitative analysis aims to investigate the role of employer type in shaping homeownership outcomes and the underlying mechanisms. The advantage of the quantitative

analysis is to explain the relationship between employer type and homeownership outcomes. However, a major limitation of this research paradigm is that it cannot provide an in-depth understanding of young skilled migrants' perceptions and experiences of employer type and homeownership outcomes (Shepard, 2021). For example, what do employer types mean for young skilled migrants? What does access to home ownership mean for young skilled migrants? How do young skilled migrants understand the relation between employer types, long-term settlement intentions, and homeownership outcomes in Guangzhou? As a result, qualitative methods can help to deepen the understanding of this complex phenomenon and perceptions.

5.5.1 Semi-structured interview

Once the qualitative methodology had been chosen, the next step was to select one or more qualitative data collection methods (Shepard, 2021). The main data collection methods of qualitative research include interviews, observation, focus groups, and documentary analysis (Sparkes & Smith, 2014). Ultimately, interviews are adopted as the primary method of data collection as they allowed for an in-depth exploration of young skilled migrants' perceptions of employer types and homeownership outcomes. Other methods of data collection are considered at the outset. For example, a focus group was considered inappropriate as each young skilled migrant has their schedule. Scheduling a well-designed focus group with 6-10 participants is challenging. In addition, observation is not considered because of the number of questions relating to which participants would be observed where and in what context.

Although interview was chosen as the method of data collection, there are three most common types of interviews. The first is structured interviews, where the questions are predetermined in terms of topic and order. The second is unstructured interviews, where none of the questions are predetermined. The third is semi-structured interviews, which are a mixture of structured and unstructured interviews. While some questions are predetermined, others are not. Semi-structured interviews are treated as the most appropriate approach as they can provide more detail and richness due to their more open-ended nature. More specifically, participants can be encouraged to clarify and elaborate on their answers if necessary. This can deepen the understanding of the complex phenomenon. Having selected semi-structured interviews as the most appropriate for this study, the next step is to develop a sampling strategy.

5.5.2 Developing the interview guide

The purpose of developing the interview guide was to help me gather effective, important, and detailed information to answer research questions. More importantly, developing an interview guide allows me to remember the questions I want to ask during the interview process and communicate more fully with the participants.

In fact, before developing the interview guide, I completed the quantitative analysis of this study. I found that young skilled migrants working in the public sector are more likely to access homeownership in Guangzhou than those working in the private sector and the self-employed. Second, the positive effect of employer types on homeownership outcomes depends on income level, suggesting that the positive effect of employer types on homeownership outcomes weakens as income increases. Third, long-term settlement intentions mediate the relation between employer types and homeownership outcomes. Overall, the quantitative analysis revealed a positive relationship between young skilled migrants' employer types and their homeownership outcomes in Guangzhou. More importantly, the positive role of employer types in shaping homeownership has both direct and indirect effects. Although quantitative analysis revealed this important relationship between them, quantitative analysis can only provide possible interpretations rather than detailed and specific reasons. As such, the interview guide should be used for relevant questions such as participants' work experience in the public and private sectors, their understanding and perceptions of working for different types of employers, their housing history in Guangzhou and their understanding of the relationship between employer type, long-term intention to settle in Guangzhou, and buying a house in Guangzhou. In fact, some basic demographic and socio-economic characteristics need to be included in the interview guide to clarify the portrait of the participants.

As mentioned above, the interview guide should contain four parts, including demographic and socioeconomic characteristics, employment status and experience, housing history, and understanding the relationship between employer types, long-term settlement intentions, and homeownership outcomes. In order to collect "word data," I will resurvey previous participants included in the 2019 Housing Survey dataset. I will provide more detailed

information on data collection in the subsequent sections.

In terms of basic characteristics, some socio-demographic characteristics such as gender, age, educational attainment, and marital status can be captured from the 2019 Housing Survey dataset. Nevertheless, these basic characteristics are still included in the interview guide for two reasons. First, I want to check the accuracy of the previous information in the questionnaire survey. If any information is incorrect, I can correct it in time. If all the information is correct, this can confirm that the dataset used in the quantitative analysis is reliable. Second, I also intend to collect some dynamic information. More specifically, gender does not change with age. I can also calculate the age of the participants in 2023 from data in 2019. However, some characteristics, such as work and marital status, may change over time. For example, some participants may be single in 2019 and married with children in 2023. In addition, some participants may work in the private sector in 2019 and move to the public sector in 2023, and vice versa. More importantly, housing outcomes in Guangzhou could also be changed over time. Some participants may achieve their 2019 housing tenure expectations in 2023, moving from renting to owning a home in Guangzhou. Meanwhile, some participants may fail to translate their housing expectations into actual outcomes. Finally, some participants may express their willingness to stay in Guangzhou for the long term in 2019. However, they may change their previous settlement intentions due to the negative consequences of the pandemic on employment and the uncertainty of their future lives. Understanding the characteristics of these dynamic changes can enrich the knowledge of young skilled migrants' work histories, settlement intentions, and homeownership outcomes in Guangzhou.

Specifically, I verify the participants' identity by asking for their names and determining their gender from their voices. Age is measured by a survey question: How old are you? Marital status is measured by a survey question: What is your marital status - with five options: unmarried, married, divorced, widowed, and other. The number of children is measured by asking participants: How many children do you have? Educational attainment is measured by asking about their educational background. There are four alternatives - below associate college degree, associate college degree, bachelor's degree, and master's degree or higher. Employment status is measured by asking participants whether they are unemployed or employed. Next, I asked participants about their employer type in 2019 and now, if they report being employed. There are seven options: unemployed, government agencies, public

institutions, state-owned companies, private companies, self-employed, and part-time jobs. Settlement intentions in Guangzhou are measured by asking participants about their willingness to settle in Guangzhou with six options - already left Guangzhou, 1-2 years, 3-5 years, 6-10 years, long-term stay, and not sure. Housing status is measured by a survey question: What is your housing type in Guangzhou? There are six alternatives: buying a house, public rental housing, private rental housing, dormitories provided by work units, living at parents' homes, and others. Finally, participants will be asked about their housing expectations in Guangzhou in the next five years, with two answers - home ownership and renting if they still live in Guangzhou. These closed-ended questions are designed to gain an initial understanding of the basic characteristics of the participants. The specific interview questions are presented in the Appendix 1.

5.5.3 Data collection

After developing the interview guide, I considered how to recruit participants and conduct the semi-structured interview. All fieldwork was carried out over three weeks on 7 and 28 July 2023. I successfully interviewed 36 young skilled migrants. When I first recruited participants, it did not go very smoothly. Then I adjusted my recruitment strategy. I will introduce the recruitment process and data collection in the later section.

As the qualitative analysis is based on re-surveying the previous participants, their names and phone numbers were very important for conducting the fieldwork. There are 6004 participants in my dataset after data cleaning. I was not worried about not being able to recruit enough participants when I first started recruiting people. First, I divided the participants surveyed in 2019 into two categories: those working in the public and private sectors. This is because employer type is the variable of interest in the quantitative analysis. My initial fieldwork strategy was to ask the participants by phone if they were willing to participate in my Ph.D. project, that is, to re-survey them, and then, after getting their consent, I conducted the semi-structured interviews through Tencent Conference. I chose Tencent Meeting for the interviews and recordings because it is China's most widely used software for online meetings. The majority of Chinese do not use Zoom meetings, even though it is the most popular form of online meeting in an international context. In order to make it easier for the participants to take part in my research projects and to improve the efficiency of my recruitment, I decided to use Tencent Meeting rather than Zoom Meeting to conduct the

semi-structured interviews. In fact, before recruiting the participants, I contacted the head of the Real Estate Institute of Guangzhou University. I told her that I intended to conduct the follow-up semi-structured interview using the telephone number in the original data. With her permission, I started to recruit the participants.

In qualitative analysis, 30 participants can saturate and enrich the information to answer the research questions. Also, I estimated that the interview can last between half an hour and an hour, based on the interview guide.

Turning to the next step, I started to recruit participants by telephone. I called 40 potential participants in the mornings and afternoons on Tuesday. Surprisingly, no one answered my call, which was very frustrating. I reflected on why no one was answering my calls. As the phone numbers can all be dialed, this means that the phone numbers are correct. I wonder if they are at work and do not have time to answer the phone or are reluctant to answer the call after seeing an unknown number (fearing it is a scam call). In order to successfully recruit participants, I switched from calling them to texting them a message. In the text, I introduced my basic information and my research projects and attached the core content of my interview guide, as well as the instrument and duration of the interview. I sent 100 messages, and 3 people replied and were willing to take part in my interview. Then, I made an appointment with them and sent them the link to participate in the Tencent conference via text. Interestingly, they all agreed to be interviewed today or tomorrow. I am also concerned that if the interval between interviews is too long (for example, 10 days), there will be a great deal of uncertainty, reducing the success rate of the interview. Successfully recruiting participants gave me confidence to finish my fieldwork. Therefore, I used text messaging to recruit participants and Tencent Meeting to conduct interviews to complete my fieldwork. Interestingly, every time I sent 100 messages, 1-3 people replied and expressed their willingness to participate in my interview. Finally, I arranged the online interview with them via Tencent Meeting based on their time slot and my schedule. I sent text messages to 2,500 people and successfully interviewed 36 young skilled migrants. The interview lasted between 30 and 60 minutes, as I had expected.

Noticeably, before the semi-structured interview began, I asked the participants if I could record the interview. All participants gave their consent for the interviews to be recorded. Furthermore, I explained to them that the interviews are for academic research purposes only

and will not be used commercially. Their names will not appear in my PhD thesis or published journal articles. More importantly, I added their WeChat ID and asked them to sign and send the consent forms to me. All participants signed the consent forms.

5.5.4 Transcription

The semi-structured interviews were carried out in Chinese for two reasons. Firstly, not all participants could be assumed to be comfortable or fluent in speaking English. More importantly, Chinese is their mother language, and communicating in Chinese can help them better express their views, feelings, and experiences. Secondly, I am a (native) Chinese speaker as well, so I was comfortable with interviewing in Chinese. Thus, the initial transcripts are recorded in Chinese. Meanwhile, the initial versions of the transcript are written in Chinese. In order to ensure the quality of the data, I listened to each interview recording as I read and reread the transcript, correcting minor errors and adding comments. Finally, after confirming that the transcripts had no obvious errors, I translated the Chinese into English. Transcribing the interviews and translating the transcript helped me to familiarize myself with the data.

5.5.5 Thematic analysis

There are many approaches to analyzing and interpreting qualitative data. Given the advantages of thematic analysis, I used reflective thematic analysis, which focuses on what the data are saying and tries to capture the meaning (Ritchie et al., 2013a). In particular, as thematic analysis is theoretically free and does not require technical knowledge of other qualitative approaches, it offers a more accessible type of analysis for those early in their qualitative research careers (Nowell et al., 2017). As defined by Braun and Clarke (2006), “thematic analysis is a method for identifying, analyzing and reporting patterns (themes) within a data”. Also, my analytical approach was based on grounded theory, which is the standard version of thematic analysis. Grounded theory involves making comparisons from data, reaching up to construct abstractions, and then reaching down to connect those abstractions to the data (Charmaz, 2014). More importantly, grounded theory can generate categories and themes from the data to represent the participants’ views and opinions and ensure that I am not pushing my ideas onto the data (Charmaz, 2014; Robison, 2018).

My thematic analysis involves five steps. First, I listened to the audio recording and read the

interview transcript several times to familiarize myself with the data. Second, I started the unstructured coding process by jotting down the themes that emerged in each interview separately. Third, I coded the young skilled migrants working in the public sector and those working in the private sector separately, using themes that had emerged from my reading of the data, before looking across both the young skilled migrants working in the public sector and those working in the private sector interviews for common themes and differences. Understanding the similarities and differences between the different employer types to help better interpret why public-sector employees are more likely than private-sector employees to own their own homes. Fourth, I categorized the codes, identified data patterns, and then generated the themes and sub-themes. Finally, I reviewed themes and codes, coded data across the dataset, and refined and revised existing themes. Eventually, a list of themes and subthemes was produced in order to create the final coding frames. The coding frames can be found in Appendix 2. Noticeably, transcripts were loaded into NVivo. Each transcript was also coded and analyzed using NVivo.

5.6 Ethical and permission

Research ethics is the body of principles and codes that guide the design and practice of research. When working with human subjects, researchers must protect the rights of research participants, enhance the validity of the research, and maintain scientific or academic integrity. In this study, when developing the research design and before conducting fieldwork, it is important to ensure that the research is ethical in both design and practice, particularly when interviewing young people (Hadfield-Hill et al., 2023). This is because even though my research idea may contribute to the understanding of the relationship between employer types and young skilled migrants' homeownership outcomes and may have some important policy implications for improving the housing well-being of young skilled migrants in China's expensive cities, I need to make sure that I do not violate the human rights or dignity of the participants.

Prior to undertaking the fieldwork, I submitted an ethical application to the Ethics Committee of the College of Social Science, University of Glasgow, on 2 November 2022. The ethics procedure included the description of the research project, the interview guide, the consent form, the information sheet, the privacy notice, and the data protection plan. After two rounds of revisions, ethical approval was granted on 16 December 2022. The ethics forms can be

found in Appendix 5.

Overall, there are several key ethical issues that I had to consider in research design and practice. For example, voluntary participation means that I have to ensure that potential participants are free to participate in this research project, or even if they have taken part in the interview, they are free to opt in or out of the study at any time without giving any reasons. Meanwhile, before I start the interview, I need to ensure that all participants receive and understand the purpose and information about my research project before deciding whether to take part. In other words, I need to obtain informed consent from potential participants before fieldwork, which ensures that all potential participants fully understand my research activities, benefits, and potential risks. My research project aims to understand and interpret the effect of young skilled migrants' employer types on their homeownership outcomes in Guangzhou. At the same time, I will tell the participants how long the interview will take, in my case, about 30-60 minutes. Also, the findings of qualitative analysis may help governments develop targeted housing policies to improve the housing well-being of young skilled migrants in expensive cities. Also, I will make all efforts to avoid potential harm, such as psychological harm. Specifically, I will strive to avoid questions that may evoke negative emotions. At the same time, interviews avoid sensitive topics such as criticizing existing policies or governments. The information sheet and consent forms are in Appendices 2 and 3.

Nevertheless, since I conduct the follow-up survey, I must acknowledge that it might be entirely impossible to anonymize the data collection. Some personal identifiers, especially Chinese names and phone numbers, are impossible to hide. More importantly, I need to use the phone number to ask them if they are willing to participate in THIS research project. In order to pseudonymize the data and ensure the anonymity of the participants, each participant will be given a number in place of their real name.

In addition to anonymity, I also have to consider the confidentiality of the participants. In fact, there is some overlap between anonymity and confidentiality. For example, the removal of all identifying information from the results of the qualitative analysis, PhD thesis, or published journal article can be considered as part of both anonymity and confidentiality. However, I also have to consider participants' right to privacy, particularly regarding data management and storage. In particular, I may store all signed consent forms and survey data with password protection in order to keep the data confidential. It is worth noting that only I and my

supervisors have free access to the survey data. Suppose other researchers want to access the data. In that case, they must apply for approval from the Ethics Committee of the College of Social Science, University of Glasgow, and be aware of and follow the institution's data privacy protocols.

5.7 In summary

Chapter five outlined the research design, data collection and coding, and methods used in the thesis for both quantitative and qualitative components to answer the key research questions of this thesis. Firstly, this chapter presented the research aims of this thesis and the research questions. Then, this chapter introduced why I selected the mixed methods approach to achieve the research aims and how I used it. Thirdly, I presented some basic information about Guangzhou, including its location, population trends, and housing prices. More importantly, I explained why Guangzhou could be a revealing case for studying migrants' housing outcomes. Fourth, I introduced the data source and collection of quantitative analysis, presented the variable selection process and measurement, and introduced the data processing and analytical strategy. Fifth, I presented the purpose of the qualitative analysis, explained why I chose the semi-structured interview as the method of data collection in the qualitative components, developed the interview guide, introduced how I recruited participants and conducted the semi-structured interview, outlined the process of transcription, thematic analysis, and ethical considerations and permission. The following two chapters will present the findings of the quantitative and qualitative analysis.

Chapter 6: The effect of Employer types on homeownership outcomes

This chapter aims to analyse the relationship between young skilled migrants' employer types and homeownership outcomes and the underlying mechanism between them. One main research question and two sub-research questions to be addressed in this chapter are: (1) How do the employer types of young skilled migrants shape their homeownership outcomes in Guangzhou? (2) If employer type matters in determining homeownership outcomes, does income level alter the strength of the relationship between employer type and homeownership outcomes? (3) Do long-term settlement intentions mediate the relationship between employer types and homeownership outcomes? To address these research questions (three hypotheses outlined in chapter 4), this chapter will use propensity score matching (PSM) and multilevel analysis to estimate the direct effect of employer type on homeownership outcomes, the interaction effect of the income level and employer types, and the mediating effect of long-term settlement intentions between them. There are seven sections in this chapter. The first section will describe the basic characteristics of the sample. The second section will evaluate the basic assumptions of running regression models. The third section will present the baseline analysis to estimate the effect of employer types on homeownership outcomes. Based on the interaction effect analysis, the fourth section will examine the mechanisms linking employer type to homeownership outcomes and then explain how income modifies their relations. Next, the fifth section will provide the mediation analysis. The sixth section will carry out the robust check. The final section summarises the findings of the quantitative analysis. All analyses will be performed using Stata 15 for Windows.

6.1 Sample characteristics

Before estimating the direct effect of employer types on homeownership outcomes, I begin by presenting the descriptive analysis of sample characteristics. I report the statistical characteristics of the variables used in the baseline analysis, including observations, maximum value, minimum value, mean, and standard deviation. I then move on to a cross-tabulation analysis of the dependent and main independent and control variables. Cross-tabulation analysis, also known as contingency table analysis, is a fundamental statistical analysis used to explore pairwise relationships between variables (López - Moreno et al., 2010). More specifically, cross-tabulation analysis displays cross-tabulations, which are

two or more different variables tabulated in a matrix to detect the preliminary associations between trends for the analysed parameters (Hidayat et al., 2022).

6.1.1 Descriptive analysis

Table 6-1 presents the descriptive analysis of the sample characteristics. In terms of young skilled migrants' homeownership outcomes in Guangzhou, 728 respondents had access to homeownership in Guangzhou, representing only 12% of the total valid sample. I compared the data used in my study on homeownership rates among young skilled migrants with other housing data on migrant homeownership rates in China. Noticeably, although many housing surveys record the homeownership rate of internal migrants in China, most studies have focused on the homeownership outcomes of rural-urban migrants or migrants in their destination cities rather than on young skilled migrants. For example, drawing the data from the 2016 NMPDMS conducted by China's National Health and Family Planning Commission, Wang, Liu, and Ming (2020) explored internal migrants' homeownership rates (Wang et al., 2020). The survey was carried out in 348 cities, resulting in around 169,000 samples. Wang, Liu, and Ming (2020) found that about 23.68% of internal migrants entered homeownership in their destination cities, including most of the first-, second-, third-, and fourth-tier cities. Also, based on the China Migrants Dynamic Survey (CMDS), Lin and Zhu (2022) found that 31.6% of 163,235 individual migrants became homeowners in their destination cities. Their final dataset covered 281 cities.

In addition to the national dataset on migrant homeownership rates, several researchers have conducted questionnaire surveys in first-tier cities in China. For example, Tao and her colleagues (2015) carried out a questionnaire survey to investigate the homeownership status of migrants in Shenzhen in 2010. They received 450 valid samples and found that only 7.5% of respondents had access to homeownership in Shenzhen (Tao et al., 2015). Besides, Chen, Dang, and Dong (2020) conducted a questionnaire survey in Beijing in 2013 to collect information on the homeownership rate among migrants (Chen et al., 2020). They analyzed 1819 valid samples and found that only 14.2% of migrants had become homeowners in Beijing (Chen et al., 2020).

Additionally, although not many, some questionnaire surveys focus on young skilled migrants' homeownership rates in first-tier cities. For example, Cui, Geertman, and Hooimeijer (2016)

surveyed the homeownership status of 629 skilled migrants in Nanjing between 2012 and 2013. They found that 37.4% (235 participants) of skilled migrants had entered into homeownership in Nanjing. Similarly, Jin et al. (2022) studied the homeownership rates of young skilled migrants in second and third-tier cities in Zhejiang in 2018. There were 2724 valid samples in their questionnaire surveys, and about 44% of participants reported having access to homeownership in their host cities (Jin et al., 2022).

Based on the above analysis, I have three interesting findings: First, most questionnaire surveys pay more attention to the homeownership rates of migrants in destination cities at the national level rather than the homeownership rates of migrants in China's first-tier cities of Beijing, Shanghai, Guangzhou, and Shenzhen. Second, migrant homeownership rates are still low in China's first-tier cities of Beijing (14.2%) and Shenzhen (7.5%), whereas at the national level, migrant homeownership rates can exceed 20% or even 30%. Finally, the homeownership rate of young skilled migrants in China's second and third-tier cities can reach 30% and even 40%. In the dataset used in this thesis, only 12% of young skilled migrants have become homeowners in Guangzhou, implying that access to homeownership in Guangzhou is still a struggle despite their great academic background.

In addition, regarding demographic characteristics, 52% of young skilled migrants work in the public sector. Regarding gender (male), there appears to be some imbalance in the gender distribution of household heads, with 19% of the sample being male and 81% female. The average age of young skilled migrants is 27.37. Around 30% of young skilled migrants move from urban areas and around 70% from rural areas. Only 45.8% of young skilled migrants are married, suggesting a lower rate of entry into marriage. As expected, 41% of the spouses of young skilled migrants work and live in Guangzhou. In other words, the majority of married young skilled migrants and their spouses stay together in Guangzhou, showing that family migration seems to be the main trend of migration strategies.

In terms of socio-economic characteristics, 57% of young skilled migrants obtained an associate college degree, 41% a bachelor's degree, and 2% at least a master's degree. The average monthly income of young skilled migrants is about 4893 RMB, with a monthly income range between 1000 and 50,000 RMB. In addition, 96% of young skilled migrants in Guangzhou have local social security.

Regarding the migration characteristics, the shortest duration of stay in Guangzhou is one year and the longest is 30 years; the average duration of stay in Guangzhou is 5.4 years. In addition, 72% of young skilled migrants are from Guangdong provinces, and only 28% are from other provinces.

Finally, regarding macro-level characteristics, the difference in GDP between different districts in Guangzhou is enormous. The district with the lowest GDP is Conghua, with a GDP of only 35.59 billion, while the district with the highest GDP is Tianhe, which is reaching 505 billion. The district with the lowest investment in fixed assets is Yuexiu District, with only about 8.86 billion; the district with the highest investment in fixed assets is Huangpu District, with about 140 billion. Yuexiu's floor space completed is the lowest in Guangzhou at 997,599 square meters; Panyu's floor space completed is the highest in Guangzhou at 4,896,325 square meters.

Table 6-1. Variable Descriptions.

Variable	Obs	Mean	Std. Dev.	Min	Max
Dependent variable					
Homeownership outcomes	6,004	0.12	0.33	0	1
Independent variable					
Employer types	6,004	0.52	0.50	0	1
Control variables					
Male	6,004	0.19	0.40	0	1
Age	6,004	27.37	4.15	18	35
Age ²	6,004	766.08	229.01	324	1225
Rural Hukou	6,004	0.70	0.46	0	1
Married	6,004	0.46	0.50	0	1
Spouse in Guangzhou	6,004	0.41	0.49	0	1
Associate college degree	6,004	0.57	0.50	0	1
Bachelor's degree	6,004	0.41	0.49	0	1
Master's degree or above	6,004	0.02	0.14	0	1
Length of stay Guangzhou	6,004	5.42	3.55	1	30
Social security	6,004	0.96	0.20	0	1
Monthly income (RMB Yuan)	6,004	4892.99	3469.52	1000	50,000
Ln (Monthly income)	6,004	8.39	0.42	6.91	10.82
Intra-provincial migration	6,004	0.72	0.45	0	1
GDP (10000 RMB Yuan)	6,004	22,300,000	11,400,000	3,558,558	50,500,000
Ln (GDP)	6,004	16.80	0.51	15.08	17.74
Investment in Fixed Assets (10000 RMB Yuan)	6,004	7,142,194	3,070,638	886,181	14,000,000
Ln (Investment in Fixed Assets)	6,004	15.67	0.51	13.69	16.45
Floor Space Completed (sq.m)	6,004	3,641,323	1,333,681	997,599	4,896,325
Ln (Floor Space Completed)	6,004	15.01	0.47	13.81	15.40

6.1.2 Cross-tabulation analysis

Cross-tabulations were performed to determine the preliminary relation between the

dependent variables (homeownership outcomes) and the key independent variables (employer types) and control variables (gender, age, marital status, hukou status, whether spouse in Guangzhou, educational attainment, length of stay in Guangzhou, social security, monthly income, intra-provincial migration, GDP, investment in fixed assets, and floor space completed).

Table 6-2 describes the relationship between homeownership outcomes and employer types by linking two levels of homeownership outcomes (no versus yes) and two levels of employer types (public sector versus private sector). On the one hand, among those not entering homeownership in Guangzhou, 45% of young skilled migrants work in the public sector and 43% work in the private sector. On the other hand, among those who have become homeowners in Guangzhou, 7% work in the public sector, and 5% work in the private sector. Among those who have become homeowners in Guangzhou, the proportion of young skilled migrants working in the public sector is higher than those working in the private sector. However, the number of samples working in the public sector is also greater than those working in the private sector. As such, using the cross-tabulation analysis, finding a clear link between employer types and homeownership outcomes is challenging. This also illustrates the vital role of regression analysis in finding transparent relationships between variables: no correlation, positive or negative correlation.

Table 6-2. Overall cross-tabulation employer types toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Employer type	Private sector	2,568 (43%)	305 (5%)	2,873 (48%)
	Public sector	2,708 (45%)	403 (7%)	3,131 (52%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-3 describes the young skilled migrants' homeownership outcomes by gender. Among young female skilled migrants, 70% have become homeowners in Guangzhou, and 10% have not. This indicates that about 15% ($619/4,218=15\%$) of young female skilled migrants become homeowners in Guangzhou. In contrast, only 2% of young male skilled migrants have entered homeownership in Guangzhou, while 18% have not. Among men, only 10% ($109/1,058=10\%$) have bought a house in Guangzhou, which is lower than among women. Females seem to be more likely to buy a house in Guangzhou than males.

Table 6-3. Overall cross-tabulation gender toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Gender	Female	4,218 (70%)	619 (10%)	4,837 (80%)
	Male	1,058 (18%)	109 (2%)	1,167 (20%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-4 portrays the proportion of homeownership outcomes by three age cohorts. Young skilled migrants aged 30-35 have the highest proportion of home purchases at 8%. In addition, the proportion of those aged 24-29 buying a home also reached 4%, higher than those aged 18-24 (1%). This implies that with age, young skilled migrants have a greater chance of accessing homeownership in Guangzhou.

Table 6-4. Overall cross-tabulation age toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Age	18<=Age<24	1,181 (19%)	32 (1%)	1,213 (20%)
	24<=Age<30	2,587 (44%)	230 (3%)	2,817 (47%)
	30<=Age<=35	1,508 (25%)	466 (8%)	1,974 (33%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-5 shows the bivariate relationship between young skilled migrants' homeownership outcomes and their hukou status. 6% of urban hukou cohorts have obtained homeownership in Guangzhou, the same as rural hukou holders. However, the majority of samples come from rural areas, accounting for 70% of the total samples. In fact, among rural hukou holders, only 9% ($348/3,828=9\%$) become homeowners in Guangzhou, which is lower than among urban hukou holders at 26% ($380/1448=26\%$). That is, if the sample numbers of rural and urban hukou holders are equal, urban hukou holders have a higher probability of buying a house in Guangzhou than rural hukou holders.

Table 6-5. Overall cross-tabulation Hukou status toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Hukou status	Urban hukou	1,448 (24%)	380 (6%)	1,828 (30%)
	Rural hukou	3,828 (64%)	348 (6%)	4,176 (70%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-6 indicates the proportion of homeownership outcomes by marital status. Somewhat interestingly, although there are more samples from the unmarried group than from the married group in the total samples, the proportion of married people buying a house is much higher than in the unmarried group. Specifically, about 11% of married cohorts have become homeowners in Guangzhou. In contrast, only 1% of unmarried cohorts have bought a house in Guangzhou. The homeownership gap is even more pronounced when I separate the sample into married and unmarried groups. For example, about 31% ($642/2093=31\%$) of married cohorts have bought a home in Guangzhou, far more than the 3% ($86/3,183=3\%$) of unmarried cohorts. This suggests that married cohorts have more access to homeownership in Guangzhou than unmarried cohorts.

Table 6-6. Overall cross-tabulation marital status toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Marital status	Unmarried	3,183 (53%)	86 (1%)	3,269 (54%)
	Married	2,093 (35%)	642 (11%)	2,735 (46%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-7 illustrates the distribution of homeownership status by whether or not the spouse resides or works in Guangzhou. About 10% of cohorts whose spouses live or work in Guangzhou have bought a home in Guangzhou, higher than those unmarried or whose spouses do not live or work in Guangzhou (2%). Focusing on married cohorts (See Table 6-8), I find that young skilled migrants whose spouses live or work in Guangzhou (23%) are more likely to access homeownership in Guangzhou than those whose spouses do not live or work in Guangzhou (1%). In addition, among the married group, 89% of their spouses are with them in Guangzhou, implying that family migration is a main trend of migration characteristics in urban China. In short, having a spouse while the spouse is in Guangzhou will encourage buying a property in Guangzhou.

Table 6-7. Overall cross-tabulation spouse in Guangzhou toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Spouse in Guangzhou	No	3,458 (58%)	110 (2%)	3,568 (60%)
	Yes	1,818 (30%)	618 (10%)	2,436 (40%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-8. Overall cross-tabulation spouse in Guangzhou toward homeownership outcomes (Married cohorts).

Variables		Homeownership outcomes		Total
		No	Yes	
Spouse in Guangzhou	No	275 (10%)	24 (1%)	299 (11%)

	Yes	1,818 (66%)	618 (23%)	2,436 (89%)
Total		2,093 (76%)	642 (24%)	2,735 (100%)

Table 6-9 compares the characteristics of young skilled migrants who have become homeowners and those who have not become homeowners by educational attainment. In the overall sample, about 7% of young skilled migrants with a bachelor's degree in Guangzhou have accessed homeownership, higher than those with an associate degree (4%) and those with a master's degree or higher (1%). Nevertheless, it should be noted that about 54% of the total sample have an associate college degree, 40% have a bachelor's degree, and only 1% have a master's degree or higher. Therefore, I divided them into three groups with different levels of education to benchmark their homeownership outcomes and better understand their likelihood of buying a home in Guangzhou. Among the cohorts with an associate degree, about 8% ($260/3143=8\%$) have become homeowners in Guangzhou, below the average rate of access to homeownership in the overall sample (12%). For the Bachelor's cohorts, around 21% ($428/2,051=21\%$) have become homeowners in Guangzhou, which is higher than the proportion of access to homeownership for the associate college cohorts (8%). Finally, about 49% ($40/82=49\%$) of the cohorts with a master's degree or higher have bought a house in Guangzhou, significantly higher than the other two groups. Overall, the relationship between educational attainment and homeownership outcomes is clear: the higher the educational attainment, the higher the likelihood of homeownership.

Table 6-9. Overall cross-tabulation educational attainment toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Educational attainment	Associate college degree	3,143 (53%)	260 (4%)	3,403 (57%)
	Bachelor's degree	2,051 (34%)	428 (7%)	2,479 (41%)
	Master's degree or above	82 (1%)	40 (1%)	122 (1%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-10 describes the disparity in monthly income between young skilled migrants with homeownership in Guangzhou and those without homeownership in Guangzhou. First, income basically shows a normal distribution trend; that is, middle incomes account for a higher proportion (62%), high (17%), and low (21%) incomes for a lower proportion. Second, in the total sample, those earning between 3,000 and 6,000 RMB yuan per month have the highest proportion of homeowners in Guangzhou, about 6%, higher than those earning below 3,000 (2%) and above 6,000 RMB yuan (4%). I continue to compare homeownership outcomes across income cohorts. Unsurprisingly, around 29% ($221/771=29\%$) of those with incomes above 6000 RMB yuan per month have become homeowners, far higher than those

with incomes below 3000 RMB yuan ($120/1147=10\%$) and those with incomes between 3000-6000 RMB yuan ($387/3,358=12\%$). Table 6-10 shows that young skilled migrants are more likely to become homeowners in Guangzhou with income.

Table 6-10. Overall cross-tabulation income toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Income	Income ≤ 3000	1,147 (19%)	120 (2%)	1,267 (21%)
	$3000 < \text{Income} \leq 6000$	3,358 (56%)	387 (6%)	3,745 (62%)
	Income > 6000	771 (13%)	221 (4%)	992 (17%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-11 compares whether there is a discrepancy between young skilled migrants with social security and those without social security regarding their homeownership outcomes in Guangzhou. In the total samples, about 11.5% of the cohorts with social security in Guangzhou bought a house in Guangzhou, greater than those without social security (0.5%). Among the cohorts with social security, about 14% ($715/5,039=14\%$) have bought a house in Guangzhou, higher than the average rate of accessing homeownership (12%). In contrast, for the cohorts with social security, only 5% ($13/237=5\%$) have become homeowners in Guangzhou. Overall, it appears that cohorts with social security in Guangzhou stand a better chance of becoming homeowners in Guangzhou.

Table 6-11. Overall cross-tabulation social security toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Social security	No	237 (3.5%)	13 (0.5%)	250 (4%)
	Yes	5,039 (84.5%)	715 (11.5%)	5,754 (96%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-12 presents the bivariate relation between length of stay in Guangzhou and homeownership outcomes. In the total samples, regardless of the length of stay in Guangzhou, the homeownership rate is similar across the three cohorts at 4%, 5%, and 3%, respectively. Next, I compare the homeownership rate within each cohort. About 42% of the cohorts who have been in Guangzhou for over 10 years have become homeowners in Guangzhou, which is significantly higher than those who have been in Guangzhou for less than 5 years ($257/3,438=7\%$) or between 5 and 10 years ($309/1,452=21\%$). This suggests that the longer the stay in Guangzhou, the higher the probability of accessing homeownership in Guangzhou.

Table 6-12. Overall cross-tabulation length of stay in Guangzhou toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Length of stay in Guangzhou	Durations <=5	3,438 (58%)	257 (4%)	3,695 (62%)
	5<Durations <=10	1,452 (24%)	309 (5%)	1,761 (29%)
	Durations>10	386 (6%)	162 (3%)	548 (9%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-13 shows homeownership outcomes by whether young skilled migrants are intra-provincial migrants (Guangdong). In the total sample, about 9% of the cohorts that migrated within Guangdong province have become homeowners in Guangzhou, which is higher than those from other provinces (3%). Among those migrating to Guangdong province, 16% ($585/3,757=16\%$) have accessed homeownership in Guangzhou, still higher than those migrating from other provinces. These figures suggest that those migrating within Guangdong Province are more likely to acquire a home in Guangzhou than those from other provinces.

Table 6-13. Overall cross-tabulation intra-provincial migration (Guangdong) toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Intra-provincial migration (Guangdong)	No	1,519 (25%)	143 (3%)	1,662 (28%)
	Yes	3,757 (63%)	585 (9%)	4,342 (72%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-14 shows the preliminary link between young skilled migrants living in the districts with different GDP levels and homeownership outcomes. Based on GDP, I have divided 11 districts into three groups: the district where GDP ranks in the top 3, the district where GDP ranks between 4 and 8, and the district where GDP ranks in the bottom 3. In the total samples, about 6% of young skilled migrants living in the district with a GDP between 4 and 8 bought a house in Guangzhou, slightly higher than those living in the district with a GDP in the top 3 and the district with a GDP in the bottom 3. Interestingly, among those living in the district with a GDP in the bottom 3, 28% ($211/755=28\%$) have become homeowners in Guangzhou, higher than those living in the district with a GDP between 4 and 8 ($424/3,572=12\%$) and those living in the district with a GDP in the top 3 ($93/949=10\%$). This implies that young, skilled migrants are more likely to buy a house in a district with a lower GDP level.

Table 6-14. Overall cross-tabulation young skilled migrants living in the districts with different GDP level toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	

GDP	GDP ranks top 3	949 (16%)	93 (2%)	1,042 (18%)
	GDP ranks 4 to 8	3,572 (60%)	424 (6%)	3,996 (66%)
	GDP ranks bottom 3	755 (12%)	211 (4%)	966 (16%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-15 compares the homeownership outcomes of young skilled migrants living in districts with different levels of investment in fixed assets. Similarly, based on investment in fixed assets, I have divided 11 districts into three groups, including the district where investment in fixed assets ranks in the top 3, the district where investment in fixed assets ranks between 4 and 8, and the district where investment in fixed assets ranks in the bottom 3. In the total samples, about 7% of young skilled migrants living in the district with an investment in fixed assets between 4 and 8 have accessed homeownership in Guangzhou, higher than those living in the district with an investment in fixed assets in the top 3 (4%) and the district with an investment in fixed assets in the bottom 3 (1%). Nevertheless, among those living in the district with an investment in fixed assets in the bottom 3, about 23% ($84/361=23\%$) have bought a house. In contrast, about 19% ($231/1,230=19\%$) of those living in the district with an investment in fixed assets in the top 3 have become homeowners, higher than those living in the district with an investment in fixed assets between 4 and 8 ($413/3,685=11\%$). These figures fail to illustrate the connection between investment in fixed assets and homeownership outcomes. The subsequent regression analysis is needed to identify the clear relation between them.

Table 6-15. Overall cross-tabulation young skilled migrants living in the districts with different investment in fixed assets toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Investment in Fixed Assets	Investment ranks top 3	1,230 (20%)	231 (4%)	1,461 (24%)
	Investment ranks 4 to 8	3,685 (61%)	413 (7%)	4,098 (68%)
	Investment ranks bottom three	361 (7%)	84 (1%)	445 (8%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

Table 6-16 compares the homeownership outcomes of young skilled migrants living in districts with different levels of floor space completed. Similarly, according to floor space completed, I have divided 11 districts into three groups: the district where floor space completed ranks in the top 3, the district where floor space completed ranks between 4 and 8, and the district where floor space completed ranks in the bottom 3. In the total samples, about

7% of those living in the district where floor space completed ranks in the top 3 have become homeowners in Guangzhou, higher than those living in the district where floor space completed ranks between 4 and 8 (3%) and those living in the district where floor space completed ranks in the bottom 3 (2%). Also, among those living in the district where floor space completed ranks in the top 3, about 16% ($419/2,701=16\%$) have become homeowners, equal to those living in the district where floor space completed ranks in the bottom 3 ($111/697=16\%$) and higher than those living in the district where floor space completed ranks between 4 and 8 ($198/1,878=11\%$). Based on these figures, I cannot find a straightforward relation between young skilled migrants living in the districts with different floor space completed and homeownership outcomes.

Table 6-16. Overall cross-tabulation young skilled migrants living in the districts with different floor space completed toward homeownership outcomes.

Variables		Homeownership outcomes		Total
		No	Yes	
Floor Space Completed	Completed ranks top 3	2,701 (45%)	419 (7%)	3,120 (52%)
	Completed ranks 4 to 8	1,878 (31%)	198 (3%)	2,076 (34%)
	Completed ranks bottom three	697 (12%)	111 (2%)	808 (12%)
Total		5,276 (88%)	728 (12%)	6,004 (100%)

6.2 Assessing the assumptions

When using regression analysis, four assumptions must be met, including independence of errors, absence of multicollinearity, assumption of no outliers in the dataset, and sufficient number of observations. The regression analysis estimations will be unreliable if one or more of these assumptions are unmet. As a result, before performing the regression analysis, I first assessed the assumptions.

Firstly, I assessed the assumption of independence of errors. As Chapter 5 (Research Design and Methodology) mentioned, the assumption of independence of errors required that no duplicate responses or each response appeared only once in the dataset (Stoltzfus, 2011). More specifically, under the assumption of independence of errors, each young skilled migrant should be observed only once in the dataset. For example, Simon (hypothetical name) completed and submitted the questionnaire twice or even more, which may lead to Simon's information being observed more times in the dataset. This could violate the assumption of

independence of errors.

In fact, each respondent was only observed once in my dataset. Each respondent can only submit the questionnaire once. The Real Estate Institute of Guangzhou University has set this clause by ID. An ID can only be filled in the questionnaire once. Once an ID has been submitted, it cannot be submitted again. At the same time, to further ensure that this assumption is met, I used the delete duplicate values command in Stata to delete duplicate IDs. However, there are no duplicate IDs in the dataset. Therefore, it is safe to say that the assumption of independence of errors in the dataset has been satisfied.

Secondly, I continued to assess the absence of multicollinearity in my regression models. The assumption of the absence of multicollinearity required that there should not be two or more variables in the model that are highly correlated (Tsagris & Pandis, 2021). The Variance Inflation Factors (VIF) test is usually applied to test this assumption (Hosmer et al., 2013). When using the Variance Inflation Factors (VIF) test, all variables used in the regression models can receive a specific VIF value. If all VIF values of each variable are less than ten, multicollinearity is absent in the regression models (Alin, 2010; Hosmer et al., 2013; Lee et al., 2016). As shown in Table 6-17, the VIF values of all variables are less than ten, indicating no multicollinearity in the regression models.

Table 6-17. Assessing the absence of multicollinearity by the Variance Inflation Factors (VIF) test.

Variable	VIF
Employer types	1.05
Male	1.13
Age	2.63
Rural hukou	1.11
Married	5.95
Spouse in Guangzhou	5.49
Bachelor's degree	1.22
Master's degree or above	1.10
Years in Guangzhou	1.86
Social security	1.06
Monthly Income	1.29
Intra-provincial migration	1.05
GDP	1.05
Investment in Fixed Assets	1.06
Floor Space Completed	1.11

Thirdly, I assessed the assumption of no outliers in the dataset. In other words, whether some extreme values differ from most data points in a dataset (Stoltzfus, 2011). I use Stata's filter

variable command to sort each variable. I did not find any extreme values. At the same time, the sample characteristics section also shows each variable's maximum and minimum values, and these extreme values are within a reasonable range. As a result, I confirm that the assumption of no outliers should be met.

Finally, I evaluated the adequate number of observations (Hosmer et al., 2013). This is a key question in research design: What is the appropriate sample size? I used Green's (1991) method to calculate the minimum number of observations; that is, the number of independent variables determines the minimum number of observations. The minimum number of observations (N) should be greater than 50 plus the product term between eight and the number of independent variables (P).

$$N > 50 + 8p \text{ where } p \text{ is the number of independent (predictors) variables}$$

As mentioned in Chapter 5 (Research Design and Methodology), I have 14 independent variables, including employer types, gender, age, hukou status, marital status, spouse in Guangzhou, educational attainment, income, social security, length of stay in Guangzhou, intra-provincial migration, GDP, investment in fixed assets, and floor space completed. That is, this study's minimum number of observations (N) should be greater than 162. Obviously, this study contained 6004 observations, far greater than 162. Thus, the current number of observations is sufficient to produce reliable estimations.

As discussed above, the four assumptions have been satisfied. I confirm that the subsequent regression analysis is valid and robust.

6.3 Baseline analysis

6.3.1 Binary logistic regression vs. Multilevel analysis

Tables 6-18 and 6-20 assess how young skilled migrants' employer types predict their homeownership outcomes in Guangzhou. The commonality between Table 6-18 and Table 6-19 is that they both compare the estimations of traditional regression (binary logistic regression) and multilevel analysis. The difference is that the estimations in Table 6-18 are based on the total sample before using propensity score matching (PSM), whereas Table 6-20

uses the matched samples to estimate the model results.

Table 6-18 displays the estimates of the regression coefficients for the binary logistic regressions, and multilevel analysis carried out on young skilled migrants' homeownership outcomes. Specifically, the dependent variable is homeownership outcomes, and the reference group is the cohort of young skilled migrants who have not become homeowners in Guangzhou. Employer type is treated as an important explanatory variable. Model 1 includes employer type as a regressor to assess whether respondents' employer type influences their homeownership outcomes in Guangzhou. In Model 1, there are two sets of control variables. The first set consists of micro-level variables: male, age, urban Hukou, married, spouses in Guangzhou, educational attainment, monthly income, social security, intra-provincial migration, and duration of stay in Guangzhou. Household income is conventionally used to predict homeownership outcomes. It is well documented in the literature that migrants' educational background and household income play an important role in shaping homeownership outcomes (Cui, 2016; Chen et al., 2022; Zhang & Yan, 2022). Nevertheless, the questionnaire was designed to capture only the monthly income of the individuals surveyed. Thus, monthly income is used in the regression models, and caution needs to be exercised when interpreting the impact of income. The second set consists of macro-level variables, such as GDP, investment in fixed assets, and floor space completed.

As shown in Table 6-18, Column (1) presents the variable names; Column (2) shows the regression coefficients using binary logistic regression models; Column (3) displays the regression coefficients using multilevel analysis. As expected, the regression coefficients for employer types are significantly positive in Model 1. This suggests that young skilled migrants working in the public sector are more likely to become homeowners in Guangzhou than those working in the private sector. Compared to the regression coefficients for employer types in Model 1, employer types are still positive and significant at 0.05. However, the magnitude of the regression coefficient for employer types increases in Model 2. Overall, the sign and significance of the regression coefficient for employer types are similar, whether by estimating the effect of employer types on homeownership outcomes using binary logistic regression models or multilevel analysis. Notably, using binary logistic regression models may underestimate the effect of employer types on homeownership outcomes.

Why do employer types can positively determine homeownership outcomes? I offer some

possible explanations here and then use qualitative data analysis in Chapter Seven⁷ to answer this question further. In fact, working in the public sector is also called iron rice bowl (Tiefanwan) in China. In other words, public sector work can be seen as a “safety net” in occupational careers, symbolizing job stability. Redundancies are generally rare when working in the public sector, and employees have high psychological security and career development. Those who work in private companies or are self-employed may face a high degree of career insecurity and job instability, that is, income insecurity and unpredictability. Access to homeownership tends to require stable jobs to cover a mortgage loan. Job instability creates unpredictability of future earnings, which undoubtedly increases the risk of being unable to pay the mortgage after the down payment. It appears that longer-term declines in labour market security lead to stark reductions in homeownership entry, evident among younger cohorts in developed and developing countries (Arundel & Doling, 2017). The finding is inconsistent with previous work, for example, Cui et al. (2021). They found that employer type no longer plays an important role in the home purchase of younger generations in Shanghai (Cui et al., 2021). Different target groups may cause inconsistent results in the two studies. Cui and her colleague (2021) focused on the housing acquisition of the younger generations in Shanghai, and their target group included locals and migrants. Nevertheless, this thesis focused only on young skilled migrants’ homeownership outcomes in Guangzhou.

Furthermore, the pseudo R^2 value for Model 1 is 26.9%, indicating that the current independent variables, including the key explanatory and control variables, explain a proportion of the variance in homeownership outcomes. This implies, however, that unobserved factors also exert a greater impact on homeownership outcomes.

Looking at the results for columns (2) of Table 6-18, all variables except for social security are statistically significant in explaining the variance in homeownership outcomes of young skilled migrants. In terms of gender (male), the male is a negative predictor of homeownership outcomes for young skilled migrants, indicating that female, young skilled migrants in Guangzhou have a higher probability of accessing homeownership than male young skilled migrants. This finding is consistent with some literature on rural-urban migrants’ homeownership outcomes (Wu & Zhang, 2018), albeit our target group focused on young skilled migrants. Nevertheless, some studies find that male migrants are more likely to become homeowners than female migrants (Tang et al., 2017; Wang et al., 2020). In addition,

some studies provide evidence that the gender of the household head does not have a significant impact on homeownership outcomes (Gu et al., 2016; Cui et al., 2016). There does not seem to be a consistent conclusion as to whether the household head's gender affects homeownership outcomes. This is possible because the impact of the household head's gender on homeownership may be random. In particular, many migrant housing surveys have examined the homeownership status of both married and single cohorts. Among the unmarried cohorts, the effect of the household head's gender on homeownership outcomes may reflect whether there is gender variance in homeownership outcomes. However, homeownership outcomes for married cohorts are usually made at the whole families instead of rather than any one of the family members. It is difficult to say directly whether men or women play a dominant role in the acquisition of home ownership by the gender of the household head.

Regarding the age variables, age and age squared are statistically significant at the 5 % level. More importantly, age is a negative predictor of homeownership outcomes, and age squared is positively related to homeownership outcomes, suggesting a U-shaped relationship between age and homeownership outcomes. This implies that younger young skilled migrants and older young skilled migrants are more likely to become homeowners in Guangzhou than middle-aged young skilled migrants. One possible interpretation is that some younger skilled migrants may receive housing support from their parents, thereby accelerating entering home ownership in destination cities. However, if young skilled migrants do not receive intergenerational housing support, they must buy a house independently. Increasing age means longer working years, significantly increasing their savings and financial capacity. The U-shape relation between age and homeownership outcomes implies two modes of entry into homeownership for skilled migrants in Guangzhou. One is that receiving intergenerational housing support can make them homeowners in Guangzhou at a younger stage. The other is that despite the lack of intergenerational housing support, accumulating savings as they age can also help them access homeownership in Guangzhou. Nevertheless, they enter homeownership at a slightly later age. This finding is inconsistent with some previous literature on age being positively associated with homeownership outcomes (Tang et al., 2017; Wang et al., 2020). They argue that with age, their savings increase, and they are more likely to become homeowners (Tang et al., 2017; Wang et al., 2020). This is possible because Tang and her colleagues (2017) treated the age variable as a categorical rather than a continuous variable (Tang et al., 2017). Alternatively, even if Wang, Guo, and Ming (2020) treated the

age variable as a continuous variable, they did not include age squared in their models. Including age and age squared in the models can better capture the relationship between age and homeownership outcomes. These findings can enrich the understanding of the relation between young skilled migrants' age and their homeownership outcomes in Chinese super cities.

Moreover, rural (agricultural) hukou negatively correlates with homeownership outcomes, suggesting that young skilled migrants with urban hukou are more likely to become homeowners in Guangzhou than those with rural hukou. This finding is in line with previous literature. This is because unbalanced urban-rural development has led to income and wealth disparities between rural and urban residents (Wang et al., 2022). Those from urban areas are more likely to receive financial support from their parents, particularly in providing the down payment. This can facilitate a rapid transition from rental tenure to first-time homeownership in the host cities. On the contrary, young skilled migrants from rural areas may only be able to save for a down payment by working for themselves. An important policy implication of this finding is that local governments should give priority to providing housing support, such as purchased affordable housing and housing subsidies, to young skilled migrants from rural areas in order to increase their homeownership rates in destination cities.

As illustrated in columns (2) of Table 6-18, marital status appears to matter in predicting young skilled migrants' homeownership outcomes in Guangzhou, with married young skilled migrants exhibiting a higher probability of entering homeownership in Guangzhou than unmarried cohorts. Similarly, spouses living or working in Guangzhou also positively affect homeownership outcomes. In fact, young skilled migrants whose spouses reside or work in Guangzhou almost always live together. Comparing the three states of being single, having a spouse who is not around, and having a spouse who is around, these three states illustrate the family's stability. Those who have a spouse and the spouse pursue more stability than single and having a spouse who is not around and access to homeownership can significantly increase households' stability. This finding supports the previous literature (Gu et al., 2016; Deng et al., 2016; Tang et al., 2017).

As expected, educational attainment positively correlates with young skilled migrants' homeownership outcomes in host cities. Young skilled migrants who receive bachelor's or master's degrees or above have a higher probability of becoming homeowners in Guangzhou

than young skilled migrants with an associate college degree. This finding is consistent with previous literature that indicates higher educational attainment increases migrants' human capital accumulation, which is associated with employment patterns and income levels in destination cities. My findings have also supported that human capital accumulation can increase the homeownership rate of young skilled migrants (Huang, 2004; Tang et al., 2017).

Not surprisingly, household heads' incomes are associated with the propensity to own a home in destination cities, which is also valid in this study (Cui et al., 2016). My findings support previous literature that higher income could increase the odds of becoming homeowners in urban destinations (Cui et al., 2016). This is due to the fact that monthly income could increase their wealth accumulation, thereby increasing housing affordability. In fact, educational attainment and income are considered the most important factors in shaping homeownership outcomes in developed and developing countries (Huang, 2004). However, there are also some shortcomings in the measurement of household wealth, such as the lack of household savings, the monthly income of the spouse (if the respondent is married), and intergenerational housing support (the respondent's parents transferring their home ownership to the respondent or offering the down payment). Although I have not included these variables, which are usually used to measure household wealth, monthly income can also somewhat capture the household's economic situation.

Besides, social security is also found not to be significant in Model 1, suggesting that whether or not young skilled migrants have social security in Guangzhou does not significantly predict their homeownership outcomes in Guangzhou. This finding contradicts previous literature on the social security effect on rural-urban migrants' homeownership outcomes (Tao et al., 2015). In Tao's early studies, she and her colleagues concluded that migrants without social security in Shenzhen are more likely to live in rented accommodations than those with social security. This is possible because differences in social security holdings at destinations between young skilled migrants and rural-urban migrants lead to different findings on the impact of social security on homeownership outcomes. In my analysis, most young skilled migrants have social security in Guangzhou, accounting for 96% of the total sample; nevertheless, almost half of the rural-urban migrants have social security in destination cities (Tao et al., 2015). In other words, if most migrants have social security in the host cities, the impact of social security on homeownership outcomes is actually minimal. Young skilled migrants are inclined to work in more formalized units and companies, which

often provide social security for their employees. Even if their units or companies do not offer them social security, they usually buy it themselves because they are very insurance-conscious. In contrast, most rural-urban migrants work in informal units that may not provide them with social security. Moreover, as they usually treat social security as optional rather than compulsory, they pay little attention to the long-term benefits of holding social security.

Furthermore, I found that the duration of stay in Guangzhou could positively and significantly predict young skilled migrants' homeownership outcomes in Guangzhou. In other words, young skilled migrants who stay longer in Guangzhou are more likely to become homeowners in Guangzhou than those who stay shorter in Guangzhou. This is because the length of stay could be associated with the accumulation of social resources and local integration, which could improve their income levels. For example, the longer they have worked in the destinations, the more local contacts they may have in the industry, which may help them to access more information about the industry, such as industry frontiers and project cooperation. They tend to be more remunerative if they can bring more resources and messages to the company or units. In sum, my findings are consistent with previous literature that a longer stay in the destination city may increase the probability of migrants becoming homeowners in destination cities (Tang et al., 2017).

Regarding intra-provincial migration, intra-provincial migration can positively predict homeownership outcomes, suggesting that young skilled migrants originally from Guangdong provinces are more likely to buy a house in Guangzhou than those moving from other provinces. This finding is consistent with previous work, which found that interprovincial migrants had lower homeownership probabilities than intra-provincial migrants (Tang et al., 2017). On the one hand, this is possible because intra-provincial young skilled migrants have a greater sense of belonging to Guangzhou. Specifically, migrants from Guangdong provinces can better adapt to Guangzhou's food and language. The food in Guangzhou is on the lighter side, but people from some provinces like to eat spicy food, such as Guizhou, Yunnan, Sichuan, and Chongqing. Also, Guangzhou's dialect is Cantonese, and not speaking Cantonese may affect their connection with the locals. The language barrier and food incompatibility may discourage their long-term settlement intentions in Guangzhou, making them less likely to become homeowners in Guangzhou. On the other hand, intra-provincial migrants may have more local contacts in Guangzhou, such as relatives and

friends. More local contacts can help their career development and progression, which can improve their financial capability.

In terms of macro-level variables, three variables significantly correlate with homeownership outcomes in Model 1. First, GDP is negatively and significantly associated with homeownership outcomes, suggesting that young skilled migrants are likely to access homeownership in the districts with lower GDP. Indeed, the higher GDP district generally has a higher population density, more job opportunities, better infrastructure and amenities, but also higher house prices. Not surprisingly, young skilled migrants are more inclined to buy a house in a district with a lower GDP. This is because housing affordability may be the primary consideration for first-time home buyers in Guangzhou rather than access to quality public resources, amenities, or transportation. This finding contradicts Chen's work, which found that migrants were more likely to become homeowners in cities with higher GDP per capita (Chen et al., 2023). The conflicting conclusions may be due to two reasons. The first reason is that Chen's work focused on rural-urban migrants, and my study paid more attention to young skilled migrants. That is, cohort heterogeneity may lead to inconsistent conclusions. The second reason is that Chen's work focused on the national level, and my study focused on only one of the super cities in China (Guangzhou). In my study, GDP is based on the geographical unit of city districts, but Chen's study is based on the geographical unit of cities. The different geographical units may also cause inconsistent conclusions.

Additionally, investment in fixed assets and floor space completed positively affects homeownership outcomes in Model 1. This suggests that young skilled migrants are more likely to become homeowners in the districts with higher fixed assets and floor space completed. In fact, as land in the city centre is relatively saturated, new infrastructure and housing supply is mainly concentrated in the suburbs. That is, higher levels of fixed assets and floor space completed are more likely to be concentrated in suburban areas. Due to housing affordability, young skilled migrants are more prone to access homeownership in these districts.

Table 6-18. The effect of employer types on homeownership outcomes (All sample).

Column (1) Variables	Column (2) Binary logistic regression M1	Column (4) Multilevel regression M2
Employer types	0.237** (0.094)	0.241** (0.095)

Male	-0.452*** (0.129)	-0.468*** (0.131)
Age	-0.379** (0.171)	-0.392*** (0.172)
Age ²	0.007** (0.003)	0.007*** (0.003)
Rural Hukou	-0.732*** (0.096)	-0.756*** (0.097)
Married	0.968*** (0.259)	0.925*** (0.260)
Spouse in Guangzhou	1.346*** (0.2321)	1.371*** (0.232)
Education (Reference group: Associate college degree)		
Bachelor's degree	0.551*** (0.100)	0.559*** (0.102)
Master's degree or above	1.566*** (0.268)	1.538*** (0.272)
Years in Guangzhou	0.078*** (0.015)	0.082*** (0.015)
Social security	-0.044 (0.330)	0.037 (0.329)
Ln (Monthly Income)	0.446*** (0.111)	0.441*** (0.113)
Intra-provincial migration	0.736*** (0.112)	0.767*** (0.113)
District level variables (N = 11)		
Ln (GDP)	-0.910*** (0.088)	-0.745*** (0.219)
Ln (Investment in Fixed Assets)	0.298*** (0.092)	0.188 (0.220)
Ln (Floor Space Completed)	0.232** (0.106)	0.129 (0.318)
N	6004	6004
Pseudo R ²	0.269	/
Log Likelihood (-2LL)	/	3220.694
AIC	/	3256.694
BIC	/	3377.297
chibar2(01)	/	22.20***

Note: Standard errors are given in parentheses; * p < 0.1, ** p < 0.05, *** p < 0.01.

Compared to the sign and significance of the regression coefficients for the covariates in Model 1, investment in fixed assets and completed floor area become non-significant in

Model 2. The sign and significance of the other covariates did not change in Model 2. More importantly, the value of $\chi^2(01)$ is 22.20, which is significant at the 0.01 level. This suggests that, given the hierarchical nature of the data, multilevel analysis can provide more accurate estimations than traditional regression models (binary logistic regression models).

6.3.2 Propensity score matching (PSM)

Multilevel analysis can address the hierarchical nature of the data. Nevertheless, given that the dataset used in this thesis is observational, the self-selection bias issue could be a potential concern in the regression models. That is, the differences in homeownership outcomes could be caused by working for different types of employers and confounding factors. If a self-selection bias issue is present, confounding factors may cloud estimations. Propensity score matching (PSM) is a quasi-experimental approach to create an artificial control group by matching each treated unit with a non-treated unit with similar covariates. In other words, propensity score matching (PSM) simulates a randomized controlled trial (RCT) to generate balanced samples between treatment and control groups. By applying the propensity score matching (PSM) approach to generate a balanced sample, young skilled migrants working in the public sector have covariates similar to those working in the private sector. Next, using balanced samples to estimate the effect of employer types on homeownership outcomes could provide a more reliable estimation.

As mentioned in Chapter 5, I will carry out the five steps to generate the balanced samples. After producing the balanced samples, I will use binary logistic regression and multilevel analysis to estimate the pure effect of employer types on homeownership outcomes. Despite the benefits of multilevel analysis over binary logistic regression models in analyzing the hierarchical nature of the data, I intend to compare the estimations between using unmatched (full sample) and matched samples (using propensity score matching (PSM) to produce balanced samples).

The first step is to select which covariates to include in the propensity score estimation (Harris & Horst, 2016). I include all covariates used in previous literature to estimate the propensity score. That is, male, age, urban Hukou, married, spouses in Guangzhou, educational attainment, monthly income, social security, intra-provincial migration, duration of stay in Guangzhou, GDP, investment in fixed assets, and floor space completed are used to

estimate the propensity score by logistic regression. The third step is to generate the balanced treatment (intervention) and control (comparison) groups using the K-Nearest Neighbour (KNN) algorithm.

Table 6-19 presents the quality of the match. Table 6-19 shows whether there are significant differences between the treatment and control groups before and after matching. U and M represent before (unmatched) and after (matched) matching, respectively. P value ($p > t$) is used to assess whether there is a significant difference between the treatment and control groups for this covariate. If the P value is significant at 0.05, this covariate significantly differs between the control and treatment groups. On the contrary, if the P value is insignificant at the 0.05 level, the covariate makes no significant difference between the control and treatment groups. An ideal match would produce a balanced sample in which the covariates are not significantly different in the control and treatment groups.

For example, for the gender (male) variable, Table 6-19 shows whether there is a significant difference between the control and treatment groups before (unmatched) and after (matched) matching on the gender variable. For unmatched samples, the t-value of the male variable is -7.85, which is significant at the 0.01 level. This indicates that before matching, there is a gender difference between those working in the public and private sectors. After matching, the t-value of the male variable is -0.31, which is insignificant at the 0.05 level. This suggests that, after matching, no gender difference exists between those who work in the public and private sectors.

Before matching, there are significant differences between the control and treatment groups in gender (male), age, hukou status (rural hukou), marital status (married), Spouse in Guangzhou, educational attainment, the length of stay in Guangzhou, income, intra-provincial migration, GDP, investment in fixed assets, and floor space completed. After matching, no significant difference was found between the control and treatment groups on the above variables. Before and after matching, social security is not significantly different between the controlled and the treatment groups. Therefore, after matching, it is safe to say that the match is of high quality, and the balanced samples have been obtained using the propensity score matching (PSM) approach. In order to obtain balanced samples, 287 observations were deleted from the dataset. Despite the sample reduction, the remaining sample size was still adequate, well above 162 (the minimum number of observations).

Table 6-19. Assessing the quality of the match.

Column (1) Variables	Unmatched Matched	Mean		t-test	
		Treatment	Controlled	t	p>t
Male	U	0.16	0.24	-7.85	0.00
	M	0.16	0.16	-0.31	0.76
Age	U	27.08	27.68	-5.63	0.00
	M	27.08	26.09	-0.08	0.94
Age ²	U	750.34	783.22	-5.57	0.00
	M	750.32	750.97	-0.11	0.91
Rural Hukou	U	0.66	0.73	-5.39	0.00
	M	0.67	0.67	-0.58	0.57
Married	U	0.43	0.48	-3.60	0.00
	M	0.43	0.43	0.34	0.73
Spouse in Guangzhou	U	0.39	0.43	-3.12	0.00
	M	0.39	0.38	0.53	0.60
Associate college degree	U	0.54	0.59	-3.63	0.00
	M	0.54	0.56	-0.97	0.33
Bachelor's degree	U	0.43	0.40	2.64	0.01
	M	0.43	0.42	0.75	0.46
Master's degree or above	U	0.03	0.01	3.55	0.00
	M	0.03	0.02	0.72	0.48
The length of stay in Guangzhou	U	5.30	5.55	-2.73	0.01
	M	5.30	5.30	0.00	0.99
Social security	U	0.96	0.96	0.57	0.57
	M	0.96	0.96	-1.02	0.31
Ln (Monthly Income)	U	8.41	8.37	3.77	0.00
	M	8.41	8.40	0.92	0.36
Intra-provincial migration	U	0.77	0.68	7.93	0.00
	M	0.77	0.77	-0.17	0.86
Ln (GDP)	U	16.81	16.78	2.27	0.02
	M	16.81	16.81	-0.36	0.72
Ln (Investment in Fixed Assets)	U	15.63	15.72	-6.71	0.00
	M	15.63	15.61	1.20	0.230
Ln (Floor Space Completed)	U	14.98	15.05	-5.13	0.00
	M	14.98	14.98	0.64	0.52
ATT=3.04					

Table 6-19 also shows the average treatment for the treated (ATT) values, which is the most straightforward and common approach used to estimate treatment effects only for individuals who participated in the intervention (Harris & Horst, 2016). The value is 3.04, which is greater than 1.96. This suggests that homeownership outcomes vary between those working in the public and private sectors.

Finally, using matched samples, I employed binary logistic regression and multilevel analysis to re-estimate the Equation (1). As shown in Table 6-20, Column (1) shows the variable names; Columns (2) and (3) display the coefficient estimated using binary logistic regression

and multilevel analysis, respectively. I first look at the significance, sign, and magnitude of regression coefficients for employer types. Employer type is still positively associated with homeownership outcomes, supporting the first hypothesis. Although the sign has not changed (still positive), the employer types in Columns (2) and (3) become more significant. Employer type is significant at the 0.01 level. Furthermore, using matched samples, the magnitude of the regression coefficients for employer type becomes stronger, suggesting that covariates may be confounding the results.

Age and age squared become insignificant at the 0.05 level among the covariates. The signs and significance of the regression coefficients of the other covariates are similar to those in Models 1 and 2. The value of $\chi^2(01)$ is 17.75 and is significant at the 0.01 level. In other words, when $\chi^2(01)$ is insignificant at the 0.05 level, the estimations for traditional regression models are similar to multilevel analysis. In this scenario, it does not matter whether traditional regression models or multilevel analysis are used. As a result, given that multilevel analysis is better suited to the hierarchical nature of the data, I will use multilevel analysis to estimate the effect of employer types on homeownership outcomes.

Table 6-20. The effect of employer types on homeownership outcomes (matched sample).

Column (1) Variables	Column (2) Binary logistic regression M3	Column (3) Multilevel regression M4
Employer types	0.248*** (0.096)	0.245*** (0.097)
Male	-0.451*** (0.132)	-0.465*** (0.131)
Age	-0.273 (0.182)	-0.291 (0.183)
Age ²	0.005 (0.003)	0.005* (0.003)
Rural Hukou	-0.773*** (0.099)	-0.792*** (0.100)
Married	0.928*** (0.265)	0.890*** (0.267)
Spouse in Guangzhou	1.374*** (0.236)	1.392*** (0.237)
Education (Reference group: Associate college degree)		
Bachelor's degree	0.527*** (0.103)	0.536*** (0.104)

Master's degree or above	1.633*** (0.293)	1.620*** (0.297)
Years in Guangzhou	0.078*** (0.015)	0.081*** (0.015)
Social security	0.051 (0.361)	0.147 (0.362)
Ln (Monthly Income)	0.467*** (0.115)	0.463*** (0.117)
Intra-provincial migration	0.759*** (0.114)	0.783*** (0.116)
District level variables (N = 11)		
Ln (GDP)	-0.924*** (0.091)	-0.792*** (0.205)
Ln (Investment in Fixed Assets)	0.288*** (0.095)	0.218 (0.208)
Ln (Floor Space Completed)	0.274** (0.111)	0.203 (0.295)
N	5717	5717
Pseudo R ²	0.273	/
Log Likelihood (-2LL)	/	3051.611
AIC	/	3087.611
BIC	/	3207.333
chibar2(01)	/	17.75***

Note: Standard errors are given in parentheses; * p < 0.1, ** p < 0.05, *** p < 0.01.

6.4 Interaction effect analysis

The previous analysis has found that employer types can positively predict young skilled migrants' homeownership outcomes in Guangzhou. Public sector work is seen as more stable, implying that a stable job can provide a stable income. How do income levels change the relationship between employer types and homeownership outcomes? In order to answer this research question (testing the second hypothesis), the product term of employer types and income was included in Model 5.

As shown in Table 6-21, Model 5 displays the moderating effect of income on the relation between employer types and homeownership outcomes. In Model 5, I focused on the regression coefficients and significance of employer types and the product terms of employer types and incomes. This is because it can interpret the "interaction effect." As mentioned in Chapter 5, the regression coefficient for employer types in Model 5 did not represent the main effect but rather a "conditional effect." Interestingly, employer type is negatively

associated with homeownership outcomes and is significant at the 0.05 level. At the same time, the product term of employer types and income is positively related to homeownership outcomes and is significant at the 0.01 level. This indicates that the moderator variable income weakens the relationship between employer types and homeownership outcomes. That is, the positive effect of employer types on homeownership outcomes depends on income level. With income, the positive effect of employer types on homeownership outcomes weakens, supporting the second hypothesis. This is an intriguing finding. This finding implies that if young skilled migrants can obtain higher incomes, they can still access homeownership in Guangzhou even if they do not work in the public sector. Higher incomes can offset some of the negative consequences of precarious jobs. This finding may encourage more highly educated and highly skilled talent in China not to be obsessed with entering the public sector. They can still succeed in their housing careers by improving their professional skills, gaining work experience, and working hard to earn a high salary.

Table 6-21. The moderating effect of income on the relation between employer types and homeownership outcomes.

Column (1) Variables	Column (4) Multilevel regression M 5
Employer types	-3.663** (1.792)
Ln (Monthly income)	0.214 (0.164)
Employer types * Ln (Monthly income)	0.462*** (0.211)
Male	-0.451*** (0.134)
Age	-0.303*** (0.183)
Age ²	0.006*** (0.003)
Rural Hukou	-0.789*** (0.100)
Married	0.900*** (0.267)
Spouse in Guangzhou	1.391*** (0.237)
Education (Reference group: Associate college degree) Bachelor's degree	0.528*** (0.104)

Master's degree or above	1.614*** (0.299)
Years in Guangzhou	0.082*** (0.015)
Social security	0.137 (0.363)
Intra-provincial migration	0.776*** (0.116)
District level variables (N = 11)	
Ln (GDP)	-0.797*** (0.210)
Ln (Investment in Fixed Assets)	0.226 (0.212)
Ln (Floor Space Completed)	0.193 (0.302)
N	5717
Log Likelihood (-2LL)	3046.826
AIC	3084.826
BIC	3211.198
chibar2(01)	18.61***

Note: Standard errors are given in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.5 Assessment of mechanisms

To effectively disentangle the transmission mechanism of the impact of employer types on homeownership outcomes, I estimated Equations (4)-(6) to test for the mediating effect of long-term settlement intentions between employer types and homeownership outcomes (See Tables 5-20 and 5-22). As mentioned in Chapter 5, I used the three-step procedures proposed by Baron and Kenny (1986) to examine the mediating effect of long-term settlement intentions. Then, I used the Sobel test and bootstrapping algorithms to test for mediation in order to obtain reliable results.

6.5.1 The three-step procedures

Table 6-20 assessed whether young skilled migrants' employer types predict their homeownership outcomes in Guangzhou. The results in Table 6-20 examine whether regression models can satisfy the first conditions of mediation analysis; that is, employer types must be shown to influence homeownership outcomes. As shown in Table 6-20, the employer types of young skilled migrants have a significant positive relationship with their homeownership outcomes, fulfilling the first condition for assessing mediation: the

independent variable must influence the dependent variable (Baron & Kenny, 1986).

In Table 6-22, Column (2) shows the effect of employer types on long-term settlement intentions. That is, employer type is the key explanatory variable, and long-term settlement intention is the dependent variable in Column (2). The reference group for long-term settlement intentions is the cohort of young skilled migrants who plan to settle permanently in Guangzhou. The results of Column (2) are used to test the second condition of the mediation analysis; that is, employer types must be shown to influence long-term settlement intentions. Column (3) displays the effect of long-term settlement intentions and employer types on homeownership outcomes. Long-term settlement intentions and employer types are the key explanatory variables, and homeownership outcome is the dependent variable in Column (3). The results of Column (3) are used to test the third condition of the mediation analysis, that is, if long-term settlement intentions can significantly influence homeownership outcomes in Column (3), regardless of the effect of employer type can significantly influence homeownership outcomes, the mediation holds (Baron & Kenny, 1986).

Column (2) of Table 6-22 illustrates that employer type is positively associated with long-term settlement intention in Guangzhou. In other words, young skilled migrants who work in the public sector can increase the likelihood that they will settle in Guangzhou for a long time, suggesting that the second condition of mediating effect has also been met; that is, the independent variables (employer types) could significantly affect the mediating variables (long-term settlement intentions). To the best of my knowledge, previous studies did not pay attention to the effect of employer types on migrants' long-term settlement intentions in destination cities. Nevertheless, some work has examined the effect of employment status on migrants' settlement intentions. Moreover, employment status has been measured differently in different studies. For example, Yang and Guo (2018) used employment status to capture migrants' economic achievements; thus, employment status was categorized into part-time, employee, and self-employed. However, it is somewhat surprising that the difference in settlement intentions in host cities between part-time employees, employees, and self-employed is insignificant in their studies. In stark contrast with their studies, Chen and Wang (2018) used self-employed and employed to indicate migrants' employment status and concluded that self-employed migrants are more inclined to long-term stay in host cities than employed migrants. They explain that self-employed migrants usually make larger initial investments in the destinations than their wage-earning counterparts, which may discourage

them from floating between cities. In fact, both Yang and Guo and Chen and Wang treated the employment status of migrants as an economic consideration and ignored the consequences of employer types.

There are some noteworthy findings in relation to the control variables in Model 6. Gender (male) does not appear to affect the long-term settlement intentions of young skilled migrants. The estimated coefficient for being a male is negative but insignificant due to the high standard deviation, which is also consistent with previous literature (Huang et al., 2018; Wang et al., 2019; Liao & Wang, 2019; Zhang & Yan, 2022). However, this result differs from the findings of Zhu and Chen (2010) and Wang and Zhang (2022), who found that female migrants exhibit a greater propensity to long-term stay in host cities than male migrants. There appears to be no consistent evidence of the impact of gender on migrants' intentions to settle in host cities. This is possible because the willingness of single young skilled migrants to settle down in host cities is their preference; however, for married young skilled migrants, their intentions to long-term stay in the destinations often hinge on the family's decision. In other words, the greater propensity of female migrants to settle in destination countries may be a family decision when they marry, communicated through the women (possibly because they are the head of the household). Consequently, whether there are gender variances in migrants' long-term settlement intentions in host cities needs to be further investigated in future studies. Future studies could use qualitative methods, for example, semi-structured interviews, to disentangle this issue.

Age is a positive predictor of long-term settlement intentions, and age squared is negatively related to long-term settlement intentions, suggesting an inverted U-shaped relationship between age and long-term settlement intentions (Liao & Wang, 2019; Wang et al., 2019; Huang et al., 2021). In other words, the long-term settlement intentions of young skilled migrants in Guangzhou first increase with age and then decrease with age. This is possible because young people tend to be more confident in an uncertain future, and they show a strong willingness to settle in host cities as their income and savings grow with age. As age increases, through the toxic beatings of society (i.e., soaring housing prices in Guangzhou leading to housing unaffordability and fierce competition in the workplace resulting in lower life satisfaction), young skilled migrants may have a clear perception of whether they can settle in Guangzhou for a long time and become less blindly confident. These findings are inconsistent with some previous literature on age being negatively associated with long-term

settlement intentions or showing no significant effects on long-term settlement intentions (Zhu & Chen, 2010; Cao et al., 2015). This may be because they treated age as a categorical variable.

As expected, young skilled migrants with urban hukou (also called non-agricultural status in other literature) have a significantly and positively greater intention to settle in Guangzhou for the long term than those with agricultural hukou, suggesting that hukou status still plays a vital role in shaping the migration process of young skilled migrants. The effects of the hukou status (urban hukou) on migrants' long-term settlement intentions are, in general, consistent with the results shown in the literature in the Chinese context (Zhu & Chen, 2010; Huang et al., 2018; Yang & Guo, 2022; Wang & Zhang, 2022). Indeed, the difference in long-term settlement intentions between rural-urban migrants and urban-urban migrants suggests that the dual structure of rural and urban areas is replicated in urban China with population movement. Similarly, the effect of hukou status on long-term settlement intentions suggests that there is also a large homeownership gap between urban-urban and rural-urban migrants (See Table 6-5). Rural-urban migrants (those with rural hukou) are disadvantaged in urban China compared to urban-urban migrants. An important implication of this finding is that governments should give more public benefits to rural-urban migrants to ensure their well-being in the destinations and thus boost their settlement intentions.

Consistent with Zhu and his colleague's (2010) findings on the rural-urban migrant workers, it is somewhat surprising that marital status appears to matter in predicting long-term settlement intentions, with unmarried young skilled migrants exhibiting higher intention to stay in Guangzhou than married cohorts. One possible interpretation is that unmarried cohorts tend to pay more attention to their careers than their married counterparts at this stage, and staying in large cities may provide them with more opportunities to acquire professional skills and improve their management experience. In other words, young married skilled migrants exhibit a greater propensity to stay in host cities for short periods. This is because they have to consider family members left behind (Zhu & Chen, 2010). Interestingly, the significant and positive coefficient of the spouses in Guangzhou indicates that spouses working or residing in Guangzhou can encourage the intention to settle down in Guangzhou. It seems somewhat contradictory at first sight that young skilled migrants who are married do not express a desire to settle permanently, but those young skilled migrants whose spouses are with them do express a desire to settle permanently. Actually, these findings are not

contradictory but rather give us further insight into the impact of the type of migration on settlement intentions. For example, unmarried cohorts pursue their careers and well-being in large cities and thus show a greater intention to settle in the host cities than those who have married but whose spouses have separated with them. More importantly, spouses living or working in Guangzhou can increase their social integration and improve life satisfaction, thereby increasing their willingness to settle in host cities for a long time (Zhang & Yan, 2022).

As expected, young skilled migrants with bachelor's degrees are more inclined to long-term stay in Guangzhou than those with an associate college degree. This finding is consistent with previous literature suggesting that human capital accumulation encourages young skilled migrants to settle permanently in super cities (Zhu & Chen, 2010; Yang & Guo, 2018; Liao & Wang, 2019; Wang et al., 2019; Liu & Wang, 2020). In fact, settlement intentions describe migrants' subjective expectations of a long-term stay in the destinations. "Expectations" are not the same as "aspirations." Settlement intentions imply that migrants desire to settle in host cities and that their financial resources could support them in translating this desire into actual outcomes in the future. Young skilled migrants with higher human capital have a higher probability of finding a well-paid job and achieving a higher socioeconomic status in local cities, thereby more easily adapting to competitive urban life and accessing quality urban amenities (Wang et al., 2019). In other words, young skilled migrants with higher levels of education tend to have stronger subjective expectations and capacities for long-term residence in destination cities than their less educated counterparts. Higher levels of education could provide young skilled migrants with the knowledge and skills needed to work in large cities, thereby increasing their expectations of long-term residence in host cities. Nevertheless, somewhat surprisingly, the master's degree or higher is positive but insignificant at the 0.05 level. This suggests that there is no significant difference in settlement intention between those with a master's degree or higher and those with an associate college degree. Highly educated migrants are well educated and have good professional skills. Therefore, they may not be particularly obsessed with settling in a particular city. They may also leave Guangzhou when other cities offer better job opportunities.

Not surprisingly, I found that higher income strongly raises the probability of choosing to settle permanently in destination cities. This is possible because young skilled migrants with

higher incomes tend to be more confident about their careers, which increases their willingness to settle permanently. The existing literature generally tends to agree that higher incomes generate stronger settlement expectations, as a decent income can reduce the constraints to settlement in host cities, especially economic considerations, and improve migrants' adaptation to urban life (Huang et al., 2020; Yang & Guo, 2022; Wang & Shen, 2022). In addition, young skilled migrants who have social security in the host cities are more likely to show stronger permanent settlement intentions than their counterparts without social security. This finding reveals the crucial role of social security in providing a social safety net in shaping young skilled migrants' desire to settle permanently in their destinations. Social security in China (social insurance) includes pension, medical, unemployment, work injury, and maternity insurance. Social insurance participation may buffer negative consequences and risks and reduce financial losses when facing unexpected medical illness and labour market-induced unemployment (Huang et al., 2020). Social security creates a social safety net for young skilled migrants to improve migrants' resilience towards potential risks, which can increase their confidence and willingness to stay long-term in their destinations (Wang & Shen, 2022).

In addition, it is not surprising that a longer stay in Guangzhou may increase the probability of choosing permanent settlement intentions, which is similar to previous findings on rural-urban migrants (Zhu & Chen, 2010; Yang & Guo, 2018). One possible interpretation is that a longer stay in Guangzhou may improve the local language (Cantonese) skills of young skilled migrants, which may help them to better capitalize on their human capital and to build up local contacts in the host city, thus propelling them to a higher position in their careers. In other words, young skilled migrants who speak Cantonese may improve their capability to be permanent settlers in Guangzhou (Zhang & Yan, 2022). Additionally, local language proficiency can help them make more friends in the destinations, improving their integration into local society. In summary, the longer the stay in the host cities, the greater the investment in human and social capital in the destinations, leading to better social, economic, and cultural integration in the local cities and increasing their settlement intentions (Huang et al., 2020).

As expected, intra-provincial migration is positively and significantly associated with long-term settlement intentions. This suggests that intra-provincial migrants express a stronger intention to settle permanently in Guangzhou than inter-provincial migrants. This

finding is inconsistent with previous literature, which found that intra-provincial migrants exhibited lower intentions to settle permanently than interprovincial migrants (Yang & Guo, 2022). The inconsistent results may be explained by the different cases of cities studied. Yang and Guo's work (2022) focused on some cities in the Yangtze River Delta, such as Shanghai and Suzhou. Nevertheless, my case study is based on Guangzhou. Guangdong Province may have some regional characteristics. For example, people in Guangdong Province generally rarely go to work in cities outside Guangdong Province. This may be because Guangdong's economy is relatively developed in China. As a result, migrants from Guangdong provinces are more likely to stay in Guangzhou if they can stay in Guangzhou. Nevertheless, migrants from other provinces may leave Guangzhou because they cannot adapt to the language, culture, and eating habits of Guangzhou, even if they can settle in Guangzhou. People from other provinces seem to face more barriers to permanent settlement in Guangzhou. Unsurprisingly, migrants from within the province are more likely to settle in Guangzhou. Regarding the macro-level variables, GDP, investment in fixed assets, and floor space completed are insignificant at 0.05.

Finally, I test the third condition for the mediation effect. As illustrated in column (3) of Tables 6-22 (Model 7), the effect of employer types on homeownership outcomes is significant at the 0.01 level, and the effect of long-term settlement intentions on homeownership outcomes is significant at the 0.01 level. This suggests that long-term settlement intentions mediate the relation between employer types and homeownership outcomes. More specifically, young skilled migrants who work in the public sector are more likely to long-term stay in Guangzhou than those working in the private sector. If they then express their willingness to stay in Guangzhou for a long time, they are more likely to access homeownership in Guangzhou. In other words, employer types may increase the probability of entering homeownership in Guangzhou for young skilled migrants through its effect on long-term settlement intentions. This finding can add to understanding the complex relationship between employer types, long-term settlement intentions, and homeownership outcomes. Taken together, these findings support the third hypothesis that settlement intentions mediate the relationship between employer types and homeownership outcomes.

Because of the current challenging employment situation, many young people in China tend to work in government agencies, public institutions, and state-owned enterprises, and they are resistant to going into the private sector. Working in the public sector could be more stable,

and they would not have to worry about the risk of redundancy, which could improve life satisfaction. On the other hand, as many young people are keen to work in the public sector, competition is fierce, often with 10 or even 100 people vying for a job. In addition to stability, those who work in the public sector receive a fairly decent salary. As a result, young skilled migrants in the public sector cherish this opportunity and do not change jobs at will, which strengthens their long-term settlement intentions in the host cities.

Additionally, some scholars (For example, Tang et al., 2017) have found that the migrants' settlement intentions could have profound influences on their homeownership outcomes. They concluded that homeownership is positively associated with settlement intentions in host cities; that is, migrants who intend to long-term stay in urban destinations tend to become homeowners in local cities. Housing is one of the necessities of life and has also played a vital role in the lives of individuals (Bratt et al., 2006; Xie & Chen, 2018). This is because housing serves not only as a shelter for people but also as an outward symbol of their economic and social status and even affects their well-being (Bratt et al., 2006). As a result, housing is commonly viewed as a collection of attributes. For example, access to homeownership can provide homeowners with an economic ladder that promotes savings and wealth accumulation, as housing prices in developing and developed countries have risen rapidly in recent decades (Chen et al., 2022). Furthermore, housing can also determine access to key opportunities and public services, such as employment opportunities, quality educational resources, and health services (Or, 2018). In sum, migrants who plan to long-term stay in host cities usually have a higher tendency to access homeownership in urban destinations, which can provide them not only with stable dwellings but also with the same access to public resources as locals and more opportunities to interact with locals, thereby fostering a sense of belonging in urban destinations.

Table 6-22. The mediating effect of long-term settlement intentions between employer types and homeownership outcomes (Multilevel analysis).

Column (1) Variables	Column (2) (Dependent variable=Long-term settlement intentions) Multilevel regression M6 Coefficient	Column (3) (Dependent variable=Homeownership outcomes) Multilevel regression M7 Coefficient
Long-term settlement intentions		1.346*** (0.166)
Employer types	0.354*** (0.064)	0.192** (0.098)

Male	0.011 (0.087)	-0.429*** (0.134)
Age	0.320** (0.105)	-0.398** (0.183)
Age ²	-0.004** (0.002)	0.007** (0.003)
Rural Hukou	-0.466*** (0.075)	-0.735*** (0.101)
Married	-0.600*** (0.141)	0.975*** (0.269)
Spouse in Guangzhou	1.147*** (0.139)	1.211*** (0.241)
Education (Reference group: Associate college degree)		
Bachelor's degree	0.52*** (0.071)	0.487*** (0.105)
Master's degree or above	0.447 (0.282)	1.573*** (0.298)
Years in Guangzhou	0.067*** (0.013)	0.076*** (0.015)
Social security	0.495*** (0.160)	0.020 (0.366)
Ln (Monthly Income)	0.525*** (0.092)	0.406*** (0.118)
Intra-provincial migration	0.400*** (0.071)	0.691*** (0.117)
District level variables (N = 11)		
Ln (GDP)	-0.086 (0.141)	-0.782*** (0.203)
Ln (Investment in Fixed Assets)	-0.100 (0.136)	0.246*** (0.206)
Ln (Floor Space Completed)	-0.302 (0.190)	0.243 (0.292)
N	5717	5717
Log Likelihood (-2LL)	6170.051	2967.767
AIC	6206.051	3005.767
BIC	6325.773	3132.14
chibar2(01)	29.20***	17.18***

Note: Standard errors are given in parentheses; * p < 0.1, ** p < 0.05, *** p < 0.01.

6.5.2 The Sobel test and bootstrapping algorithms

As discussed above, I have found the mediating role of long-term settlement intention between young skilled migrants' employer types and homeownership outcomes. The next

step is to check the reliability of the mediation effect results. The Sobel test and the bootstrapping algorithms are widely used to test whether the mediation effect is statistically significant. Before using the Sobel test and the bootstrapping method, I will briefly introduce these approaches. The Sobel test was developed in 1982, and Preacher and Hayes developed the bootstrap approach in 2004 and 2008. Both approaches are used to test the significance of the indirect path ($a_{ij,1} * b_{ij,1}$) (see Figure 6-1). The total effect ($c_{ij,1}$) is calculated by adding the indirect effect ($a_{ij,1} * b_{ij,1}$) and the direct effect ($c'_{ij,1}$) (Amrita et al., 2021). The mediator coefficient is assessed by calculating the product of the coefficients, e.g., $a_{ij,1} * b_{ij,1}$ (Amrita et al., 2021). The main difference between these two methods is that the Sobel test requires large samples, whereas the bootstrap method does not require large samples, and this test is also applicable to small sample sizes (Amrita et al., 2021).

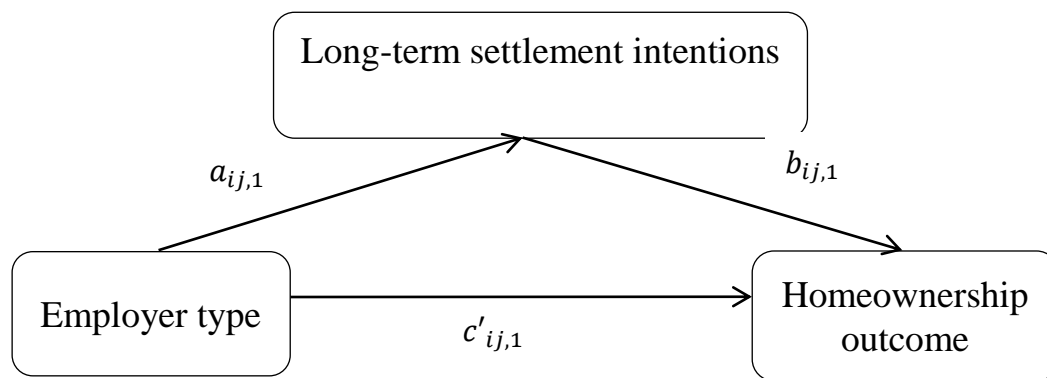


Figure 6-1. The mediating role of long-term settlement intention between employer type and homeownership outcome.

First, I used the Sobel test to test the mediating role of long-term settlement intentions between employer types and homeownership outcomes. As shown in columns (2), (3), and (4) of Table 6-23, employer type is positively associated with homeownership outcomes in Model 7; employer type shows a positive effect on long-term settlement intentions in Model 8; however, the regression coefficient for employer types, which reflects the direct effect in Model 9, is smaller than the regression coefficient for employer types in Model 7, indicating that long-term settlement intentions play the partial mediating role in shaping the association between them.

Table 6-23. Association between employer types, long-term settlement intentions and homeownership outcomes (Sobel test).

Column (1) Variables	Column (2) (Dependent variable=Homeownership outcomes)	Column (3) (Dependent variable=Long-term settlement intentions)	Column (4) (Dependent variable=Homeownership outcomes)
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	M 7	M 8	M 9
	Coefficient	Coefficient	Coefficient
Long-term settlement intentions			0.065*** (0.009)
Employer types	0.025*** (0.008)	0.065*** (0.012)	0.021*** (0.008)
Male	-0.036*** (0.010)	0.012 (0.015)	-0.037*** (0.010)
Age	-0.07*** (0.012)	0.111*** (0.018)	-0.077*** (0.012)
Age ²	0.001** (0.0001)	-0.002** (0.0001)	0.001*** (0.0001)
Rural Hukou	-0.077*** (0.009)	-0.079*** (0.013)	-0.072*** (0.009)
Married	0.033* (0.019)	-0.109*** (0.028)	0.040** (0.019)
Spouse in Guangzhou	0.154*** (0.018)	0.206** (0.027)	0.140*** (0.018)
Education (Reference group: Associate college degree)			
Bachelor's degree	0.05*** (0.009)	0.068*** (0.013)	0.045*** (0.009)
Master's degree or above	0.209*** (0.031)	0.075* (0.045)	0.204*** (0.031)
Years in Guangzhou	0.009*** (0.002)	0.011*** (0.002)	0.008*** (0.002)
Social security	-0.004 (0.020)	0.108*** (0.030)	-0.011 (0.02)
Ln (Monthly Income)	0.055*** (0.011)	0.088*** (0.015)	0.049*** (0.011)
Intra-provincial migration	0.067*** (0.009)	0.07*** (0.013)	0.063*** (0.009)
Ln (GDP)	-0.086*** (0.008)	0.013*** (0.011)	-0.087*** (0.008)
Ln (Investment in Fixed Assets)	0.02** (0.008)	-0.023*** (0.012)	0.022*** (0.008)
Ln (Floor Space Completed)	0.019 (0.009)	-0.09*** (0.013)	0.025 (0.009)
N	5717	5717	5717
R ²	0.198	0.183	0.205

Note: Standard errors are given in parentheses; * p < 0.1, ** p < 0.05, *** p < 0.01.

In addition, Table 6-24 indicates that the significance of the Sobel test (**0.000**) is significant at the 0.01 level, suggesting that young skilled migrants' long-term settlement intentions are a mediator between employer types and homeownership outcomes. By calculating the indirect effect (also called the mediating effect), the direct effect, and the total effect, I concluded that the mediating effect is **16%** of the total effect ($0.004/0.025 \approx 0.16$).

Table 6-24. Sobel test for mediating effect of long-term settlement intentions between employer types and homeownership outcomes.

Mediation effect	Coefficient	Standard Error	Z	P-value
Indirect effect	0.004	0.001	4.429	0.000
Direct effect	0.020	0.008	2.622	0.009
Total effect	0.025	0.008	3.151	0.002
Sobel test	0.004	0.001	4.429	0.000
Proportion of total effect that is mediated: 16%				

Finally, I applied the bootstrapping algorithms to re-test the reliability of the mediation effect results. I set the number of repetitions to 1000 (the regular number). The direct and indirect effects are significant at the 0.01 level (See Table 6-25). The indirect effect's regression coefficient divided by the total effect's regression coefficient is the proportion of mediating effects; that is 16% ($0.004/(0.004+0.021)$). The proportion of mediating effects calculated by the bootstrap approach and the Sobel test are the same, **16%**. As a result, by applying the Sobel test and bootstrapping algorithms, it is safe to say that long-term settlement intentions play a partial (16%) mediating role in the relationship between employer types and homeownership outcomes.

Table 6-25. Bootstrap approach for mediating effect of long-term settlement intentions between employer types and homeownership outcomes.

Mediation effect	Coefficient	Standard Error	z	P-value	[95% Conf. Interval]
Indirect effect	0.004	0.001	4.96	0.000	0.003 0.006
Direct effect	0.021	0.008	2.62	0.009	0.005 0.036
Proportion of total effect that is mediated: 16%					

In summary, it seems more plausible that employer types affect homeownership outcomes partly through direct effects and partly through indirect effects (the mediating effect of long-term settlement intentions). This is possible because public sector jobs are hard to come by and offer better benefits than private companies. If young skilled migrants work in the public sector, they tend not to change jobs and choose to settle permanently in their destinations. Leaving Guangzhou is synonymous with changing jobs. Furthermore, young skilled migrants who plan to settle in host cities are more likely to access homeownership because homeownership can provide them with a stable dwelling, give them opportunities to access quality public benefits in local cities and upgrade their socio-economic status. Also,

the benefits of working in the public sector, such as slightly higher earnings and a higher Housing Provident Fund than working in private companies appear to directly impact the homeownership outcomes of young skilled migrants. **Consequently, long-term settlement intentions mediate the relationship between young skilled migrants' employer types and homeownership outcomes, and the share of the mediating effect in the total effect is around 16%.**

6.6 Robustness check

In order to provide reliable estimations, I carried out a range of robustness checks. The robustness check is carried out in two steps. The first step is to examine the sensitivity of the main results by dropping some control variables and altering the matching algorithms. The second step is to examine whether the endogeneity issue caused by reverse causality from homeownership outcomes to long-term settlement intentions can confound the mechanism of employer types and homeownership outcomes. That is, whether the potential endogeneity issue can bias the mediation effect results in the previous analysis.

First, I dropped some covariates (intra-provincial migration, GDP, Investment in Fixed assets, and floor space completed). I chose different matching algorithms (radius matching) to estimate the propensity scores to obtain the new balanced sample. Indeed, which covariates were removed and which other matching algorithm was used was randomized because the purpose was to measure the sensitivity of the main results. Removing a variable or removing multiple covariates can both be seen as a form of measuring the sensitivity of the results. Replacing the previous matching algorithm (K-Nearest Neighbour (KNN) algorithm) with any matching algorithm is also a way to measure the sensitivity of the results.

I replaced the K-Nearest Neighbour (KNN) algorithm with the Radius algorithm to assess the quality of the match. Table 6-26 shows that the p-value for all covariates except social security is significant at the 0.05 level before matching. This indicates that before matching, the covariates are unbalanced between the treatment and control groups, except for social security. After matching, the p-values of all covariates are insignificant at the 0.05 level, indicating a high quality of matching. The average treatment for the treated (ATT) values is 2.77, which is above 1.96. This suggests that homeownership outcomes differ between those who work in the public and private sectors.

Table 6-26. Assessing the quality of the match. (Radius matching).

Variables	Unmatched	Mean		t-test	
	Matched	Treated	Control	t	p>t
Male	U	0.16	0.24	-7.85	0.00
	M	0.16	0.16	-0.68	0.50
Age	U	27.08	27.68	-5.63	0.00
	M	27.08	27.02	0.63	0.53
Age ²	U	750.34	783.22	-5.57	0.00
	M	750.56	747.21	0.58	0.56
Rural Hukou	U	0.66	0.73	-5.39	0.00
	M	0.67	0.66	0.29	0.77
Married	U	0.43	0.48	-3.60	0.00
	M	0.43	0.43	0.30	0.77
Spouse in Guangzhou	U	0.39	0.43	-3.12	0.00
	M	0.39	0.38	0.19	0.85
Associate college degree	U	0.54	0.59	-3.63	0.00
	M	0.55	0.55	-0.36	0.72
Bachelor's degree	U	0.43	0.40	2.64	0.01
	M	0.43	0.43	0.29	0.77
Master's degree or above	U	0.03	0.01	3.55	0.00
	M	0.03	0.02	0.24	0.81
Length of stay in Guangzhou	U	5.30	5.55	-2.73	0.00
	M	5.29	5.24	0.56	0.57
Social security	U	0.96	0.96	0.57	0.57
	M	0.96	0.96	0.00	1.00
Ln (Monthly Income)	U	8.41	8.37	3.77	0.00
	M	8.41	8.41	0.27	0.79
ATT=2.77					

Six observations were deleted during the matching process. A new matched sample was then obtained. I re-estimated the effect of employer types on homeownership outcomes by using binary logistic and probit regression models. I did not use multilevel analysis because I eliminated all macro-level variables in the robustness check.

As shown in Table 6-27, the results in Columns (2) and (3) suggest that employer types are still positively and significantly associated with homeownership outcomes. More importantly, the significance and magnitude of the regression coefficient for employer type did not change significantly from the results in Models 1 and 2. As a result, the positive role of employer types in shaping young skilled migrants' homeownership outcomes is robust.

Table 6-27. The effect of employer types on homeownership outcomes.

Column (1) Variables	Column (2) Logit M10	Column (3) Probit M11
	Coefficient	Coefficient

Employer types	0.238*** (0.090)	0.130*** (0.049)
Male	-0.614*** (0.125)	-0.302*** (0.067)
Age	-0.467*** (0.167)	-0.277*** (0.084)
Age ²	0.008** (0.003)	0.005*** (0.001)
Rural Hukou	-0.703*** (0.093)	-0.389*** (0.051)
Married	1.050*** (0.255)	0.457*** (0.126)
Spouse in Guangzhou	1.270*** (0.225)	0.703*** (0.116)
Education (Reference group: Associate college degree)		
Bachelor's degree	0.585*** (0.097)	0.320*** (0.053)
Master's degree or above	1.524*** (0.262)	0.820*** (0.150)
Years in Guangzhou	0.075*** (0.015)	0.042*** (0.008)
Social security	0.012 (0.330)	0.016 (0.163)
Ln (Monthly Income)	0.390*** (0.011)	0.181*** (0.060)
N	5995	5995
Pseudo R ²	0.231	0.229

Note: Standard errors are given in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Finally, I examined whether potential endogeneity issues could bias the mediating role of long-term settlement intentions between employer types and homeownership outcomes. That is, I estimated the effect of long-term settlement intentions on homeownership outcomes in Model 7 (See Table 6-22). The regression coefficient for long-term settlement intentions is significant at the 0.05 level in Model 7, fulfilling the third condition for the mediation effect. Nevertheless, I ignored the endogeneity issue caused by reverse causality from long-term settlement intentions to homeownership outcomes. While no study has directly shown the effect of migrants' long-term settlement intentions on their homeownership outcomes in host cities, there is a potential link between them; that is, migrants who intend to stay in host cities for the long term are more likely to access homeownership. As a result, as mentioned in Chapter Four, I applied the instrumental variable approach to address the endogeneity issue. I

checked whether the regression coefficient for long-term settlement intentions is significant at the 0.05 level. If the long-term settlement intention is still significant at the 0.05 level, taking into account the endogeneity issue, this suggests that long-term settlement intentions mediate the relation between employer types and homeownership outcomes.

Table 6-28 displays the estimations of long-term settlement intentions on homeownership outcomes when using the “number of gardens per square kilometer” as an instrumental variable. The value of the Wald test of endogeneity in Column (2) is 80.21 and is significant at the 0.01 level, suggesting that long-term settlement intentions could be endogenous. Then, I need to test the validity of the instrumental variable, as discussed in Chapter 5. First, the results in Column (3) are the first stage estimates of the IV approach, suggesting that our instrumental variable is positively and significantly related to long-term settlement intentions, that is, young skilled migrants who live in a district with a large number of gardens are more likely to long-term stay in Guangzhou. Furthermore, no evidence suggests that the “number of gardens per square kilometer” can directly influence homeownership outcomes. On the other hand, the values of AR and Wald from weak identification tests, which are used to test the validity of instrumental variables, indicate that the instrumental variable is valid. As a result, the instrumental variable can potentially alleviate concerns about endogeneity issues. More importantly, the IV estimates confirm that long-term settlement intentions positively and significantly affect homeownership outcomes, suggesting that the third conditions for assessing mediation analysis are still met while addressing the potential endogeneity issue. Noticeably, the IV estimates suggest an even larger effect of long-term settlement intentions on homeownership outcomes. In other words, future research should not ignore the bi-directional causal relationship between long-term settlement intention and homeownership outcomes.

Table 6-28. The impact of the long-term settlement intentions on the homeownership outcomes (Instrumental Variable (IV) Approach).

Column (1) Variable	Column (2) M 13 (Dependent variable=Homeownership outcomes) Second stage Coefficient	Column (3) M 12 (Dependent variable=Long-term settlement intentions) First stage Coefficient
Long-term settlement intentions	9.926*** (2.953)	
Number of garden per square kilometer		0.001*** (0.0001)

Control variables	Yes	Yes
Wald test of exogeneity	80.21***	
Weak identification test		
AR	88.92***	
Wald	11.30***	
N	5995	5995
R ²	NA	0.158

Note: Standard errors are given in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.7 In summary

This chapter analysed an existing dataset in order to estimate the pure effect of employer types on homeownership outcomes, explore the moderating role of income on the relation between employer types and homeownership outcomes, and disentangle the underlying mechanism of employer types on homeownership outcomes. In order to provide reliable estimations, this chapter combined different econometric methods, including binary logistic regression models, multilevel analysis, propensity score matching (PSM) approach, interaction (moderating) effect analysis, mediation effect analysis, and instrumental variable approach. The baseline analysis was based on binary logistic regression models, multilevel analysis, and propensity score matching (PSM) approach. The binary logistic regression models are traditional. Given the limitations of traditional regression in dealing with the hierarchical nature of the data, multilevel analysis was applied to provide more reliable estimations. Nevertheless, the multilevel analysis still ignored the selection bias in the secondary dataset, leading to a failure to estimate the pure effect of employer types on homeownership outcomes. In order to address this issue, the propensity score matching (PSM) approach was employed to generate balanced samples from treatment and control groups with similar covariates. Mediation and moderation analyses and an endogeneity test were carried out based on this.

There are four main findings in this chapter:

- (1) Young skilled migrants' employer types positively affect their homeownership outcomes in Guangzhou. This suggests that young skilled migrants working in the public sector are more likely to become homeowners in Guangzhou than those working in the private sector.
- (2) The positive effect of employer types on homeownership outcomes depends on income level, suggesting that the positive effect of employer types on homeownership outcomes weakens as income increases.

(3) Long-term settlement intentions mediate the relation between employer types and homeownership outcomes. This suggests that young skilled migrants who work in the public sector are more likely to stay in Guangzhou for the long term, and thereby have higher probabilities of becoming homeowners in Guangzhou.

(4) When the endogeneity issue caused by reverse causality from homeownership outcomes to long-term settlement intentions is considered, long-term settlement intentions still mediate between them.

Chapter 7: Understanding the relation between employer types, settlement intentions, and homeownership outcomes

Chapter 7 will present qualitative findings that aim to interpret, understand, and extend the quantitative findings of Chapter 6. In China, many highly educated young people are pursuing careers in the public sector. It is commonly believed that individuals employed in the private sector typically receive higher salaries than those in the public sector (Camilli & Gomes, 2023). Somewhat unexpectedly, the quantitative analysis revealed that public sector employees in Guangzhou are generally more likely to become homeowners than private sector employees. This reason warrants additional scrutiny. Before addressing the primary research issue, I will initially give the descriptive analysis of qualitative samples. Next, I aim to explain the mechanism between different types of employers, settlement intentions in Guangzhou, and homeownership outcomes. Also, I will analyze the nuances around what different types of employers mean in the experience of young skilled migrants. I intend to comprehend the sentiments and first-hand encounters of young skilled migrants pertaining to working in both the public and private sectors. The analysis seeks to examine the benefits of working in the public sector and explore why public sector employees in Guangzhou are more likely to become homeowners. Finally, I attempt to understand the meaning of access to homeownership in Guangzhou for young skilled migrants. This is because the homeownership outcome in Guangzhou is contingent upon an individual's capacity and willingness to purchase a home. For instance, several young skilled migrants may possess the financial means to acquire a house but may lack the desire to actually do so, leading to their prolonged stay in private rental accommodations.

7.1 The descriptive analysis

Following the research design outlined in Chapter 5, I conducted a follow-up interview of the young skilled migrants who were part of the 2019 survey. I conducted interviews with a total of 36 young skilled migrants successfully. The participants' real names have been omitted to safeguard their privacy. I adopted the letter R, succeeded by a numerical value, to distinguish diverse individuals.

First, I will provide an overview of the participants' basic information, covering their demographic and socioeconomic characteristics, housing outcomes, housing tenure

expectations, and their current settlement intentions in Guangzhou.

7.1.1 Participants' demographic and socioeconomic characteristics

Table 7-1 presents a concise overview of the demographic and socioeconomic characteristics of the 36 participants. These attributes include age, gender, marital status, number of children, educational background, and employer types. Regarding the age, all 36 participants in the study who were interviewed in the year 2023 fall within the age range of 24 to 35. In terms of the gender, 16 were male and 20 were female, suggesting that the sample size of men and women is approximately equal. In relation to the participant's marital status, it can be observed that out of the total of 36 participants, 27 were not married while the remaining 9 were married in the year 2019. In 2023, out of 36 participants, 17 were unmarried, and the remaining 19 were married. Of the 36 individuals, 22 had no children, 11 had a single child, and 3 had two children. Regarding the educational attainment, out of the 36 participants, 9 have completed an associate college degree, 24 have completed a bachelor's degree, and 3 have completed a master's degree. Regarding the employer types, there are 13 participants employed in private companies. Three individuals are now without employment. The number of participants employed in state-owned companies is 15. There are 5 individuals employed in public institutions, 3 without Bianzhi and 2 holding Bianzhi.

Table 7-1 Participants’ demographic and socioeconomic characteristics.

Participants	Age in 2019	Age in 2023	Gender	Marital status in 2019	Marital status in 2023	The number of children	Educational background	Employer types
R1	22	26	Male	Unmarried	Married	0	Bachelor	state-owned company
R2	22	26	Female	Unmarried	Unmarried	0	Bachelor	Private company
R3	24	28	Female	Unmarried	Unmarried	0	Bachelor	Private company
R4	25	29	Female	Unmarried	Married	2	Bachelor	Public institution with Bianzhi
R5	25	29	Male	Unmarried	Unmarried	0	Master	Unemployed
R6	28	32	Male	Unmarried	Unmarried	0	Bachelor	state-owned company
R7	26	30	Female	Unmarried	Married	1	Master	state-owned company
R8	26	30	Male	Unmarried	Married	1	Bachelor	state-owned company
R9	31	35	Male	Unmarried	Married	0	Master	state-owned company
R10	22	26	Male	Unmarried	Married	0	Bachelor	state-owned company
R11	26	30	Male	Unmarried	Unmarried	0	Associate college degree	state-owned company
R12	22	26	Male	Unmarried	Unmarried	0	Associate college degree	state-owned company
R13	30	34	Male	Married	Married	1	Bachelor	state-owned company
R14	25	29	Female	Unmarried	Unmarried	0	Bachelor	Unemployed
R15	25	29	Female	Unmarried	Unmarried	0	Bachelor	state-owned company
R16	26	30	Female	Married	Married	1	Bachelor	Private company
R17	27	31	Female	Unmarried	Unmarried	0	Bachelor	Private company
R18	23	27	Female	Unmarried	Unmarried	0	Associate college degree	Private company
R19	29	33	Female	Married	Married	1	Bachelor	Unemployed
R20	29	33	Female	Married	Married	2	Bachelor	Private company
R21	23	27	Female	Unmarried	Married	2	Bachelor	Public institution without Bianzhi
R22	30	34	Female	Unmarried	Married	0	Bachelor	Private company
R23	23	27	Female	Unmarried	Unmarried	0	Bachelor	state-owned company
R24	22	26	Male	Unmarried	Married	1	Associate college degree	Private company
R25	29	33	Male	Unmarried	Unmarried	0	Bachelor	Private company
R26	30	34	Male	Married	Married	1	Bachelor	Private company
R27	29	33	Male	Married	Married	1	Bachelor	state-owned company
R28	29	33	Male	Unmarried	Unmarried	0	Bachelor	Private company
R29	28	32	Male	Unmarried	Unmarried	0	Associate college degree	state-owned company
R30	27	31	Male	Married	Married	1	Associate college degree	Private company
R31	24	28	Female	Married	Married	0	Associate college degree	state-owned company
R32	30	34	Female	Married	Married	1	Bachelor	state-owned company
R33	27	31	Female	Unmarried	Unmarried	0	Bachelor	Public institution with Bianzhi
R34	23	27	Female	Unmarried	Unmarried	0	Associate college degree	Public institution without Bianzhi
R35	20	24	Female	Unmarried	Married	1	Associate college degree	Public institution without Bianzhi
R36	21	25	Female	Unmarried	Unmarried	0	Bachelor	Private company

7.1.2 Participants' housing outcomes

Second, I provide an overview of participants' current housing outcomes, including housing tenure outcomes, housing sizes, number of rooms in dwellings, rent/mortgage, and commuting times (see Table 7-2).

Looking at the housing tenure outcomes in 2019 and 2023, it is observed that out of the 36 participants, only 2 individuals had purchased houses in Guangzhou in 2019. By 2023, a total of 10 individuals have acquired homeownership in Guangzhou. That is, there has been a transition of 8 individuals from renting to homeownership between 2019 and 2023. Furthermore, in 2019, there were a total of 12 individuals living in dormitories provided by their respective employers. However, only one person was still staying in a dormitory in 2023. In 2019, one participant resided in her parents' home. Four years later, she was still living in her parents' house. In 2019, there were a total of 17 individuals renting in the private housing market. In 2023, the number of individuals renting a dwelling in the private housing market rose to 19. In both 2019 and 2023, there remained a total of four individuals residing in public rental housing. Notably, one of the participants returned to her hometown in 2023.

Regarding the housing size, there are 9 participants whose house size is smaller than 50 square meters in 2023. There are 20 participants whose housing size is 50-100 square meters. There are 20 participants whose housing size exceeds 100 square meters.

In terms of the number of rooms in the dwellings, 6 participants indicated that their accommodation consisted of only one room. 6 individuals stated that their residences comprised a bedroom and a living room. Also, 12 participants reported that their residences contained two bedrooms and one living room. 11 participants indicated that their dwellings contained at least three bedrooms and one living room.

Regarding the housing costs, 17 individuals have monthly housing expenses that amount to less than 2000 Yuan. A total of 10 individuals have monthly housing expenses ranging from 2000 to 4000 Yuan. A total of 8 participants had monthly living expenses that surpassed 4000 Yuan.

Finally, in terms of the commuting time, there are 10 individuals whose commute to work was under 30 minutes. There are 11 individuals whose daily commute to work was between 30 and 60 minutes. There are 12 individuals whose travel time to work exceeds 60 minutes

Table 7-2. Participants' housing outcomes.

Participants	Housing tenure outcomes in 2019	Homeownership outcomes in 2023	Housing size	The number of rooms	Rent/Mortgage	Commuting time (Minutes)
R1	Private renting	He has bought a house in Tianhe in 2019	110 m ²	Four bedrooms and one living room (own)	30,000 Yuan/Month	60
R2	Living in parents' house	She is living in parents' house in Huadu	210 m ²	Six bedrooms and one living room	0	60
R3	Private renting	She is renting a house in Panyu	80 m ²	Two bedrooms and one living room	400 Yuan/Month	20
R4	Private renting with her spouses	She is renting with her spouses in Tianhe, but she has bought a house in Baiyun	90 m ²	Three bedrooms and one living room (own)	4,500 Yuan/Month	30
R5	Public renting	He is renting a house in Yuexiu	50 m ²	One bedroom and one living room	2,300 Yuan/Month	/
R6	Dormitory	He is living in Dormitory provided by work units in Yuexiu	30 m ²	Single room	200 Yuan/Month	20
R7	Dormitory	She has bought a house in Nansha in 2019	100 m ²	Three bedrooms and one living room (own)	4,000 Yuan/Month	60
R8	Private renting	He is renting in Huangpu but has bought a house in Zengcheng.	100 m ²	Three bedrooms and one living room(own)	3,800 Yuan/Month	30
R9	Private renting	He has bought a house in Nansha in 2020	70 m ²	Two bedrooms and one living room	4,000 Yuan/Month	75
R10	Public renting	He has bought a house in Tianhe in 2021	90 m ²	Four bedrooms and one living room.	More than 30,000	30
R11	Dormitory	He is living in public rental housing in Baiyun	40 m ²	One bedroom and one living room	880 Yuan/Month	65
R12	Dormitory	He is renting a house in Tianhe	20 m ²	Single room	1,000 Yuan/Month	45
R13	Private renting	He is living in public rental housing in Tianhe	60 m ²	Two bedrooms and one living room	1,100 Yuan/Month	20
R14	Dormitory	She moved to her hometown and lived her own homes	/	/	/	/
R15	Private renting	She is living in Dormitory provided by the work units in Jiangmen and renting a house in Guangzhou	20 m ²	Single room	700-800 Yuan/month (Guangzhou); free (Jiangmen)	10
R16	Dormitory	She has bought a house in Tianhe in 2021	90 m ²	Three bedrooms and two living rooms	8,000 Yuan/Month	10
R17	Private renting	She is renting a house with her friend in Tianhe.	58 m ²	Two bedrooms and one living room	2,000 Yuan/Month	30
R18	Private renting	She is renting a house in Tianhe.	30 m ²	One bedroom and one living room	1,300 Yuan/Month	60
R19	Private renting	She is renting a house in Liwan.	40 m ²	One bedroom and one living room	1,500 Yuan/Month	/
R20	Private renting	She is renting a house in Panyu.	58 m ²	Two bedrooms and one living room	2,500 Yuan/Month	30
R21	Private renting	She has bought a house in Panyu.	70 m ²	Two bedrooms and one living room	3,000 Yuan/Month	40

R22	Dormitory	She is renting a house in Baiyun.	50 m ²	One bedroom and one living room	2,500 Yuan/Month	50
R23	Private renting	She is renting a house in Haizhu.	30 m ²	One bedroom and one living room	1,300 Yuan/Month	40
R24	Dormitory	He is renting in Qingyuan (other cities)	90 m ²	Three bedrooms and one living room	1000 Yuan/Month	10
R25	Dormitory	He is renting in Baiyun	20 m ²	Single room	2000 Yuan/Month	10
R26	Public renting	She is living in public rental housing in Baiyun	50 m ²	Two bedrooms and one living room	800 Yuan/Month	60
R27	Public renting	He is living in public rental housing in Baiyun	60 m ²	Two bedrooms and one living room	1060 Yuan/Month	60
R28	Private renting	He is renting a house in Huangpu	60 m ²	Two bedrooms and one living room	3000 Yuan/Month	30
R29	Private renting	He is renting a house in Nansha	20 m ²	Single room	700 Yuan/Month	30
R30	Buying a house	He is buying a house in Zengcheng	102 m ²	Three bedrooms and one living room	3000 Yuan/Month	60
R31	Private renting	He is renting a house in Baiyun	60 m ²	Two bedrooms and one living room	1600 Yuan/Month	60
R32	Dormitory	She is buying a house in Jinagmen (other cities)	100 m ²	Three bedrooms and one living room	0	15
R33	Dormitory	She is renting a house in Huangpu	80 m ²	Two bedrooms and one living room	2200 Yuan/Month	90
R34	Private renting	She is renting a house in Huadu	88 m ²	Two bedrooms and one living room	1800 Yuan/Month	20
R35	Dormitory	She is renting a house in Panyu	65 m ²	Three bedrooms and one living room	1300 Yuan/Month	10
R36	Private renting	She is renting a house in Zengcheng	80 m ²	Single room	1300 Yuan/Month	90

7.1.3 Participants' housing tenure expectations

Table 7-3 shows housing tenure expectations, including housing tenure expectations in 2019, whether they received parents' housing support, and why they did or did not achieve their housing tenure expectations in 2019.

Looking first at participants' housing tenure expectations in 2019, 16 participants expressed the willingness to buy a house in Guangzhou in the next three years. However, only 8 participants have moved from renting to owning. 4 participants who achieved their housing tenure expectations received parents' housing support.

Table 7-3. Participants’ housing tenure expectations in 2019.

Participants	Housing tenure expectations in 2019	Do they have parents' housing support	Why did they or did they not achieve their 2019 tenure expectations?
R1	Buying a house	Yes	Parents' support and wife's support
R2	Renting	Yes	Job is unstable, and she wasn't sure where to buy a house.
R3	Buying a house	No	She can't pay the down payment; She may consider changing jobs.
R4	She wants to sell her house and buy a new home	No	Pandemic; housing policy changed; family income reduced
R5		No	He is worried about the fall in house prices
R6	Private renting	Yes, but a little	Housing prices are high.
R7	Buying a house	Yes, but a little	She bought a house to get married and have children. More importantly, her families’ in
R8	Buying a house	Yes, but a little	He bought a house to get married, and he didn’t want his family to move frequently. More importantly, Zen
R9	Buying a house	Yes, but a little	He wants to get married, and Nansha's housing prices are affordable. The financial means do not allow him to buy a
R10	Buying a house	Yes	Parent's housing support
R11	Public renting	Yes, but a little	Housing prices in Guangzhou is unaffordable.
R12	Private renting	No	Housing prices in Guangzhou is unaffordable.
R13	Public renting	No	Housing prices in Guangzhou is unaffordable.
R14	Buying a house	Yes	House prices in Guangzhou is unaffordable and she do not want to face higher hou
R15	Private renting	Yes, but a little	Housing prices in Guangzhou is unaffordable.
R16	Buying a house	No	Her husband pays the down payment and monthly mortgage repayment
R17	Private renting	Yes, but a little	She can't pay the down payment
R18	Private renting	No	Her income is too low, and she can't pay the down payment.
R19	Private renting	No	Her child is sick and needs a lot of medical expenses.
R20	Buying a house	No	Guangzhou's housing prices are too high.
R21	Buying a house	Yes	Her parents loaned her money for the down payment.
R22	Private renting	No	Housing prices in Guangzhou is unaffordable.
R23	Private renting	No	Housing prices in Guangzhou is unaffordable.
R24	Private renting	No	Housing prices in Guangzhou is unaffordable.
R25	Private renting	No	Housing prices in Guangzhou is unaffordable.
R26	Public renting	No	Housing prices in Guangzhou is unaffordable.
R27	Public renting	Yes, but a little	Housing prices in Guangzhou is unaffordable.
R28	Private renting	No	Housing prices in Guangzhou is unaffordable.
R29	Private renting	No	Housing prices in Guangzhou is unaffordable.
R30	Private renting	Yes, but a little	Parent's housing support; Zengcheng's housing prices are affordable
R31	Private renting	No	Housing prices in Guangzhou is unaffordable.
R32	Buying a house	No	Housing prices in Guangzhou is unaffordable.
R33	Buying a house	Yes, but a little	She needs save more money to pay the down payment.
R34	Buying a house	Yes, but a little	She needs save more money to pay the down payment.
R35	Buying a house	No	Housing prices in Guangzhou is unaffordable.
R36	Private renting	No	Housing prices in Guangzhou is unaffordable.

7.1.4 Participants' settlement intentions

Table 7-4 displays the settlement intentions of the participants in Guangzhou, covering their past and present settlement intentions, as well as the reasons for their desire to remain in Guangzhou for either a short or long duration.

Looking at the settlement intentions for 2019, it was found that 3 participants expressed their intention to remain in Guangzhou for a period of 3-5 years. Two individuals have made plans to reside in Guangzhou for a duration of 6 to 10 years. The majority of participants (31) expressed a desire to stay longer in Guangzhou. Interestingly, in 2019, one participant expressed a desire to settle permanently in Guangzhou. However, four years later, she left Guangzhou and returned to her hometown. Meanwhile, 4 participants have changed their long-term settlement plans to either short-term or uncertain. In 2019, a total of 31 participants expressed their intention to stay in Guangzhou for a longer period of time. However, this number decreased to 27 participants in 2023, indicating a decrease in settlement intentions among young skilled migrants.

Table 7-4. Participants’ settlement intentions in Guangzhou.

Participa nts	settlement intention in 2019	settlement intention in 2023	Why do they want to stay in Guangzhou long or short term?
R1	long-term	long-term	He has become homeowners in Guangzhou
R2	long-term	long-term	Her family members have settled in Guangzhou.
R3	long-term	Not sure	Without a house, there is no sense of belonging; Depending on whether she can get the Bianzhi
R4	long-term	long-term	Career development, Friends, living environment, city attachment, Job with Bianzhi
R5	long-term	long-term	He believes that Guangzhou’s culture and environment attracted him to settle in Guangzhou, rather than the job or income.
R6	6-10 years	Not sure	It depends on whether he can buy a house in Guangzhou.
R7	3-5 years	long-term	Her husband is local, and she have bought a house in Guangzhou.
R8	long-term	long-term	He worked in Guangzhou and income in Guangzhou is higher than his hometown.
R9	long-term	long-term	His job is stable and decent. More importantly, he has bought a house in Guangzhou
R10	long-term	long-term	He has bought a house in Guangzhou
R11	long-term	long-term	Career development is better in big cities
R12	long-term	long-term	He works in Guangzhou and do not want to change his jobs
R13	long-term	long-term	He wants to provide better educational resources for his children
R14	long-term	She has left Guangzhou and returned to her hometown.	House prices in Guangzhou is unaffordable and she do not want to face higher housing pressure.
R15	long-term	long-term	She likes Guangzhou and has many friends in Guangzhou.
R16	long-term	long-term	Families can have higher incomes in Guangzhou. And they have bought a house in Guangzhou.
R17	long-term	long-term	She believes that she can have a good career in Guangzhou.
R18	long-term	2-3 years	The wages are really low, and she can't buy a house.
R19	long-term	Not sure	The current economic environment is not good, and jobs are hard to find. She hopes that her children will get an education in Guangzhou and that they will get to know the Guangzhou lifestyle.
R20	long-term	long-term	
R21	3-5 years	long-term	She has bought a house in Guangzhou.
R22	3-5 years	Not sure	She can't buy a house in Guangzhou.
R23	long-term	long-term	She can earn more money in Guangzhou.
R24	long-term	long-term	He is working in Guangzhou, and he can earn more in Guangzhou.
R25	long-term	3-5 years	He can't buy a house in Guangzhou.
R26	long-term	long-term	He likes his job, because his job is relative stable and decent.
R27	long-term	long-term	He works in Guangzhou, and he believes that he can buy a house in the future.
R28	long-term	long-term	He likes Guangzhou's culture and living environment.
R29	6-10 years	3-5 yeas	If he can't buy a house in Guangzhou, he'll return to his hometown.
R30	long-term	long-term	He has bought a house in Guangzhou.
R31	long-term	long-term	He believes that he can buy a house in the next 5 five years.
R32	long-term	long-term	She wants to give her children better educational resources
R33	long-term	long-term	She has obtained the Bianzhi, and she believes that she can become homeowners in Guangzhou.
R34	long-term	3-5 years	If she can't buy a house in Guangzhou in the next five years, she will return to her hometown.
R35	long-term	long-term	She believes that she can buy a house in the next five years.
R36	long-term	long-term	She believes that she can buy a house in the next five years.

Note: Note: Changes in settlement intentions have been colour coded and thickened by the author.

7.2 How do young skilled migrants understand the relation between employer types, long-term settlement intentions, and homeownership outcomes in Guangzhou?

Section 2 draws on the two meta-theme framework that emerged from the qualitative data to interpret the direct and indirect effects of employer types on young skilled migrants' homeownership outcomes. To enrich the interpretation of the data, contextual background information is referenced where appropriate.

7.2.1 The direct effect of employer types on young skilled migrants' homeownership outcomes

In this sub-section, I will answer one specific question: How do young skilled migrants understand the impact of differences in working for different employer types on their homeownership outcomes in Guangzhou?

Firstly, for young skilled migrants, working in the public sector can provide greater job stability, thereby increasing the likelihood of buying a house in Guangzhou.

In the quantitative analysis, I found that public sector employees are more likely to buy a house in Guangzhou than private sector employees. The greater job stability of public sector jobs has encouraged public sector employees to buy houses in Guangzhou. When asked whether working in the public sector would make buying a house in Guangzhou easier, 34 out of 36 participants agreed. For example, R3 works in the private sector and rents in Guangzhou. She said:

“As far as I know, working in the public sector would give employees a better chance of buying a house than working in the private sector. Because working in the public sector is relatively stable. I can receive the salary on time. Once I have a stable job, I will not have to worry about losing the job or not being able to get paid on time, and I will consider buying a home. However, I am working in a private company and don't know where my future job will be. Where should I consider buying a house? Working in the public sector is relatively stable and does not require frequent job changes and moving homes, potentially reducing job instability costs and thus increasing savings. The more I save, the more likely I will be able to buy a house.”

Similarly, R2 works in the private sector and lives at her parents' home. When asked if she would live in her parent's house for a long time and not buy a house, she replied negatively. She explained:

"I still have an older brother. My parent's house will be left to my older brother in the future. I am working in the private sector, and my job is not stable. I don't know if I will change jobs in the future. So, I'm not thinking about buying a house at the moment."

R6 works in a state-owned enterprise and rents in Guangzhou. He strongly believes that working in the public sector offers greater job stability, which increases the likelihood of buying a home. He said:

"If I don't have to worry about the pressure and risks of not being able to pay the mortgage when I buy a house, I can decide to buy a house."

R8 works in a state-owned enterprise and has bought a house in Guangzhou. He said:

"Working in the public sector was more stable, which meant more financial security. I have friends who work in the private sector, and they may not get paid for several months, maybe only once at the end of the year. If he buys a house, he has to pay back the loan every month, which can lead to him being unable to pay back the loan and the house being auctioned by the bank."

R14, who is unemployed, shared a similar sentiment. She said:

"Public sector jobs are more stable, which means I have a steady income. I can make the monthly mortgage payments only if I have a stable income. In other words, I will only dare to buy a house if my job is stable."

Although almost all participants (34 out of 36) agreed that working in the public sector can provide greater job stability and encourage access to homeownership in Guangzhou, there are two exceptions. R7 works in a state-owned enterprise and has bought a house in Guangzhou

with her husband. She said:

“Buying a house may have nothing to do with the employer type. It depends on income. My husband and I have pretty good incomes, so we can buy a house.”

In addition, somewhat different from R7, R1 attributed his ability to buy a house in Guangzhou to his parent’s financial support and his spouse’s help repaying the loan.

Secondly, working in the public sector can provide higher housing provident funds than the private sectors, thereby increasing the likelihood of buying a house in Guangzhou, for young skilled migrants,.

As discussed in section 2, the public sector usually provides higher housing provident funds than the private sector. More specifically, the housing provident fund consists of the amount paid by the employee and the work unit. The housing provident fund payment is based on the salary base and the contribution rate. The public sector’s contributions to employees’ housing provident funds are usually based on the employee’s actual salary at a rate of 8% or 12%. Nevertheless, most private sectors provide housing provident funds to employees based on basic salary and a contribution rate of 5%. The basic salary is usually based on the minimum salary required by the city and paid by the employer. For example, two young skilled migrants work in Guangzhou, one in the public sector and one in the private sector. Their monthly income is 10,000 RMB yuan. However, the amounts of their housing provident funds are very different. If someone works in the public sector, he or she can receive a housing provident fund of between 1,600 and 2,400 RMB yuan (employees and work units each pay 800 to 1,200 RMB yuan). In contrast, if someone works in the private sector, he or she can receive a housing provident fund of 300 RMB yuan (the minimum wage in Guangzhou is 3,000 yuan). The difference in housing provident fund amounts directly impacts the amount of provident fund loans. On the one hand, the housing provident fund can be used directly to pay the mortgage. On the other hand, if the housing provident fund is high, a low-interest loan of up to 600,000 RMB yuan can be obtained. This will lower the cost of buying a home.

Three participants talked about the important role of a higher housing provident fund in buying a house. R11 works in a state-owned enterprise and rents in Guangzhou. He said:

“If I buy shared-ownership housing worth 1 million yuan now, my down payment is 300,000 yuan, and my current housing provident fund can provide a loan of 600,000 yuan, so I can pay the mortgage. However, if I am in the private sector and my housing provident fund is relatively small, the cost of buying a house will increase, and my monthly loan repayments will be higher. This will make it harder for me to buy a house.”

Another participant shared a similar view. R15 works in a state-owned enterprise and rents in Guangzhou. She said:

“It is difficult to pay the full amount to buy a house, and most people tend to pay part of the down payment and part of the mortgage. If the housing provident fund amount is too low, the pressure to buy a house will increase. In this case, I might not dare to buy a house.”

R33 supported this view. She said:

“A higher housing provident fund and a stable job can reduce the probability of defaulting on the mortgage.”

7.2.2 The indirect effect of employer types on young skilled migrants’ homeownership outcomes

1. Jobs are the first consideration for young skilled migrants, rather than long-term settlement intentions and buying a house

Previous work has suggested that if migrants have bought a house in destination cities, they are more likely to stay in destination cities for the long term than renters (Zhang and Yan, 2022). In addition, some studies have found that migrants are more likely to become homeowners if they intend to stay permanently in the destination cities. There appears to be a bi-directional causal relationship between long-term settlement intentions and homeownership outcomes. However, the qualitative data show that a job is the first consideration of young skilled migrants, rather than long-term settlement intention and buying a house. In other words, when migrant workers arrive in a new city, they first need to find a suitable job. They consider settling down and buying a house only when they have a

stable job. When asked how to understand the order of jobs, long-term settlement intentions, and buying a house in Guangzhou, all participants agreed that their priority was a job. However, there are two mechanisms for job, long-term settlement intentions, and house buying.

On the one hand, some participants indicated that job stability was most important to them, after which they would consider settling in the destination cities and eventually buying a home there. For example, R12, who works in a state-owned enterprise and rents in Guangzhou, said:

“First, I think I can have a stable job in Guangzhou, then I want to settle down in Guangzhou, and finally I am thinking about buying a house in Guangzhou.”

Another participant expressed a similar sentiment. R15, who works in a state-owned enterprise and rents in Guangzhou, said:

“First, I need to have a stable job before I want to settle here. When I want to settle here for a long time, I will discuss it with my parents to help me pay the down payment to buy a house”.

Another participant expressed similar views. R22 works in the private sector and rents in Guangzhou. She said:

“If my job is stable, I would like to live in Guangzhou for a long time. I would like to obtain a Guangzhou hukou and then buy a house.”

Interestingly, some participants agreed with this view but added that if they want to settle down but cannot afford a house, this weakens their long-term settlement intentions. They may end up moving to another city or returning to their hometown. R16, who works in the private sector and rents in Guangzhou. She explained:

“I want to settle in Guangzhou long-term because my job is stable. And I like Guangzhou. So, I am considering buying a house. However, if I do not like Guangzhou or do not feel well integrated in Guangzhou, I would not consider buying

a house in Guangzhou. Indeed, if my salary is not high and my family cannot help with the down payment, I may be unable to afford a house. If my family can pay the down payment, but my job is unstable, and I cannot afford to pay the mortgage, or I am under great pressure to pay the mortgage, then there is no sense of happiness in my life. I may return to my hometown, where the house is not a problem.”

Another participant expressed similar concerns. R21, who works in a public institution and has bought a house in Guangzhou, said:

“If I had a very stable job, I would consider buying a house. But if I still can’t afford a house, I will eventually leave Guangzhou. Because I do not like renting a house in Guangzhou for all my life.”

For another participant, her long-term settlement intention has changed from settling in Guangzhou for a long time to possibly leaving Guangzhou at any time. R3 works in the private sector and rents in Guangzhou. She reluctantly said:

“I wanted to settle in Guangzhou for a long time in 2019. But over the past few years, I have discovered that I cannot afford a house. I can’t afford a house, so what’s the point of staying in Guangzhou?”

On the other hand, although some participants still indicated that a decent and stable job was most important, some felt that settling down and buying a house were not in any particular order. R11, who works in a state-owned enterprise and rents in Guangzhou, talked about his understanding of the relationship between a job, long-term settlement intentions, and buying a house in Guangzhou. He explained:

“Job stability is the most important thing to me. I consider buying a house and settling down only after I have a stable job. After the pandemic, many companies are cutting salaries and laying off workers. If my job is unstable, how can I buy a house and settle in Guangzhou for a long time? I also think that buying a house and settling down in the long term are linked because if I want to settle down, I will want to buy a house, and if I want to buy a house, I will also want to settle down in the long term.”

Another participant expressed a similar sentiment. R9, who works in a state-owned enterprise and has bought a house in Guangzhou, said:

“I think job stability is very important. Only when I have a stable job can I have the financial basis for considering settling down in Guangzhou and buying a house. If I want to settle down in Guangzhou, I will think about how to achieve my goal of buying a house. If I buy a house in Guangzhou, there is a high probability that I will settle in Guangzhou. I think expressing long-term settlement intentions and buying a house can influence each other.”

2. The relation between young skilled migrants’ employer types and their long-term settlement intentions in Guangzhou

The employer types play an important role in shaping young skilled migrants’ long-term settlement intentions. More specifically, young skilled migrants working in the public sector tend to have stable jobs, encouraging their willingness to stay in Guangzhou permanently. As stated by R13, who works in a state-owned enterprise:

“Public sector jobs tend to be more stable. If my job is stable, my income will be relatively secure. However, if my job is unstable and I keep changing, my willingness to settle in Guangzhou for a long time will weaken. Because my income is unstable, I may be unable to afford my living expenses. How can I stay in Guangzhou? I even went to other cities to look for work or returned directly to my hometown to work.”

R12, who works in a state-owned enterprise, supports R13’s view. He said:

“State-owned enterprise jobs are relatively stable, and the working status and environment are very stable. If I work in the private sector, I will probably change jobs frequently. It might shake my determination to stay in Guangzhou for a long time.”

Similarly, R10, who works in a state-owned enterprise, indicated:

“Public sector jobs will be more stable, providing a stable income and a stable place to live. In other words, I don’t have to worry about an unstable income or be frustrated by frequent moves. When I am more satisfied with my life and work, I want to stay in Guangzhou for a long time.”

Although state-owned enterprises and public institutions are included in the public sector, working in a public institution is seen as a more stable job, especially when obtaining a Bianzhi. Some participants talked about the role of Bianzhi in determining their settlement intentions. R4, who works in the public institution and has obtained the Bianzhi, said:

“I have the Bianzhi, which is very important for my long-term stay in Guangzhou. If I don’t get the Bianzhi in Guangzhou, but I get a Bianzhi in Foshan or Dongguan, I might leave Guangzhou. But now that I have received the Bianzhi in Guangzhou, I will stay in Guangzhou for a long time because it is difficult to pass the Bianzhi exam in China now like thousands of troops crossing a one-span bridge (It describes dozens or hundreds of people competing for a position). If I leave Guangzhou, I will have to give up my job. I think it will be difficult to get a job with Bianzhi again. Because to get the Bianzhi, sometimes luck is very important.”

R3, who works in a private company, stated that she may not stay in Guangzhou for the long term. When asked if she would consider staying in Guangzhou for a long time if she could get a job with the Bianzhi in Guangzhou, she answered without hesitation that she would stay in Guangzhou for a long time. She said:

“If I can get a job in Guangzhou, I will work in Guangzhou until I retire, and I will stay in Guangzhou for a long time. After that, I will slowly plan to buy a house.”

Another participant explained from a different perspective why receiving the Bianzhi encourages young skilled migrants to express long-term settlement intentions in Guangzhou. R1, who works in a state-owned enterprise, said:

“If young skilled migrants work in government agencies or public institutions and have received the Bianzhi, it will be difficult for them to work in a company or start a business unless they can reach a very high position in the public sector and have a

lot of social resources. Because public sector jobs often do not have strong professional attributes. Once they have obtained the Bianzhi and worked for a while, it will be difficult to adapt to working in a company or starting a business. It will be difficult for them to give up their jobs at Bianzhi, so they will probably stay in Guangzhou for a long time.”

Somewhat differently, as well as emphasizing the importance of job stability for long-term settlement intentions in Guangzhou, some participants also highlighted the role of stable growth in future income and career development in their intention to stay in the city. For example, R17, who works in a private company, said:

“If my job is relatively stable and my income continues to grow, I would like to stay in Guangzhou for a long time because the increase in income and career development will make me feel that I can have a better life by staying in Guangzhou.”

Another participant supported this view. R6 said:

“Although I now work in a state-owned enterprise and my job is relatively stable, I am not sure I will stay in Guangzhou for a long time. Because the pandemic has greatly impacted the economy, if my income does not grow steadily, I may still leave Guangzhou.”

In fact, the increase in income allows young skilled migrants to have a greater chance of buying a house in Guangzhou and enjoying a better life in Guangzhou.

7.3 What meaning do young skilled migrants attach to different employer types?

Out of 36 participants who took part in the interview, five work in public institutions, two with Bianzhi and three without Bianzhi. Fifteen participants are working in state-owned enterprises. Three participants are temporarily unemployed. Thirteen participants work in private companies. As discussed in Chapter 5, working in government agencies, public institutions, and state-owned enterprises is classified as working in the public sector. Work in private companies is included in working in the private sector. Although my sample was

informative, I failed to recruit participants who work in government agencies or are self-employed. This may be due to the sensitive nature of working in government agencies, making government employees less likely to participate in such interviews. In addition, self-employed workers may be too busy with their careers to be aware of my recruitment messages, or they may not have the time to participate in my interviews.

The semi-structured interview provides more detailed information on young skilled migrants' understanding, perceptions, and experiences working in different employer types. This section presents the findings using the four-meta-theme framework from the qualitative data. To enrich the interpretation of the data, contextual background information is referenced where appropriate.

7.3.1 Public sector can represent job stability in China's context

Before the qualitative analysis, this thesis defines government agencies and public institutions in the Chinese context. Government agencies refer to specialized organizations established by the government to implement laws and policies, such as the tax authority or the environmental protection agency. Public institutions are organizations funded or managed by the government, aimed at providing public services, such as public universities and hospitals.

The employer type is often linked to job stability in China's context. Working in the public sector (government agencies, public institutions, and state-owned enterprises) is generally perceived as a more stable job than working in the private sector. 34 out of 36 participants explicitly expressed that employer types can represent job stability. R11, a male state-owned enterprise employee, stated:

“For me, working in government agencies, public institutions, and state-owned enterprises are all relatively stable jobs.” When asked to define a stable job, he replied: “The definition of a stable job is straightforward. In fact, a stable job is a job that can be done for a long time. Private companies are still different from state-owned companies. State-owned companies do not fire employees easily unless employees make a big mistake or negatively impact the company. However, if the bosses have no business in private companies, private companies can fire their employees at any time. If I get fired, I must find another job and may be out of work

for three to five months. If I work in the private companies, the risk of being fired is high.”

This means that state-owned enterprises in China generally do not go bankrupt easily. As another example, R21, a woman working in public institutions, when talking about whether employer types can represent job stability, she said:

“I was grateful that I worked in a public institution and was not affected by the pandemic. However, my husband’s business lost a lot of money during and after the pandemic.”

When asked whether the pandemic had affected work, R33, who works in a public institution and has received the Bianzhi, said:

“Because I work in a public institution, the pandemic has not affected my work or income.”

In contrast, another participant expressed that her job status was unstable. R36 works in a private company. She said:

“The company does not voluntarily lay off people, but the turnover rate is high. Many new colleagues leave after a few months. Low wages, but high work intensity may be the reason for the high turnover rate. I didn’t like the current job a lot and that I would quit one day when I couldn’t stand it anymore.”

Although almost all participants (34 out of 36) agreed that the employer type is a measure of job stability, there are two exceptions. R1, who works in a state-owned enterprise, confidently commented:

“Job stability depends on ability. With his working ability, even if he works in a private company, he feels his job is stable.”

Similarly, R9, a male state-owned enterprise employee, commented on job stability in today’s society. He said:

“Employer type represents job stability remains the traditional way of thinking. This is because we still need to maintain our competitiveness in today’s society, whether in the public or private sectors. We are in the information age, and information and knowledge are quickly updated and iterated. If we want to gain a foothold in society or remain competitive, we must constantly update our knowledge system to increase our competitiveness. Otherwise, it is easy to be eliminated by the work unit.”

1. The balance between pursuing income and job stability

In the post-pandemic era, China’s economic growth has slowed, and finding a job has become more challenging. Young people have shifted from pursuing high salaries to balancing income and job stability. On the one hand, all participants (36 out of 36) believe that job stability is essential to them. Because job stability means they can have a stable income. As R23 bluntly stated:

“If the job is unstable, I will not have a stable income, and I will never know what my next expense will be.”

Another participant expressed similar concerns. R21 indicated:

“My husband is already heavily in debt. How will my family live if I do not have a stable income? Besides, I bought a house in Guangzhou and still have a mortgage. I can only pay the monthly mortgage and cover my family’s living expenses if I have a stable income.”

On the other hand, although job stability is essential, young skilled migrants do not seek it until their income reaches a certain level. In other words, if incomes fall or remain low, young skilled migrants will also stop pursuing stable jobs and instead pursue salaries. For instance, R18 reluctantly said:

“I used to work in a state-owned enterprise. Because my salary was cut twice during the pandemic, my monthly income was less than 4,000 RMB yuan, so I left the state-owned enterprise and went to work for a private company. The salary is indeed too low. Basic living expenses increased during the pandemic, and the rent has risen

dramatically in the last two years. I have no choice but to change jobs. Otherwise, I cannot support myself (I cannot afford my living expenses anymore).”

When asked about the differences between working in a state-owned enterprise and working in a private enterprise, she replies:

“Even though my salary has increased now, my work pressure in the private company has also become much greater. If I can return to work in a state-owned enterprise and the income is the same as now, I will return to work in a state-owned enterprise without hesitation.”

Another participant had a similar experience. R29 used to work in a state-owned enterprise, but when the work unit start begins cutting salaries across the board, he moved to a private company. He said his salary was reduced by 30%. When asked about the differences between working in a state-owned enterprise and working in a private enterprise, he said:

“Working in a state-owned enterprise is relatively easy and there is no pressure. Working in the private sector will be much more stressful, but the pay will be higher. But I have no choice. I have to leave the state-owned enterprise because I need to make money to buy a house.”

The other participant expressed similar concerns. R12, a male state-owned company employee, also felt that the income from working in a state-owned enterprise was low, but the difference was that he did not leave his job. He said:

“A stable income can also mean that income fluctuates little and career progression is slow. If I work in a private company, I can negotiate a salary increase with my boss if my job skills are excellent. However, state-owned companies have their system (I must work for a certain period before my income can increase).”

2. *The two sides of job stability*

Several participants talked about the two sides of job stability. Despite this, they still emphasized the benefits of job stability. First, the expected future income is optimistic if the job is stable. For example, R15, a female state-owned enterprise employee, said:

“Working in the public sector gives the feeling that “all employees eat from the same pot” (income distributed relatively evenly). I do not have to worry that my income next month will only be a basic salary or that I have not performed well enough this month to get a commission or anything like that. I can see what she will be in 20 or even 30 years (career-wise). Nevertheless, this kind of working atmosphere also makes me lose the kind of; I have to go to work hard. When I finish the tasks, I can enjoy the process of completing the tasks and the sense of accomplishment that comes from hard work. Thus, I feel there were gains and losses in job stability.”

Another participant expressed a similar sentiment. R17, a female working in private companies and often changing jobs, said:

“Working in the public sector would be more stable. However, it would also deprive me of a lot of “stimulation” (challenge) because I am a person who likes to be exposed to new things. I am already 30 years old and know what I can do. Even if I lost my job, I could accept it.”

3. *Job (in)stability brings emotional (in)stability*

Some participants mentioned that job (in)stability would make them more emotionally (un)stable. For example, R15, a female state-owned company employee, happily said:

“What I am doing now (work content) is what I will be doing repeatedly for decades. So, it makes my emotional state more stable. Because I don’t have to worry about losing my job. Working for a state-owned company is very stable unless there are particularly uncontrollable factors, or I quit my job. I could also think about changing jobs. So, I’m mentally stable.”

Another participant supported this view. R32 who works in a state-owned enterprise, said:

“Working in a state-owned enterprise is very stable and I don’t have to worry about not getting paid next month. This gave me financial and psychological security.”

Another participant, R18, who experienced a drop in income while working in a state-owned

enterprise and then moved to a private company for a higher salary, talked about her feelings about working in state-owned and private companies. She negatively said:

“Although my income has increased since I moved to a private company, my work pressure has also increased. When I used to work in a state-owned company, the company had a set workflow that I could follow to get my work completed. But when I work in the private sector, one word from my boss (bosses randomly assign work) and I can’t do my job how I want to. Also, when I used to work for a state-owned company, work and life were separate. But working in the private sector, I feel like I’m on call 24/7. If I don’t respond to a message from my boss on time, I might even get yelled at the next day. When I worked for a state-owned company, I didn’t think job stability was important, and I thought about how I could not find a job when I was young. Now I really think that job stability is important. (When working in private companies), if my phone rings now, I want to check it, and sometimes I can’t sleep well at night.”

In summary, Sánchez-Sánchez and Fernández Puente (2021) pointed out that public employees are more likely to be satisfied with their job stability. By comparison, private employees are more likely to be satisfied with remuneration and promotion policies. The fact that work in the public sector is more stable than work in the private sector is attributed to the potential for the public sector to act with concern for China’s social stability and long-term government goals (Ma & Cheng, 2021). The public sectors generally do not arbitrarily lay off staff, let alone go bankrupt (Sánchez-Sánchez & Fernández Puente, 2021). This is because massive unemployment can lead to social instability. Nevertheless, private firms pursue profit maximization (Ma & Cheng, 2021). They can raise employees’ salaries when they bring financial returns to the organization. At the same time, private firms face relatively high levels of market competition (Xiao & Cooke, 2012). When the economy is in the doldrums, private companies will lay off employees in order to save the company’s labour costs. Or, if the economic returns that employees bring to the company are lower than their salaries, private companies will also lay off employees in order to find the optimal allocation of labour resources.

The pandemic has led to an economic downturn and employment precariousness, resulting in most highly skilled young skilled migrants preferring jobs in the public sector with lower pay

but greater stability. Indeed, noteworthy, my findings add to the existing literature: when income does not cover living costs, young skilled migrants may shift from chasing job stability to increasing income to cover living costs.

More importantly, regardless of working in the public or private sector, there are advantages and disadvantages. The choice to work in the public sector or private sector involves a trade-off between the advantages and disadvantages of different ownership of units or personal preferences and expectations for living and working under different forms of ownership (Sánchez-Sánchez & Fernández Puente, 2021).

7.3.2 Private sector employees have to cope with higher work pressure and longer working hours

The general view would be that working in the public sector is easier. This is because the public sector generally follows labour laws and strictly enforces an eight-hour working day. In contrast, private sector work often involves more extended hours and more tremendous work pressure. This is because private companies are subject to brutal market competition and regularly eliminate employees who need to work hard and add value to the company. Alternatively, when the economic environment is down, the boss may reduce the company's operating costs by making employees redundant. The data also revealed differences in intensity and hours worked between the public and private sectors, supporting the conventional wisdom that employer type determines intensity and hours worked. When talking about the difference between working in the public sector and the private sector, R2, a female working in a private school, remarked:

“The same job task requires three people to complete it in the public sector; one person completes three such tasks in the private sector.”

In fact, young skilled migrants attach great importance to work-life balance. They do not want to work too long to squeeze their personal time. As another example, R18 shared a concern that was affecting her:

“When I worked in a state-owned company, I was free to manage my time after work. Because I don't have to work overtime, I feel like I have more time to spend at home, and I feel like I have time to decorate the home. For example, I can paint a picture

today and hang it up tomorrow. I am going to think about how to decorate my home. But now, when I work in a private company, I feel like I have to shower and sleep after getting off work.”

R6, who is male and works in state-owned companies, supports this view. As he bluntly stated:

“Pressure is still relatively high in the private sector, commonly called the rat race... For example, some private companies are not very formal regarding working hours, and most private companies do not strictly adhere to labour laws.”

When asked if his current work pressure was high, he happily replied:

“As state-owned enterprises are generally more formal and strictly enforce the 8-hour working day.”

R11, who is male and works in a state-owned company, expressed a similar thought. He said:

“Working in a state-owned company is not as hard as in the private sector. If I work for a private company, my boss may ask me to work overtime every night or to work on weekends.”

In summary, there are differences in work intensity and content between the public and private sectors. Specifically, my findings indicate that most public employees work an eight-hour day with relatively little overtime, but the work content is relatively fixed and process-based. As a result, those working in the public sector are more likely to achieve work-life balance. Nevertheless, work content will bring less challenge and a sense of achievement. In contrast, working in the private sector may require employees to cope with higher work intensity and longer working hours because private sectors must participate in market competition. If employees do not work hard, they may be laid off, and the company may be eliminated in the fierce market competition. As a result, public employees may face work-life conflicts. In other words, working time can crowd out a lifetime.

7.3.3 Public sector can provide better personal welfare benefits

Moreover, some respondents also mentioned that the employer types are linked to personal welfare benefits. Regarding the benefits of working in the public sector besides job stability, R14 is very excited about having enough paid holidays in the public sector. She used to work in a public institution but is now unemployed. She said:

“My biggest experience of working in a public institution is that the benefits are very good, especially the holidays provided by the units. Public institutions will not arrange for me to work weekends or holidays like private companies.”

Besides, she also emphasized that working in a public institution gave her a sense of security. She said:

“Although our workload increased during the pandemic, the units paid us normally and did not delay our wages. I just asked my friends who work in private companies, and their employers only pay the basic wage.”

On a different note, some public sectors can provide public housing for their employees. For example, R11 expressed that he was very happy to be able to live in public rental housing. When talking about the experience of applying for public rental housing in Guangzhou, he said:

“If working in some state-owned enterprises, it may be easier to apply for public rental housing. The government will provide public rental housing to state-owned enterprises, so employees will apply for public rental housing from the units. Of course, if we apply for public rental housing from units, we must also queue up to apply for public rental housing within our units. However, applying for public rental housing through an employer is easier than through personal channels. Many of my friends have applied for public rental housing through personal channels, but none have succeeded in accessing it. This could be explained by the fact that too many people are applying for public rental housing, but the supply of public rental housing is limited.”

Access to public rental housing can improve the housing affordability. For instance, R11 excitedly said:

“After moving into public rental housing, I only have to pay about 1,000 yuan a month in rent, which is relatively cheap, compared to similar housing types in the private housing market. In addition, not only is there no rent increase for public housing, but they gave me five months rent-free during the pandemic.”

Besides, living in public rental housing gives residents access to public services, especially public education. Thus, access to public housing can also improve migrants’ well-being in Guangzhou. For example, another participant mentioned that access to public housing can allow them to enjoy some public services. R13, a male who works in a state-owned enterprise, remarked:

“Public rental housing is quite good. This is because I am married and have children. Public rental housing generally has supporting kindergartens and primary schools.”

Some participants also mentioned that the public sector could provide sufficient five insurances and one housing fund (health insurance, pension insurance, maternity insurance, work-related injury insurance, unemployment insurance, and housing provident fund). In contrast, the private sector may not provide five social insurance and housing provident funds, or they may provide them but help employees purchase them by the minimum payment standards required by law. As for the self-employed, they even have to pay social insurance themselves and cannot contribute to the housing provident fund. This is because individuals cannot make payments to the Housing Provident Fund, and individuals must be affiliated with a unit in order to make payments to the Housing Provident Fund. Unfortunately, I did not interview the self-employed. Despite this, the work feelings and experiences of employees working in public institutions, state-owned enterprises, and private enterprises can still show differences in the benefits of five social insurances and one housing provident fund between working in the public and private sectors. For instance, R8, a male working in a state-owned enterprise, said:

“The benefits provided by state-owned enterprises are still acceptable. Units provide social insurance and housing provident funds. And our housing provident fund is based on the highest base (12%) to buy us.”

R12, a male working in a state-owned enterprise, expressed a similar sentiment. He said:

“Many people working in private companies do not have five social insurances and one housing fund. I have to buy my social insurance if I need it.”

Finally, one participant mentioned that working in the public sector can decrease living costs compared to working in the private sector. R16, working in a private company, said:

“If I work in the public sector, the living costs for employees are quite low. Three meals a day are free or discounted because many public sectors have canteens.”

In summary, my findings suggest that public sectors provide better personal welfare for their employees than the private sector. On the one hand, this finding is in line with previous work suggesting that the public sectors normally pay full social insurance and housing provident fund contributions to their employees by labour legislation; however, private firms may save on labour costs by reducing employees' social insurance and housing provident fund contributions or not paying social insurance and housing provident fund contributions at all (Ma & Cheng, 2021). For example, private companies often compensate employees in cash if they agree to give up insurance rights to which they are entitled (Guo et al., 2016). On the other hand, my findings add to the existing evidence that employees working in the public sector can enjoy some benefits. For example, they are more likely to access public rental housing than those who work in the private sector, which can increase their housing affordability and well-being. Meanwhile, due to public financial support and subsidies, public sectors usually have canteens, which can reduce the living costs of employees. In contrast, most private companies fail to offer access to public rental housing and three free or three discounted meals a day.

7.3.4 The differences between public sector jobs with and without Bianzhi

Bianzhi is generally found in China's government agencies and public institutions. Of course, a few special state-owned enterprises also provide Bianzhi to their workers. However, as most state-owned enterprises have abolished Bianzhi, my analysis only discusses the Bianzhi of government agencies and public institutions. In simple terms, public sector employees with Bianzhi refer to the salaries allocated by the State Treasury. Without Bianzhi, public sector

workers sign employment contracts with their units, and the units mainly pay their income.

Bianzhi symbolizes the highest level of job stability in China's context. Although public sector employees have greater job stability than private sector employees, the difference in job stability among public sector employees may still be reflected in the presence or absence of Bianzhi. When asked what having a Bianzhi means to young skilled migrants, 34 out of 36 participants said that having a Bianzhi means having an "iron rice bowl." For example, R21, a female working in public institutions without Bianzhi, expressed frustration. She agreed that having a Bianzhi is more stable than without one. She said:

"If I have the Bianzhi, the work unit has no right to fire me, no matter what mistakes I make."

However, another participant had a different view. R12, an unemployed female who worked in a public institution, remarked:

"I think the job is quite stable whether the Bianzhi is there or not. Generally speaking, it is not possible to lay off in the public sector. There will be almost no redundancies if public sector workers do not make mistakes at work. Because the public sector wants to maintain the stability of its workforce, it will not easily lay off staff. When employees are made redundant, work units have to recruit new people to take their place. The public sector generally avoids this (redundancies)."

When asked about the difference between those with Bianzhi and those without in the same units, she said:

"Those with Bianzhi have better benefits in terms of salary, five social insurances, and one housing fund."

She then used her work unit as an example to quantify the differences between those with and without Bianzhi. She said:

"If they are at the same level and in the same position, the monthly income of workers with Bianzhi will be 2,000-3,000 yuan more than those without. In addition,

the housing provident fund of employees with Bianzhi will be two-three thousand more per month than those without Bianzhi. Not surprisingly, the personal welfare of employees with Bianzhi will be better than those without Bianzhi.”

In addition to income and personal welfare, she also said:

“Having the Bianzhi would make them more respected in the work unit. Everyone assumes that having the Bianzhi is better than not having them.”

Despite the many benefits of having the Bianzhi, when asked why they did not take the Bianzhi examination, one participant said:

“Passing the Bianzhi examination was like crossing a one-plank bridge with thousands of troops (hundreds or thousands of people take the Bianzhi examination, and one person is admitted).”

Given that the Bianzhi can provide a stable and relatively decent income, many young skilled migrants expect to get the Bianzhi. R3, a female working in a public institution with Bianzhi, said:

“When I took the Bianzhi examination, I thought that if I could get the Bianzhi in any city, I would live there.”

Besides income, another participant, R33, a female working in a public institution with Bianzhi, said:

“The pandemic has led to many uncontrollable situations (job precariousness and economic downturn), and those with Bianzhi have a strong ability to withstand risks and are not affected by the economic downturn.”

In summary, my findings suggest that employer types (public versus private sector) could determine job stability, remuneration, working hours, intensity and content, and personal welfare. Almost all participants agreed that working in the public sector is still seen as a more stable job, although two participants pointed out that individual ability determines job

stability. Young skilled migrants' desire for stability outweighs their desire for a salary. Of course, this does not imply that young skilled migrants only attach importance to job stability. If they are unsatisfied with their income, they will also make pursuing a salary their primary goal.

Whether working in the public or private sector, young skilled migrants must balance gains and losses. More specifically, if young skilled migrants work in the public sector, they are more likely to enjoy better personal welfare and can achieve a better work-life balance. Nevertheless, because of the egalitarian nature of the public sector, public sector employees tend to earn average rather than high salaries. In contrast, the private sector competes in the marketplace and seeks to maximise profits. Private sector workers are more likely to be well paid if they can make a profit for the company. However, private sector workers are also at risk of being made redundant if companies fail to achieve profitability. Or, if the private sector believes that employees cannot keep up with the company's pace of development (That is, they cannot add their worth to the company), such employees may be laid off. In China, the employer type (the public versus the private sector) can be conceptualized as stability versus risk, fixedness versus freedom, and comfort versus high pressure.

Finally, in terms of *Bianzhi*, it can not only provide young skilled migrants with a stable and decent income, but also increase their ability to withstand risks. However, it is very difficult to obtain *Bianzhi*. Therefore, although all young skilled migrants think the *Bianzhi* is great, very few people have obtained it. In the next section, I will focus on the meaning of access to homeownership in Guangzhou for young skilled migrants.

7.4 What are the meanings of homeownership in Guangzhou for contemporary young skilled migrants?

Section 3 draws on the six meta-theme framework that emerged from the qualitative data to interpret the meaning of homeownership in Guangzhou for young skilled migrants. To enrich the interpretation of the data, contextual background information is referenced where appropriate.

7.4.1 Access to homeownership can enhance their housing conditions and housing experience

Homeownership is preferred to renting by people in China, especially among young skilled migrants. As for the housing pathway, most young skilled migrants started by renting accommodation in Guangzhou. As economic conditions improve or intergenerational housing support is received, a small number of young skilled migrants can move from renting to buying in Guangzhou. All participants said that they had initially rented houses in Guangzhou. When asked about the meaning of access to homeownership in Guangzhou for them, both homeowners and renters answered this question. Some participants discussed the importance of homeownership for housing itself. For example, R7, who is female and works in a state-owned enterprise, expressed that after buying a house, the living environment improves. She said:

“When I rented, the living environment was relatively poor, I felt that her living environment had improved after she bought a house in Nansha District (a suburban area in Guangzhou). However, I was reluctant to accept that the commute was longer than it used to be.”

In fact, as rents for commodity housing are relatively high, many young skilled migrants live in urban villages to save on rent. Despite cheaper rents, the living environment, housing conditions, and safety in urban villages are a cause for concern. Some participants talked about their experiences of living in urban villages. For example, R18, a female working in a private company, said:

“I am not satisfied with the living environment in the urban village. I live in the Handshake building, which is relatively dark and damp. The walls are moldy. Urban villages are also relatively dirty, with rubbish on the ground.”

In addition to the living environment, two participants talked about the safety of living in an urban village. R13, who is male and works in a state-owned enterprise, said:

“I live in an urban village. After entering the village, I had to walk a long way to get to my rented home. This stretch of road is very dark and narrow. Especially at night,

it is a real safety hazard, especially for the female”.

R12, a male who works in a state-owned enterprise, expressed similar concerns. He said:

“For women living alone in an urban village, safety is indeed a problem.”

Overall, after purchasing commodity housing, the residential area (Juzhu xiaoqu) has property management services and the safety and living conditions of the residential area can be improved. If renting a house in an urban village, the lack of property management services can lead to concerns about safety and the living environment.

Additionally, when renting a house in Guangzhou, young skilled migrants are dissatisfied with the autonomy in decorating their homes and the housing stability. R16, a female who works in a private company, used to rent commodity housing in Guangzhou, but now she has bought a house. She said:

“I can choose my favorite furniture and decorating style once I have bought my home. But if I rent a house, I cannot change the decoration or furniture. A friend told me yesterday that he had forgotten his keys and had been waiting outside the door for a long time. Then I told him to change the fingerprint lock, and he said it was not my home, why should I pay for the fingerprint lock, and the landlord might not be willing to let me change it.”

Another participant (R33) mentioned that renting gave her a sense of instability and uncertainty. She explained:

“I feel that renting a house only solves my current living and commuting needs. It’s not my house and it doesn’t feel like home. Nor can I benefit from the public services tied with housing. Also, when some electrical appliances break, there are disputes about whether I should pay for them, or the landlord should replace them with new ones. As a result, renting did not give me ontological security.”

Moreover, 10 out of 36 participants explicitly stated that renting made them feel unstable or uncertain, especially when moving frequently. When asked how many times he or she had

moved in Guangzhou, R1, a male working in a state-owned enterprise, said:

“I have moved four times.”

When asked if moving made him feel unstable about his housing status, he said:

“It was more than unstable; it was simply a feeling of wandering.”

When talking about his moving experience, he felt very helpless and unhappy. He said:

“Moving homes is challenging. I have lived in Jiahewangang, Panyu Shiqiao, Tianhe Park, and Jinshazhou. Every time I move, I have to pack a lot of luggage. I lived in the Handshake building, and there was no elevator. It was tiring going down from the 8th floor. More importantly, I am used to living in one place for a long time and am familiar with the surroundings. Frequent moves make me feel out of place. Frequent moves do affect one’s happiness in life.”

Another participant, R35 working in a public institution and renting in Guangzhou, emphasized that she is very concerned about the uncertainty of rising rents. She explained that if rents increased, she might have to consider moving. She said:

“After buying a house, the housing situation can become more stable. At least I won’t have to move because the landlord raises the rent. Nor will the use of energy appliances be reduced because water and electricity bills are too high in urban villages. This really reduces happiness.”

Some participants mentioned that moving was really tiring. For example, R9, a male working in a state-owned enterprise, said:

“It was painful to move.” I move once a year due to job transfers. Every time I move homes, I feel a strong sense of wandering in my heart”.

Another participant, R34, a female working in a public institution expressed that moving left her very tired and depressed. R18, a female working in a private company, expressed a

similar sentiment. She said:

“I move about once a year. I always move by myself because I don’t want to owe my friends any favours. I would move two or three times a day after work and move them all within a week or two. Moving was very tiring and made my life very unstable and uncertain. I felt like a little bird without a home”.

Moving once a year is not a frequent behaviour. Therefore, I asked her why she felt housing instability when she moved once a year. She explained:

“The house is not mine. When the rent is due, and the landlord wants to increase the rent, I can’t afford the increase and have to move out. Or the landlord just wants to take the house back, and I have to move out even if the rent is not increased.”

When asked about the reasons for frequent moves, arbitrary rent increases by landlords are an important factor. R21, a female working in public institutions, said:

“The landlord increases the rent yearly. As soon as I got used to the surroundings, he started to increase the rent or take the house back, and I had to move out”.

I then asked what aspects of renting a house they were unhappy about. R7, a female working in a state-owned enterprise, said:

“First, the rent does not match the housing conditions. Second, there are a lot of second-hand landlords in the rental market. When my lease is up and check out, they will find a way to deduct my deposit.”

R21, a female working in public institutions, said:

“The first is that utility bills are very expensive. I have encountered a bad landlord. The appliances, such as lights or taps, are broken, and he is not even willing to pay to replace them with new ones. I have to pay for the furniture myself. But I can’t take it with me when I move out. And I feel that renting a house is like having to help the landlord decorate the house all the time.”

In fact, in China's big cities, water and electricity bills in urban villages are calculated according to commercial water and electricity rates. Therefore, prices will be higher than normal household water and electricity bills. More specifically, the residential electricity bill in Guangzhou is 0.6 yuan per kilowatt hour, but the commercial bill can be 1.5 yuan per kilowatt hour.

Finally, when checking out, some landlords will find ways to withhold the deposit, which is also a problem when renting. R1, a man who works for a state-owned company, was angry that his landlord had kept his deposit when he checked out. He said:

“When I checked out, I cleaned the curtains, the floor, and the kitchen. I also paid a cleaner to help me clean the home. However, when I checked out, the landlord did everything he could to point out the areas I had not cleaned and deducted my deposit.”

Overall, access to homeownership in Guangzhou can improve the housing quality and experience of young skilled migrants. First, given that a property management company manages the residential area of commodity housing, the living environment and safety can be maintained. In contrast, young, skilled migrants renting accommodation in urban villages often face poor living environments and safety risks. Furthermore, young skilled migrants face uncertainty about whether landlords will raise rents and whether landlords will continue to rent out their houses. Double uncertainties make young skilled migrants often face the challenge of housing instability in Guangzhou. Third, renting in an urban village may lead to higher utility bills. Finally, the status inequality between landlords and tenants puts young skilled migrants in a weak position in the renting market. My findings support the previous findings that buying a home for migrants can increase happiness in destination cities (Zhang et al., 2019). More importantly, although previous studies have shown that migrants prefer to buy rather than rent, they have not explained the reasons for this (Huang & Clark, 2002; Chen, 2016; Liao & Zhang, 2021; Zou & Deng, 2022). My findings can explain, from the housing perspective, why migrants prefer to buy rather than rent, and why buying a house increases their happiness in destination cities.

7.4.2 Homeownership is a gateway to marriage for men and a sense of security for women.

When young skilled migrants find stable jobs in Guangzhou and can adapt to life in Guangzhou, their next goal is to get married and start a family in Guangzhou. However, buying a house is still considered a prerequisite for marriage in traditional Chinese concepts, especially for men. Among male participants, all homeowners said that their main reason for buying a house in Guangzhou was to get married rather than to solve their housing problems. For example, R10, who works in a state-owned enterprise, said:

“The primary reason that I want to buy a house is to get married.”

R1 expressed similar sentiments. He said:

“When I buy a house, I just want a stable home, which means getting married. Actually, my wife wants to buy a house more than I do.”

For male migrants, lack of entry into homeownership may put them at a disadvantage in the marriage market. R9, who has bought a three-bedroom house in Nansha, said:

“I bought a house just to get married. If I didn’t buy a house in Guangzhou, many girls wouldn’t even date me. Once I have bought a house in Guangzhou, no matter if my house is big or small, it is easy to find a spouse. Honestly, it is difficult to find a wife without a house.”

R30 who have bought a house in Zengcheng supported this view. He said:

“I buy a house for the marriage.”

Additionally, for female homeowners, their husbands pay the down payment, and both husband and wife pay the mortgage together. Few women are making a down payment or buying a home independently. Young female skilled migrants can gain homeownership through marriage, which differs greatly from males. From the perspective of female participants, homeownership can provide a sense of security. This sense of security may come

from parents being more assured about their married life and having more material security in their married life. R4, have bought a house in Baiyun, said:

“I bought a house just to get married. My husband paid the down payment, and we paid the mortgage together. In fact, the purpose of buying a house is to convince my parents that my husband can provide me with a guarantee for my future life.”

R16 has bought a house in Tianhe. Although she did not repay the monthly payment, her husband added her name to the title deed. She said:

“I want to own a house because I want to give my children a Guangzhou Hukou. After married, I will have children, and I don’t want my children to be unable to enjoy local medical and educational resources.”

Another participant expressed that her motivation for buying a house in Guangzhou was to have a stable home. R36, a female working in a private company, expressed a huge desire to buy a house in Guangzhou. She explained:

“My parents are both in Guangzhou. We moved five times over the years, which was really annoying. I really want a stable place to live.”

R36 is not married. She wants to buy a house, not to start a family, but to feel more secure and stable.

Overall, buying a marriage house is common in many societies (Cheung et al., 2020). China is no exception. The importance of homeownership is hard to deny for both male and female skilled migrants. Nevertheless, due to the influence of traditional Chinese culture, homeownership plays a different role in family formation for male and female skilled migrants. My findings support previous research that homeownership puts Chinese men at a disadvantage in the marriage market (Hu & Wang, 2020). The lack of homeownership is an obstacle for men to enter into marriage. Meanwhile, my findings also add to knowledge about the meaning of homeownership for migrant women and the pathways to homeownership for female migrants. In particular, homeownership can give them a sense of security and better opportunities to benefit from local public services.

7.4.3 Access to homeownership can provide better opportunities to access public education

Given that homeownership in China is closely linked to public education, homeownership is a prerequisite for access to quality public education resources. Furthermore, access to public education can motivate young skilled migrants to buy a house in Guangzhou. For example, R17, renting in Guangzhou, said:

“I’m not married yet. I think it’s fine to buy a house or rent a house. But once I get married, I will have children. I feel that access to public education is an important consideration when buying a home.”

R2, who rents in Guangzhou, has a similar concern. She said:

“Educational resources are very important for children’s development. If my children can get a better education, I am willing to buy a house in a high-quality school district”.

Similarly, R8, who has bought a house in Zengcheng and had children, said:

“Access to education in Guangzhou is still tied to homeownership status and dwelling locations. After I buy a house, my children will have priority to get into the school in the area where I buy the house. This is also an important reason why I bought a house.”

In contrast, some migrants do not cite the opportunity for their children to receive public education in Guangzhou as an incentive to buy a home. For example, R1, who has bought a house in Guangzhou, said:

“I value my children’s education. But I don’t want to spend a lot of money on it. Public education for children is perhaps the fifth most important factor in buying a home. It’s not that important.”

Overall, migrants do not have local hukou, which prevents their children from receiving

public education in their destination cities. Although not all migrants consider their children's access to public education an important factor when buying a house, the opportunity for their children to receive public education is still an important consideration for them when buying a house in Guangzhou, especially for migrants who are married and have children. My findings support Or's argument that housing inequality is reflected in the wealth effect of homeownership and differences in access to educational resources (Or, 2018).

7.4.4 Access to homeownership can enhance their social integration into Guangzhou

Housing for the Chinese is not only a dwelling but also a home in the city. In fact, renting can also provide a place to live. However, home renting cannot give migrants a sense of home in destination cities. Homeownership can increase migrants' sense of social integration in destination cities. R11, who lives in public rental housing in Guangzhou, said:

“Owning a home will increase the sense of integration in Guangzhou. Having lived in Guangzhou for ten years, I had a lot of affection for Guangzhou. I feel that if I cannot buy a house in Guangzhou, I will always feel like a migrant, even though I have lived in Guangzhou for a long time. I would feel that I had no sense of belonging in Guangzhou, no home, and was wandering all over the place.”

R9, who have become homeowners in Guangzhou, has a similar sentiment. He said:

“In Guangzhou, even owning a small house will greatly enhance the sense of belonging.”

R7, who has bought a house in Guangzhou, supported this view. She said:

“Access to homeownership in Guangzhou can help migrants integrate into Guangzhou.”

Although access to homeownership can help migrants integrate better into Guangzhou, failure to become homeowners can also damage their well-being and eventually lead them to leave Guangzhou. R3, who rents in Guangzhou, said:

“I can’t afford a house. I feel like I’m always a migrant. What’s the point of staying in Guangzhou?” As a result, I have changed the initial settlement intention in Guangzhou. In 2019, I had planned to stay in Guangzhou for a long time. Nevertheless, I plan to return to hometown after working for two or three years.”

The sense of belonging associated with homeownership may be linked to the acquisition of identity. Given Guangzhou’s lax hukou policy and the higher education level of young skilled migrants, they can transfer their hukou status from other cities to Guangzhou. However, even if they have obtained a Guangzhou hukou, they may not feel a sense of local identity if they are still renting in Guangzhou. In other words, if they have not bought a house, they still do not believe they are residents of Guangzhou after obtaining a household registration. This may be related to the traditional Chinese concept that only when one owns a house can one have a home. R17, who rents in Guangzhou, explained:

“Buying a house means that I have become a Guangzhou native, and the hometown of my next generation is Guangzhou”.

Another participant explained why access to home ownership can help young skilled migrants integrate better in Guangzhou. R33 who works in a public institution and have obtained the Bianzhi, said:

“As young skilled migrants, it is actually not difficult for us to obtain Guangzhou hukou. In addition to having a stable job here, it feels more important to have a warm harbour in this city. With a stable place to live and access to local public benefits and services for our children in Guangzhou, we will feel more integrated in Guangzhou. Although my current job is stable and decent, renting a house always makes me feel drifting and unable to truly integrate into Guangzhou.”

Overall, access to homeownership can increase young skilled migrants’ sense of social integration. This finding supports previous work, which has found that homeownership plays an important role in migrants’ perceived social integration (Lin et al., 2023). More importantly, my findings contribute to understanding the social integration of young skilled migrants in destination cities. More specifically, the sense of social integration of skilled migrants depends not only on their hukou status but also on their homeownership outcomes.

Homeownership can reinforce their local identity and increase their sense of social integration.

7.4.5 Access to homeownership can provide a sense of achievement

Given the soaring housing prices in China's major cities, it is difficult for young, skilled migrants to buy a house in the destination cities, even if they have a good educational background. Most rent a house when they first come to Guangzhou to work and live. Even with the cheaper rents in the suburbs, they may rent on the city's edge. Access to homeownership in Guangzhou can be seen as a housing aspiration for them. R21, who has bought a house in Guangzhou, said:

“When chatting, some friends like to ask me if I have bought a house in Guangzhou. I will feel that buying a house will give me a sense of achievement.”

Similarly, R2, who has bought a house in Guangzhou, excitedly said:

“For me, buying a house in Guangzhou is a sign of moving from being born in a small city to settling in a big city. It gives me a great deal of hope in life.”

Although R15 rents in Guangzhou, she shared a similar sentiment. She said:

“Buying a house in Guangzhou can satisfy my spiritual world. Buying a house in Guangzhou was my childhood dream. When I buy a house in Guangzhou, I feel like my dream has come true.”

Overall, homeownership is the preferred tenure over renting in China (Chen et al., 2022). Homeownership can provide more security, freedom, financial benefits, housing satisfaction, and opportunities to access quality public welfare than renting (Elsinga and Hoekstra, 2005; Chen et al., 2022). Homeownership could be considered a crucial part of the “Chinese Dream.” My findings add to the understanding that buying a home in destination cities could be a major achievement for young skilled migrants. Homeownership is a sign of successful settlement from small cities to large cities. This is because high-paying jobs, good basic services, and entertainment are mainly concentrated in big cities, and many young people in

China still yearn to work and live there. Buying a house allows them to have a home in big cities. They can pursue their careers and enjoy good amenities and public services.

7.4.6 Feeling anxious after buying a house

Despite the many benefits of buying a house in Guangzhou for most young skilled migrants, buying a house also brings many huge financial pressures. 12 of the 36 participants have bought a house. Nevertheless, they all bought homes with loans and had to make higher monthly payments. For example, R1, who has bought a house in Tianhe district, needs to repay more than 30,000 RMB yuan in principal and interest each month. Although his wife helps him repay some of the principal and interest, their combined income is only 25,000 yuan. Their parents will help them with 10,000 yuan. He said:

“My parents’ housing support is very important; otherwise, I could not repay the principal and interest.”

Similarly, R10, who has become a homeowner in Guangzhou, reluctantly said:

“I am now under great pressure to pay the monthly mortgage. I must now pay more than 20,000 yuan monthly in principal and interest. My parents help me pay off part of the mortgage.”

Somewhat differently, R16 is a female who bought a house in Guangzhou with her husband. However, it is his husband who pays the mortgage. When asked about the negative impact of buying a house in Guangzhou on her life, she said:

“Buying a house did not hurt my life but had a big impact on her husband. I don’t have that kind of pressure. In fact, my husband should have that kind of pressure, especially in the first two years after buying a house; he felt a lot of pressure. He started to worry about losing his job; he was worried about being unable to pay the mortgage and was very anxious. Because when we bought the house, we had no savings. We cannot resist any risk. In recent years, he has become less anxious because he has some savings. Even if we lost our jobs, our savings would cover a mortgage payment for a few months. Even if he loses his job, he should be able to

find another one within two months.”

One of the participants (R4) bought a house in Baiyun. Nevertheless, she and her husband work in Tianhe. Given the long commutes from residences and workplaces, she rents a home in Tianhe. She reluctantly said:

“The house has to repay the loan and I have to pay rent, but the house is unused because I cannot rent it out. I felt that I am under much financial pressure.”

R9, who has bought a house in Nansha. Nevertheless, he borrowed the down payment from his parents, relatives, and friends. R8 shared a similar sentiment. Even though R8 has bought a house in Zengcheng, he also borrowed the down payment from his parents, relatives, and friends. He also said:

“The birth of my child had put me under great financial pressure.”

Overall, buying a house for young skilled migrants in Guangzhou can improve their housing conditions, their advantages in the marriage market (for men), their ontological security (for women), and their opportunities to access quality public services, especially educational resources, better social integration, and a sense of achievement. At the same time, buying a house in Guangzhou puts enormous financial pressure on young skilled migrants. This is because their down payments are supported by their parents or borrowed from relatives and friends. More importantly, they still have a high monthly mortgage payment to make. This is because their down payment ratio does not usually exceed 50% of the house’s total value. Higher loan amounts not only require them to repay the principal, but also require higher interest payments. This finding adds to the knowledge of the positive and negative effects of homeownership on migrants’ lives, in particular greater financial stress (Sekkat & Szafarz, 2011; Acolin, 2020; Hu & Wang, 2020; Sodini et al., 2023).

7.5 Summary

Chapter 7 has answered three research questions. Firstly, I have explored the research question: How do young skilled migrants understand the relation between employer types, long-term settlement intentions, and homeownership outcomes in Guangzhou? In fact, the

impact of young skilled migrants' employer types on their homeownership outcomes can be divided into direct and indirect effects. Regarding the direct effect, there are two reasons why young skilled migrants who work in the public sector are more likely to access homeownership in Guangzhou. The first is that working in the public sector can provide greater job stability, thereby increasing the likelihood of buying a house in Guangzhou. The second is that working in the public sector can provide higher housing provident funds than the private sector, helping them become homeowners in Guangzhou. In terms of indirect effect, my findings have emphasized that jobs are the first consideration for young skilled migrants, rather than long-term settlement intentions and buying a house. In other words, young skilled migrants will only consider settling down and buying a house in Guangzhou when they have a stable job and a decent income. Furthermore, there is no fixed answer to whether young skilled migrants, having found a stable job and a decent salary, should prioritise buying a house or expressing long-term settlement intentions in Guangzhou. It depends more on their personal preferences. However, those young skilled migrants who prioritise long-term settlement intentions in Guangzhou over house purchase may change their settlement intentions if they cannot buy a house in Guangzhou. They may leave Guangzhou for other cities or return to their hometown. For those young skilled migrants who prioritise buying a house, if they can achieve their goal of buying a house in Guangzhou, their long-term settlement intention in Guangzhou will also be strengthened. No doubt expressing long-term settlement intentions in Guangzhou and buying a house in Guangzhou can influence each other.

Secondly, I have explored the research question: What meaning do young skilled migrants attach to different employer types? My findings found that the public sector can represent job stability in China's context; private sector employees have to cope with higher work pressure and longer working hours; the public sector can provide better personal welfare benefits; in the public sector, workers with *Bianzhi* will have more stable jobs than those without.

Finally, I have investigated the research question: What are the meanings of homeownership in Guangzhou for contemporary young skilled migrants? My findings indicated that access to homeownership can enhance their housing conditions and housing experience; homeownership is a gateway to marriage for men and a sense of security for women; access to homeownership can provide better opportunities to access public education; access to homeownership can enhance their social integration into Guangzhou; access to

homeownership can provide a sense of achievement; despite these benefits, young skilled migrants may feeling anxious after buying a house.

Chapter 8: Discussion

This chapter aims to outline the differences and resonances with previous work and then discuss some of the key findings of this study. The first section will reflect on the quantitative and qualitative findings. The second section will present the differences and resonances of my findings with previous work. The third section will discuss the double precariousness of young skilled migrants' employment and housing in Guangzhou. The fourth section will explain why work is important in shaping young skilled migrants' lives in Guangzhou. The fifth section will analyse why young skilled migrants prefer to work in the public sector. The sixth section will summarise the importance of homeownership for young skilled migrants. The final section will explain why settlement intentions and homeownership could affect each other.

8.1 Reflections on quantitative and qualitative findings

My findings support the previous literature indicating that migrants who express higher intentions to settle in destination cities are more likely to become homeowners in destination cities (Huang et al., 2020). In fact, for the Chinese, having a house means having a home. Without a house, migrants may feel they have no home or sense of belonging to local cities (Lin et al., 2023). If migrants fail to buy a house in destination cities, they may change their settlement intentions (Chen et al., 2019). Meanwhile, migrants who have bought a house in destination cities are more likely to stay in destination cities for the long term (Zhang & Yan, 2022). On the one hand, access to homeownership improves their housing conditions, housing stability, access to public services, and integration into local cities, increasing their intentions to stay in Guangzhou for the long term (Fong et al., 2021; Clark et al., 2021). On the other hand, homeownership can reduce residential mobility (Andreasen & Agergaard, 2016). This is because buying and selling property takes a long time, involves large sums of money, and is difficult to complete quickly.

More importantly, my research proposes a new conceptual framework for employer type, long-term settlement intentions, and homeownership outcomes. In the quantitative analysis, my findings suggest that young skilled migrants who work in the public sector are more likely to become homeowners in Guangzhou. This can be broken down into direct and indirect effects of employer types on homeownership outcomes. That is, the benefits of working in the public sector may increase the likelihood of buying a house in Guangzhou. Meanwhile, working in the public sector may encourage migrants to stay longer in Guangzhou, thereby increasing the likelihood of buying a house in Guangzhou. Qualitative data gives clear and detailed reasons. My findings suggest that public sector jobs are more stable, providing migrant workers a steady income. As most migrant workers cannot buy a house with full payment, they have to pay a down payment and then make monthly payments to buy a house. A stable income allows them to repay their mortgage on time. However, if their income is unstable, they are afraid to buy a house because if they fail to repay the mortgage, the bank could auction the house. In other words, working in the public sector gives migrants a sense of ontological security and certainty about their future expectations, which increases their confidence in buying a home. Furthermore, the public sector can provide higher housing provident funds, reducing the pressure on buying houses.

Additionally, jobs are the first consideration for young skilled migrants, rather than long-term settlement intentions and buying a house. They will only consider settling down and buying a house in Guangzhou if their jobs are stable, their incomes are secure, and their lives are happy. In other words, public sector jobs tend to be more decent and stable, which encourages them to stay in Guangzhou for the long term. In contrast, private sector work may be unstable, leading to frequent job changes and moving homes, which may discourage their long-term settlement intentions in Guangzhou. This is because job instability leads to unstable income, and they may fail to cover their living costs. Meanwhile, frequent moves also reduce quality of life.

Finally, it varies from person to person whether migrants prioritise buying a house or express a higher intention to stay in the destination cities. The long-term settlement intentions and buying a house influence each other. If migrants want to stay in Guangzhou permanently, they can try to buy a house. However, they will change their previous settlement intentions if they still cannot afford a house. They may move to other cities or return to their hometowns. Similarly, if they buy a house, it will also strengthen their desire to settle in Guangzhou.

8.2 Difference and resonance with previous work

This section aims to present the differences and resonances of my findings with previous work. Reiterating once again, the purpose of this study is to examine the role of employment characteristics in determining young skilled migrants' homeownership outcomes and its underlying mechanisms and provide detailed explanation for them.

Previous studies have contributed to understanding the role of work characteristics in shaping homeownership outcomes in the global South and North, with varying attention to immigrants or the general population (Lersch & Dewilde, 2015; Fang & Zhang, 2016; Camilli & Gomes, 2023). However, few studies have examined the relationship between employer type and homeownership outcomes, or empirical studies have treated employer type as a control variable rather than a key explanatory variable (Cui et al., 2021). More importantly, a few studies that included employer type as a control variable produced mixed results. For example, Cui et al. (2021) utilized data from the 2013 Fudan Yangtze River Delta Social Transformation Survey (FYRST) in Shanghai to study the role of intergenerational housing support in shaping the homeownership outcomes of young couples. Notably, this survey focused on the target groups born between 1980 and 1989, including migrants and locals. They controlled for young people's employer type and found that employer type did not play an important role in shaping young people's homeownership outcomes. They did not provide a possible explanation for this finding. However, my findings are not

consistent with Cui's study.

A recent study by Camilli and Gomes (2023) yielded different results to those of Cui (2021) and Clark (2021), they found that public sector employees are more likely to become homeowners than private sector employees. Also, they suggested that higher incomes and greater job security in the public sector drive the homeownership gap between the public and private sectors. Their study provided new insights into how to address housing inequality across the public and private sectors in Italia

Overall, my findings are consistent with Camilli and Gomes's study that public sector workers have a higher probability of becoming homeowners. However, some differences exist in datasets, samples, study area, research design, and methods. First, the dataset used in my analysis is more dated compared to Camilli and Gomes's study, which limited the dataset to 1993 and 2016. Second, Camilli and Gomes restricted their sample to non-employed persons aged between 15 and 65 in Italia. Similarly, my study focused on non-unemployed individuals, and I deleted the unemployed samples. However, my study paid more attention to young skilled migrants - residents who work and live in Guangzhou but do not have Guangzhou hukou, their educational level is at least an associate college degree, and their age is between 18 and 35. Third, Camilli and Gomes's study was at the national level in Italy, while my research selected only Guangzhou, one of the four largest cities in China, as a single case.

More importantly, the research design and methodology of Camilli and Gomes's work are different from my study. Camilli and Gomes (2023) used quantitative analysis to disentangle the role of working for different employer types in shaping the homeownership outcomes of Italian households. Somewhat differently, in addition to quantitative analysis, I also used qualitative analysis to interpret and extend the findings of the quantitative analysis. Specifically, in the quantitative analysis part, Camilli and Gomes (2023) used the Linear Probability Model, whereas I used the Propensity Score Matching (PSM) approach to generate a balanced sample between

treatment and control groups and to perform the multilevel analysis based on the matched sample. The advantage of the Propensity Score Matching (PSM) approach is to avoid self-selection bias. In other words, Camilli and Gomes (2023) argued that higher incomes in the public sector than in the private sector in Italy are the main factors leading to the homeownership gap. This is an important finding. Nevertheless, the new research question deserves to be investigated but cannot be answered by Camilli and Gomes (2023): if incomes are the same in the public and private sectors, do public sector workers still have a higher probability of owning a home than private sector workers? The propensity score matching (PSM) approach allows creating of balanced samples where public sector workers have similar covariates to private sector workers, such as age, income, and educational attainment. Based on matched samples, I can estimate the pure effect of employer types on homeownership outcomes.

Additionally, my research design and methodology considered the dataset's hierarchical nature, whereas Camilli and Gomes's study ignored this issue. In fact, this is an inherent limitation of the linear probability model in their research design. In contrast, multilevel analysis allows micro and macro characteristics to be combined and their effects on homeownership outcomes to be estimated simultaneously. For example, based on the binary logistic regression models, I found that employer type is positively and significantly associated with homeownership outcomes. Then, I performed the multilevel analysis. Despite the positive and significant relationship between employer type and homeownership outcomes, the magnitude of the regression coefficient for employer type increases. I also found that the macro indicator - GDP - can determine homeownership outcomes. In particular, young skilled migrants in higher GDP districts are less likely to buy a house than those in lower GDP districts. Obviously, the macro-level determinants were neglected by Camilli and Gomes. As such, traditional regression analysis may underestimate the effect of employer type on homeownership outcomes and ignore the effect of macro-level indicators. My findings support Camilli and Gomes' findings that young

skilled migrants working in the public sector are more likely to access homeownership than those working in the private sector. More importantly, my findings can add new evidence on the role of young skilled migrants' employer type in determining their homeownership outcomes in China's expensive cities, even when public sector workers have similar incomes to private sector workers.

In addition to assessing the effect of employer type on homeownership outcomes, I also investigated the interaction and mediation effect between employer type and homeownership outcomes. I found that income can change the positive relation between employer types and homeownership outcomes. In other words, as income increases, the positive role of public sector employment in shaping homeownership outcomes may diminish. In addition, long-term settlement intention can mediate the relation between employer types and homeownership outcomes. That is, young skilled migrants who work in the public sector are more likely to stay in Guangzhou permanently. When young skilled migrants want to settle in Guangzhou, they are more inclined to buy a house in Guangzhou. These findings provide new insights into understanding the job-housing nexus.

After completing the quantitative analysis, I used qualitative analysis - semi-structured interviews - to provide a detailed explanation. I found that working in the public sector can offer greater job stability, lower work pressure and hours, and better personal welfare and benefits, particularly housing provident funds, which can encourage young skilled migrants to buy a house in Guangzhou. These advantages of working in the public sector are not directly reflected in income. These findings could significantly contribute to understanding why differences in employer type cause the homeownership gap between the public and private sectors.

8.3 Double precarity experienced by young skilled migrants: employment and housing

The concept of precarity originated in the labour literature and was subsequently introduced into housing research (Bayurgil, 2021). Employment precarity is understood as insecure, unpredictable, and risky employment through the control of workers' time in and out of work and temporary and unstable relationships with employers (Bayurgil, 2021). Housing precarity is characterized by a state of uncertainty that increases a person's probability of suffering adverse events, particularly in terms of housing affordability, tenure security, housing quality, and access to public services (Clair et al., 2019). Some scholars have highlighted that housing precarity is strongly associated with employment precarity in some Western countries, such as US and Australia (Wilson & Norbert, 2013; Dwyer & Lassus, 2015; Desmond & Gershenson, 2016). More specifically, households with precarious jobs are less likely to become homeowners, and forced moves increase the probability of job loss (Dwyer & Lassus, 2015; Desmond & Gershenson, 2016).

Although few studies have focused on employment and housing precarity in China, it still exists. Soaring house prices in recent decades have increased the cost of renting or owning a home. Meanwhile, China is still a developing country, and its industries have not been fully modernised. This has led to increased competition in the market, a phenomenon that has been exacerbated by the post-pandemic economic recession. That is, longer working hours do not increase earnings but increase job stress and decrease job satisfaction (Jaydarifard et al., 2023). The traditional view is that precarious employment is concentrated in low-paid service sectors such as care work, driving, and construction (Hatton, 2011; Sallaz, 2015; Swider, 2015). However, as Bayurgil (2021) pointed out, precarity is also present in decent work.

Although this thesis does not focus directly on migrants' housing and employment precarity, my descriptive and qualitative analysis results suggest that young skilled

migrants in Guangzhou suffer from “double precarity.” For example, the descriptive analysis shows that only 12% of young skilled migrants have bought a home in Guangzhou. This implies that most young skilled migrants in Guangzhou rent their homes and access to homeownership is still a challenge for them. As Waldron (2022) argued, private renting is considered the most precarious tenure due to weak regulation, poor housing conditions, tenure insecurity, temporary tenancies, and power imbalances between tenants and landlords. More importantly, in China, homeownership is linked to access to public benefits, further disadvantaging migrants in housing markets. In the semi-structured interview, most respondents rent in informal settlements (urban villages). In fact, given that Guangzhou’s public rental housing is prioritized for residents with Guangzhou hukou, and rents in formal settlements are expensive or even unaffordable, most respondents are forced to seek cheaper alternatives in urban villages. However, renting in urban villages is associated with poor-quality dwellings, poor access to public services, and long commutes (Li et al., 2019). In contrast, even though renting in formal settlements may offer a better living environment and more opportunities to access public benefits, tenants suffer from higher rents that may compete with their other basic living expenses. For homeowners, many scholars have highlighted that homeownership is a preferred tenure over renting, providing stable housing, wealth accumulation, and better tenure security (Painter et al., 2001; Wang et al., 2020; Waldron, 2022). However, most respondents who have bought a home in Guangzhou reported feeling anxious and financially burdened after buying a home in Guangzhou. This is because they paid only 30 per cent of the house's total value as a down payment and had to make high monthly payments. Even worse, they find it difficult to make the monthly payments independently and need their parents' housing support. It is safe to say that whether young skilled migrants are renters in informal settlements, tenants in formal settlements, or homeowners, they are experiencing different dimensions of housing precarity in Guangzhou.

There are two reasons why most skilled migrants experience housing precarity in

Guangzhou. First, public benefits linked to hukou status and limited supplies of public housing deny the majority of migrants' access to public housing. Public housing is more affordable and offers better living conditions and security of tenure compared to the private rented sector. Second, there are limited affordable accommodations in formal settlements to meet the high demand for housing. Third, housing prices in Guangzhou are expensive, which is a major barrier to buying a home in Guangzhou, or buying a home but experiencing high financial pressure.

In addition to housing precarity, many young skilled migrants in Guangzhou are experiencing employment precarity. Around 52% of respondents worked in the public sector, and 48% worked in the private sector. Young skilled migrants working in the private sector reported that their jobs are insecure. This is because China's economic downturn after the pandemic led to increased competition in the market. If a company is not consistently profitable, it may reduce its labour costs by making people redundant. Job insecurity also leads to an uncertain future income. Meanwhile, unlike the public sector, which strictly enforces an eight-hour working day, the private sector is subject to brutal market competition, and private employees have to cope with higher work pressure and longer working hours. More importantly, the public sector can provide better personal welfare for employees. As Gomes (2015) argued, the value of public sector jobs should be equal to the value of private sector jobs. That is, given the advantages of working in the public sector, such as greater job security, lower work pressure, and better personal welfare, these advantages should be reflected in lower relative pay. This is because employment precarity stems from both the uncertainty of the job itself and the psychological imbalance caused by comparison with other jobs.

More importantly, the onset of employment precarity is strongly related to the increased probability of housing precarity and vice versa. On the one hand, when young skilled migrants experience employment precarity, they are more financially vulnerable and, therefore, more sensitive to housing affordability stress. Renters are

struggling to afford quality housing and are stuck in the rental market for long periods. Or they may move frequently due to employment precarity, leaving them without a sense of home in the destination cities. For homeowners, employment precarity coupled with uncertain future incomes can lead to increased financial pressure to repay loans, placing them in a state of anxiety. Clair et al. (2019) argue that housing affordability is an important dimension of housing precarity indicators for renters or homeowners. However, in addition to housing affordability, renters are more likely to experience different dimensions of housing precarity, such as housing quality, tenure security, and access to public services. On the other hand, housing precarity may increase the probability of changing jobs. For example, if young skilled migrants suffer from poor quality dwellings, they are more likely to move house to meet their needs, potentially leading to job-housing mismatch. This can lead to renters changing jobs to avoid long commutes. In addition, homeowners who suffer from housing affordability issues may change jobs to find a higher income to alleviate financial stress. It is safe to say that employment and housing precarity go hand in hand and are inextricably linked.

8.4 The importance of work in shaping young skilled migrants' lives in destination cities

Work plays an important role in shaping young skilled migrants' lives in many ways, including earnings, social integration, health and well-being, marriage, and housing experiences. When young skilled migrants move to the destination cities, their main concern should be work. If young skilled migrants cannot find a job in the destination cities, this means that they cannot support themselves. The financial burden on basic living and housing costs will exacerbate their anxiety about not being able to find a job, leading to poor mental health and lower life satisfaction. Under these circumstances, if their negativity exceeds the limits of what they can cope with, they still have not found a job, significantly discouraging their settlement intentions. They may move to other cities to find jobs or return to their hometowns. Even though it is

not common for skilled migrants to be unable to find work in their destinations, the probability is still there.

The second scenario is that young skilled migrants get jobs, but the jobs do not match their qualifications or educational level. They may be paid less than expected and unable to catch up with their local counterparts. They may feel uncertain about their future and lose confidence in their career development. In terms of housing, their limited income typically makes them less likely to rent quality housing. They may rent in the suburban areas, leading to long commutes. Or worse, they may seek cheaper alternatives in the informal housing market (urban villages) to save money. They may suffer from poor-quality dwellings. They may report lower levels of job satisfaction and housing satisfaction. In addition, unsatisfactory jobs can make them feel self-pitying and not brave enough to make local friends, reducing their social integration. More importantly, work can also affect marriage, especially for men. This may be reflected in their limited financial resources and low social status, which puts them in a vulnerable position in the marriage market. They may also leave their destinations if they cannot find better-paid, stable jobs.

The third scenario is young skilled migrants who spend time in jobs using their private sector skills. They could obtain decent salaries. Even though private sector work is more precarious than public sector work, it plays an important role in shaping their lives and well-being in destination cities. In contrast to those who get a job but the job does not match their qualifications or educational level, young skilled migrants who get a job that matches their qualifications feel more confident about their career development. They can make more friends and increase their local contacts if they have a positive attitude to life. This will help to build local networks and increase social integration. In addition, decent salaries could give them more housing options. For example, they could rent in informal settlements to increase their savings. They will consider buying a house when they have sufficient savings for a down payment. Or they may rent a quality home in the formal housing market.

Housing costs would not be overly burdensome either, but savings would be reduced. If they have good career and housing outcomes, they may have more opportunities to choose their male or female spouse. In fact, having a stable, intimate relationship in destination cities could help them integrate better into local societies and strengthen their settlement intentions. However, given the precarious nature of work in the private sector, if young skilled migrants buy a house in the destination cities and do not receive their parents' housing support, they usually face a greater financial burden in paying the monthly installments. This could cause them anxiety and reduce their life satisfaction.

The fourth scenario is that young skilled migrants find public-sector jobs matching their qualifications or educational background. They could earn a decent and stable income and enjoy more personal benefits, such as housing provident fund, meal allowance, and rental subsidy. Meanwhile, they are more likely to have achieved a work-life balance than those working in the private sector. This is because most public sectors adhere strictly to labour laws, and public employees work eight hours daily. In addition, their stable income and high social status may give them an advantage in the marriage market compared to their counterparts in the private sector. Regarding their settlement intentions, public employees tend to stay in the destination cities permanently because they are not worried about losing their jobs and are more satisfied with their jobs. When they have enough savings, they tend to buy a house. Although the rise in income from public sector jobs has been modest, a steady income can cover their monthly payments. They do not have to worry that their future income will be uncertain and that they will not be able to make the monthly payments. They typically have higher levels of life satisfaction, especially in today's recession-hit China.

The fifth scenario is that young skilled migrants start a business in destination cities. In practice, given the economic recession, few young skilled migrants will choose such a career path. Starting a business is economically risky but has greater financial

rewards. If they can start a successful business, they can have a better life in destination cities, including marriage, housing outcomes, and social integration. Nevertheless, they will face greater financial stress and worse housing conditions if they fail in their business endeavors. In this context, young skilled migrants may experience anxiety and stress and be more likely to report poor mental health and lower life satisfaction (Shirmohammadi et al., 2019), which may hinder their settlement intentions.

8.5 Why do young skilled migrants prefer to work in the public sectors?

There is an interesting social phenomenon that more and more young people, including young skilled migrants, prefer to work in the public sector. In fact, this phenomenon has become even more pronounced after the pandemic for three reasons. First, working in the public sector is associated with greater job stability. Unlike young natives, young skilled migrants need a job to support themselves in the destination cities. If they choose to work in private companies, they may be worried about losing their jobs. This is because economic recession has led to a more competitive market, with many private companies cutting costs by making staff redundant. Unemployment makes them more financially vulnerable, and they may have to use their savings to cover living expenses and rent.

Second, when young skilled migrants work in the public sector, they may feel emotionally stable. For example, they may achieve a work-family balance. After work, they can develop their interests and make friends, which increase their social integration and life satisfaction. More importantly, they don't have to worry about the risk of losing their jobs. In China, layoffs in the public sector are rare. In contrast, even if working in private companies could bring relatively higher incomes, private employees may face higher work pressure and longer working hours (Sánchez-Sánchez and Fernández Puente, 2021). Meanwhile, private employees may be at greater risk of losing their jobs. In this context, if young skilled migrants are in a

chronic state of anxiety, this can damage their mental health and reduce their life satisfaction. In fact, young skilled migrants move to destination cities in search of better careers and a better life. Work is the important life domain. Work may reduce their settlement intentions if it causes greater stress, anxiety, and uncertainty. In contrast, public sector work may provide greater emotional stability, thereby increasing settlement intentions.

Third, as shown in the qualitative analysis in Chapter 7, the public sector is perceived to offer better personal benefits to public employees, such as higher housing allowances, meal allowances and rent subsidies. These welfare benefits provided by the public sector can reduce young skilled migrants' living costs and increase their savings.

8.6 The importance of homeownership for young skilled migrants

Homeownership plays an important role in the life domain of young skilled migrants in destination cities. For example, Arimah (1997) pointed out that homeownership is associated with better housing quality and a residential environment. This is because few landlords tend to invest more money in improving dwellings for tenants' housing satisfaction. In addition, the temporary nature of the rental tenure makes few tenants willing to spend large amounts of money on renovating their rented homes. In other words, when young skilled migrants buy a home in destination cities, they can decorate their homes according to their own preferences and needs, such as buying their favorite furniture and choosing their preferred style of decoration. This can increase their housing satisfaction and, therefore, their well-being in the destination cities.

Additionally, as Lui (2023) argued, homeownership provides stable housing and enhances migrants' social integration into local societies. This is because when young skilled migrants rent a home in destination cities, they are more likely to be exposed

to migrant tenants. They have few opportunities to interact with locals because most locals have become homeowners. Access to homeownership provides young skilled migrants with more opportunities to interact with locals, which helps to promote social integration. Meanwhile, homeownership can be seen as an acquisition of status: having a home in the destination. This is because, in traditional Chinese culture, rented dwellings are not seen as homes but as temporary accommodations. The only way to have a real home is to become a homeowner.

Previous studies have highlighted the investment properties of residential housing (Goodman, 1988; Raya & Garcia, 2012). That is, access to homeownership could be seen as an important means of wealth accumulation due to the rise in housing prices in recent decades. However, China's housing market is experiencing a general downturn, with a trend of declining transactions and falling housing prices. Against this background, buying a house may not be seen as a means of accumulating wealth at this stage, but homeownership is still seen as a sign of social status, particularly for young people (Clark et al., 2021). Although house prices are falling, buying a home is still a challenge for young people. It is safe to say that buying a home can be seen as a sign of achievement (financial capability or personal work capacity), whether it's relying on parents' housing support or one's own savings.

As shown in the qualitative analysis presented in chapter 7, access to homeownership is particularly important for male migrants because homeownership is seen as a prerequisite for men to enter into marriage. Indeed, this does not mean that all male migrants who intend to get married have to buy a house. As argued by Hu and Wang (2020), men who have not become homeowners are at a disadvantage in the marriage market and are less likely to enter into marriage compared to their counterparts who have become homeowners.

Finally, homeownership in China is tied to public benefits, particularly public education (Chen et al., 2022). If young skilled migrants have children but do not buy a

house in the destination cities, their children cannot access public education. Most parents attach great importance to their children's education, as a quality education can lead to better career opportunities and more opportunities in life. If their children do not have access to public education, this will always be an obstacle for migrants to settle in the destination cities. They may move to other cities or return to their home cities to give their children better access to public education. In China, public education tends to have better quality education and lower tuition fees than private education.

8.7 The bidirectional relation between settlement intentions and homeownership outcomes

Young skilled migrants' settlement intentions and homeownership outcomes in destination cities could influence each other. As pointed out by Tang et al. (2017), migrants who intend to settle in destination cities are more likely to buy a house in destination cities. The benefits of homeownership for migrants may explain this phenomenon. More specifically, access to homeownership can provide stable shelter, improve social status, increase their social integration into local societies, and provide access to public benefits for young skilled migrants. It is safe to say that homeownership plays an important role in most spheres of migrants' lives. Previous studies have shown that even if they want to settle in the destination city, they will leave if they do not have sufficient financial means to buy a house (Tang et al., 2017).

However, there is an interesting observation in this thesis when analyzing the qualitative data. Young skilled migrants who intend to stay in Guangzhou but rent rather than buy a house in Guangzhou. This seems to challenge Hsieh's argument that housing tenure choices are discrete (renting vs. owning). When understood in the context of the current state of housing tenure, housing tenure choice/outcome is discrete. However, there are many different points in the transition from renting to owning. For example, young skilled migrants work and rent a home in Guangzhou for

two years. They expect that they will be able to earn a higher income and have enough savings to buy a house in the fifth year. They may eventually move from renting to owning three years later. In this scenario, even if they rent in Guangzhou, they still express a willingness to settle in destination cities. This is because housing tenure expectations play an important role in shaping settlement intentions. Indeed, if they fail to achieve their previous housing tenure expectation, this may also discourage settlement intentions. As a result, housing tenure choice/outcome could be understood as a dynamic process of change and is a continuum state in the long period rather than renting and owning in isolation.

Additionally, when young skilled migrants become homeowners in the destination city, they are less likely to move to another city to return to their home city (Xie & Chen, 2018; Zhang & Yan, 2022). The fact that young skilled migrants who have become homeowners express a higher intention to settle in destination cities could be attributed to active and passive stays. On the one hand, active stays are due to the benefits of homeownership, which increase life satisfaction and housing well-being. On the other hand, given the complexity of property transactions and high transaction costs, homeownership is also associated with residential immobility, leading to involuntary stays. Taken together, settlement intentions and home ownership go hand in hand and should be examined together.

8.8 Summary

By comparing the differences and resonances of my findings with previous work, this chapter could help the reader to understand which of the findings of this study are consistent with previous studies and which are different. More importantly, I have provided detailed interpretations to explain why my findings differ from previous studies. In addition, by discussing some issues related to young skilled migrants' employment, settlement intentions, and homeownership outcomes, this chapter could make an important step forward in understanding the three important life domains of

migrants and how they interact with each other. The next chapter will present the conclusion.

Chapter 9: Conclusion

This chapter will begin by outlining the main purpose of the thesis and summarize the quantitative and qualitative findings. Secondly, this chapter will present the contributions of this thesis. Thirdly, this chapter will identify this thesis's limitations and propose future research directions. Finally, based on the findings, this chapter will offer some policy implications for improving young skilled migrants' job stability and housing well-being, thereby increasing their happiness and life satisfaction in the destination cities.

9.1 The purpose of this study and how the research aims were addressed

This thesis aims to disentangle the underlying mechanism of income levels and settlement intentions in shaping the relationship between young skilled migrants' employer types and homeownership outcomes in Guangzhou. Meanwhile, this thesis seeks to understand the relationship between employment, settlement, and homeownership and the meanings of working for different employer types and the meanings of homeownership in urban China. In order to achieve this research aim, this thesis employed a mixed methods design to address the three specific main research questions and three sub-research questions. More specifically, I proposed a main research question and two sub-research questions to disentangle the relationship between young skilled migrants' employer types and their homeownership outcomes in Guangzhou and its underlying mechanism. The first main research question is as follows:

1. How do the employer types of young skilled migrants shape their homeownership outcomes in Guangzhou?

Based on the migrant housing survey data in Guangzhou conducted by the Real Institute of Guangzhou University in 2019, I applied cross-tabulation and regression analysis to answer this research question. Firstly, I conducted a cross-tabulation analysis to determine the preliminary relation between employer type and

homeownership outcomes. Nevertheless, the cross-tabulation analysis results do not fully answer whether there is a negative, no, or positive correlation between employer type and homeownership outcomes. As such, I consider using regression analysis to determine the association between them. It should be noted that using regression analysis requires four important assumptions to be satisfied: independence of errors, absence of multicollinearity, assumption of no outliers in the dataset, and sufficient number of observations. Secondly, I assessed these four assumptions and confirmed that they were met before conducting the regression analysis. Third, given the binary nature of the dependent variable (homeownership outcomes), I used traditional binary logistic regression analysis to regress homeownership outcomes, controlling for the young skilled migrants' demographic and socio-economic characteristics. The results of binary regression analysis indicated a positive relation between employer types and homeownership outcomes. In other words, young skilled migrants working in the public sector have a higher probability of buying a house in Guangzhou than those working in the private sector.

Although I found the strong and positive relationship between employer types and homeownership outcomes, I must acknowledge the two important limitations of the traditional regression analysis. The results may be biased if these issues are ignored. The first limitation is caused by the hierarchical nature of the dataset used in the analysis. That is, the dataset has two levels, with the lower level unit (young skilled migrants) nested within the higher level units (districts). For example, there are two young skilled migrants with similar characteristics, but one lives in the city center and the other in the suburbs. Districts may also play a role in the homeownership outcomes of young skilled migrants. If young skilled migrants live in the city center, they may have to pay higher rents and face higher housing prices than if they rent or buy in the suburbs. In doing so, two young skilled migrants living in different districts may follow different housing trajectories in Guangzhou. Multilevel analysis can take into account the hierarchical nature of the dataset and produce more reliable estimations. Thirdly, I conducted a multilevel analysis combining the micro and

macro characteristics to examine the effect of employer types on homeownership outcomes and compared the sign, significance, and regression coefficients of employer types between the findings of the binary logistic regression analysis and the multilevel analysis. I found that after using the multilevel analysis, the sign and significance for employer type did not change significantly compared to the binary logistic regression analysis. Nevertheless, the regression coefficient for employer type is larger in the multilevel analysis than in the binary logistic regression analysis. These findings suggested that while ignoring the hierarchical nature of the dataset may not completely change the significant and positive relationship between employer type and homeownership outcomes in my case, it may underestimate the effect of employer type on homeownership outcomes.

The other limitation is that the dataset used in the analysis is observational rather than a randomized controlled trial (RCT), which may cause self-selection bias. More specifically, when estimating the effect of employer type on homeownership outcomes, differences in homeownership outcomes may be driven by employer type and covariates (demographic and socioeconomic characteristics of young skilled migrants). In other words, ignoring the self-selection bias may cloud the results. The advantage of the randomized controlled trial (RCT) is to ensure that the treatment and control groups have similar characteristics in order to estimate the effect of the interventions (employer types) on the experimental outcomes (homeownership outcomes). That is when identifying the effect of employer types on homeownership outcomes, young skilled migrants working in the public sector have similar demographic and socioeconomic characteristics to young skilled migrants working in the private sector. Therefore, a randomized controlled trial can help provide more accurate estimations. However, carrying out a randomized controlled trial in my research design is unethical and infeasible. This is because randomly assigning young skilled migrants to work for different employer types may run counter to their career aspirations and preferences. This is obviously unethical and infeasible in research.

In this case, the propensity score matching (PSM) approach can be used to address self-selection bias based on the observational data. Propensity score matching works in a similar way to a randomized controlled trial. The purpose of applying propensity score matching is to generate balanced samples, that is, the treatment group has similar covariates (demographic and socio-economic characteristics) to the control groups (in my case, young skilled migrants working in the private sector). After creating the balanced samples, I continue to employ multilevel analysis to estimate the effect of employer type on homeownership outcomes. Although employer type is significant at the 0.01 level for both unmatched and matched samples, the regression coefficients for employer type are larger when matched samples are used. This suggested that the covariates could be confounding the results if self-selection bias was neglected in the regression analysis.

Overall, based on the Guangzhou migrant housing survey data conducted by the Real Institute of Guangzhou University in 2019, I applied the binary logistic regression model, multilevel analysis, and propensity score matching approach to examine the association between employer type and homeownership outcomes. I found that employer type plays an important role in shaping the homeownership outcomes of young skilled migrants. In particular, young skilled migrants working in the public sector are more likely to become homeowners in Guangzhou than those working in the private sector.

Having answered the first main research question, two sub-research questions deserve to be investigated. **The first sub-question is: If employer type matters in determining homeownership outcomes, does income level alter the strength of the relationship between employer type and homeownership outcomes?**

To answer this sub-question, I examined the interaction effects based on the baseline analysis. In other words, income was treated as a third variable that might modify the nature and strength of the relationship between employer type and homeownership

outcomes. In order to carry out the interaction effect analysis, the product term of employer type and income was included in the models. It is worth noting that the interaction effect was performed with multilevel analysis using matched samples. In the models that included interaction effects, the main focus was on the 'two main effects' - the effect of employer type on homeownership outcomes and the effect of income on homeownership outcomes - and the 'one interaction effect' - the product term of income and employer type. When the interaction effect is added to the models, two main effects do not indicate a direct effect of employer type and income on homeownership outcomes. The significance and sign of the two main effects indicate the specific conditional effect of the employer types or incomes. In my case, employer type was negative and significant at the 0.05 level. The income variable was positive and significant at the 0.01 level. More importantly, the product term of employer types and income is positively related to homeownership outcomes at the 0.01 level. These findings indicated that income weakens the relationship between employer types and homeownership outcomes. In other words, the positive role of employer type in shaping homeownership outcomes depends on income levels. As incomes rise, the advantages of working in the public sector for buying a home in Guangzhou will diminish.

Overall, the interaction effect was performed to answer sub-question 1 by adding the third variable-income. I found that income can change the relationship between employer types and homeownership outcomes. More specifically, young skilled migrants working in the public sector in Guangzhou are more likely to become homeowners than those working in the private sector if their income remains at a lower level. However, as income grows, the positive role of public sector jobs in shaping homeownership outcomes becomes less pronounced.

The second sub-question is: **Do long-term settlement intentions mediate the relationship between employer types and homeownership outcomes?**

The purpose of this research question is to test whether employer type affects homeownership outcomes via long-term settlement intentions. That is, I want to understand the mechanisms of the effect of employer type on homeownership outcomes. The mediation effect, a statistical method, was used here to assess how young skilled migrants' employer types transmit their effect on their homeownership outcomes by encouraging or discouraging long-term settlement intentions. More specifically, my analysis used the traditional procedure suggested by Baron and Kenny (1986) for testing mediation effects.

There are three important steps or mediation effect test must meet three conditions. First, employer type must significantly affect homeownership outcomes when using employer type as the independent variable and regressing homeownership outcomes as the dependent variable (as shown in equation (7)). The first condition has been met by answering the main research question. The second step was to use employer type as the independent variable and regressed long-term settlement intentions as the dependent variable (as shown in equation (8)). The second condition is that employer type significantly determines long-term settlement intentions. My findings suggested that employer type is significantly and positively associated with long-term settlement intentions, indicating that the second condition has been fulfilled. The third step is to introduce the 'third variable' - long-term settlement intentions - into the baseline analysis. That is, I need to treat employer type and long-term settlement intentions as independent variables to regress homeownership outcomes as the dependent variable (as shown in equation (9)). The third condition is that if long-term settlement intentions can significantly affect homeownership outcomes in equation (9), the mediation holds that regardless of the effect of employer type can significantly affect homeownership outcomes in equation (9). My findings indicated that employer type and long-term settlement intentions were both significant at the 0.01 level, suggesting that the mediation effect holds. Noticeably, I also employed the propensity score matching (PSM) approach to generate the balanced samples between treatment and control groups and then performed a multilevel analysis to estimate equations (7)-(9)

using matched samples.

Finally, I also performed the Sobel test and bootstrapping algorithms, which are two common methods for testing the mediation effect, to check the reliability of the traditional three-step procedures for testing the mediation effect. First, I applied the Sobel test to test whether long-term settlement intentions play a mediating role between employer type and homeownership outcomes. My finding indicated that the Sobel test is significant at the 0.01 level, confirming that the mediation effect holds. I then used the indirect (0.004) and total effect (0.025) coefficients to calculate the mediation effect ($0.004/0.025 \approx 0.16$). As such, the Sobel test indicated that long-term settlement intentions mediate the relation between employer types and homeownership outcomes. Meanwhile, the mediation effect is 16%.

Additionally, I carried out the bootstrapping algorithms to re-test the reliability of the mediation effect. I set the number of repetitions to 1000 (the regular number). The direct and indirect effects are significant at the 0.01 level, suggesting that the mediation effect holds. At the same time, the coefficients for indirect and direct effects were 0.004 and 0.021, respectively. The proportion of mediation effect was 16% ($0.004/(0.004+0.021)$).

Overall, I applied three-step procedures, the Sobel test, and bootstrapping algorithms to examine whether long-term settlement intentions mediate the relationship between employer types and homeownership outcomes. The findings indicated that long-term settlement intentions mediate the relationship between young skilled migrants' employer types and homeownership outcomes, and the proportion of the mediating effect is around 16%. That is, when young skilled migrants work in the public sector, they are more likely to stay in Guangzhou permanently. If they express willingness to settle in Guangzhou, they are more inclined to buy a house in Guangzhou.

After answering the main research question and two sub-questions, I conducted the

robustness check to confirm the reliable estimations of the analysis. Overall, after examining the sensitivity of the baseline results by dropping some control variables, changing the matching algorithms, and addressing the endogeneity issues in equation (9) to assess the reliability of the mediation effect, it is safe to say that while robustness tests cannot eliminate all biases, a series of robustness checks can increase the reliability of the results. The findings of the robustness check confirmed that employer types play a positive role in shaping homeownership outcomes. Furthermore, long-term settlement intentions mediate the relation between employer types and homeownership outcomes.

In the qualitative analysis, I intend to explain the findings of the quantitative analysis. I proposed three research questions: (1) what does employer types mean for young skilled migrants? (2) What are the meanings of homeownership in Guangzhou for contemporary young skilled migrants? (3) How do young skilled migrants understand the relation between employer types, long-term settlement intentions, and homeownership outcomes in Guangzhou? To answer these research questions, based on the dataset used in the quantitative analysis, I used the follow-up survey to recruit young skilled migrants to participate in the semi-structured interview. The fieldwork was undertaken over three weeks on 7 and 28 July 2023. I successfully interviewed 36 young skilled migrants. The detailed interview materials and coding of the materials help to understand young skilled migrants' perceptions and experiences of working for different employer types, homeownership, and the relationship between work and housing.

In relation to the research question - what do employer types mean for young skilled migrants - I created the four meta-theme frameworks that emerged from the qualitative data. The first meta-theme is that the public sector can represent job stability in the Chinese context. The second meta-theme is that private sector employees have to cope with higher work pressure and longer working hours. The third meta-theme is that the public sector can provide better personal welfare benefits.

The fourth meta-theme is that the differences between the public sector with and without Bianzhi. These findings help to understand the differences between working in the public and private sectors.

Additionally, I created the six meta-thematic frameworks to answer the research question: What is the meaning of home ownership for contemporary young skilled migrants? Young skilled migrants pointed out that homeownership can improve their housing conditions, provide better access to public education, enhance their social integration in Guangzhou, and give them a sense of achievement. Interestingly, some young skilled migrants reported homeownership as a gateway to marriage for men and a sense of security for women. Despite these benefits of entering homeownership, some young skilled migrants indicated that they felt anxious after buying a house. These findings help to understand the two sides of homeownership for young skilled migrants.

Finally, I created two meta-thematic frameworks to answer the research question: How do young skilled migrants understand the relation between employer types, long-term settlement intentions, and homeownership outcomes in Guangzhou? These two meta-themes contributed to an understanding that the three key life domains of employment, settlement intentions, and homeownership outcomes are intricately and closely linked.

9.2 The contributions of this thesis

This thesis has contributed to the literature on migrant housing in six significant ways. First, in the context of China, it remains unclear whether migrants' employer type contributes to or inhibits homeownership outcomes in destination cities. Second, this thesis has investigated how incomes moderate the relationship between employer types and homeownership outcomes. Third, by analyzing the mediating role of settlement intentions in the association between employer type and homeownership

outcomes, this thesis has provided a new perspective linking employment, settlement intentions, and housing outcomes in a unified analytical framework rather than just looking at settlement intentions or homeownership outcomes as separate research areas. Fourth, while this thesis does not claim to be the first contribution to the migrant housing literature in general, it has deepened knowledge of what shapes young skilled migrant homeownership in one of China's affluent cities by combining individual-level and contextual factors in a unified analytical framework. Fifth, this thesis has addressed the self-selection bias issues related to the observational dataset and the endogeneity between settlement intentions and homeownership outcomes, thereby providing more reliable and robust estimates. This is done using PSM analysis and the IVs approach. Finally, this thesis has filled an important gap in the homeownership literature by analyzing qualitative data to provide detailed and underlying reasons for the findings from the quantitative analysis. Previous studies have mainly focused on the statistical relationship between the dependent and independent variables. The qualitative data analysis could better understand the broader issues about young skilled migrants' employment, settlement intentions, and housing experiences in China

9.3 Limitations

Although this thesis has contributed to understanding the literature on housing migrants in six ways, there are still some limitations. Firstly, given that the dataset used in this thesis is cross-sectional rather than longitudinal, this thesis has only disentangled the association between employer types and homeownership outcomes but has not been able to draw causality. Secondly, the weakness of the cross-sectional dataset has limited the ability to examine the relationship between employer type and homeownership outcomes over time. Thirdly, this thesis has focused on the single case of Guangzhou, while it remains obscure whether the findings of this thesis can be generalized to other megacities or even to the national level. Finally, in the qualitative dataset, this thesis has failed to interview young skilled migrants who are

self-employed. To address these limitations, future research could further examine the relationship between employer types and homeownership outcomes using longitudinal data at the national level. Meanwhile, future research could pay more attention to self-employed migrants in China who have not received enough attention.

9.4 Policy implications

Based on the quantitative and qualitative analysis findings, policymakers should consider that young skilled migrants, unlike low-skilled or rural-urban migrants, prefer to settle and buy a house in the destination cities. Meanwhile, policymakers should recognize that young skilled migrants' employment matters in determining their settlement intentions and homeownership outcomes, and settlement intentions and homeownership could influence each other. From a policy perspective, this thesis could offer some policy implications from three perspectives: employment, settlement, and housing experiences.

1. Employment

Although private sector jobs were considered better paid than public sector jobs before the pandemic, more and more young people prefer to work in the public sector after the pandemic. This is because public sector jobs can offer relatively lucrative and stable employment and help employees achieve a work-life balance. In contrast, due to the economic recession, many private sector layoffs or pay cuts are massive, and entrepreneurship is increasingly risky. The public sector seems surprisingly buoyant and attracts many educated young people, regardless of their motivations. Nevertheless, it must be recognized that private employment is important for economic development, technological innovation, and industrial upgrading because it can increase household incomes and social equality and promote political stability. Against this background, this thesis presents some policy interventions related to increasing employment equity in the public and private sectors, particularly for young skilled migrants. Given limited public resources, governments should use scarce fiscal

resources to develop the private sector rather than create public sector jobs. Although creating jobs in the public sector can reduce the employment rate in the short term, the strong development of the private sector is more conducive to higher employment rates. It boosts economic development in the long term. For example, firstly, governments can provide subsidies to private sector companies to increase the wages of private sector employees. At the same time, governments can set up special funds to encourage young, skilled migrants to start their businesses. Secondly, governments could increase unemployment insurance for private sector workers to reduce the negative impact of job insecurity on their lives. Finally, governments should provide more public housing for young, skilled migrants in the private sector to improve their housing conditions, stability, and affordability.

2. Settlement

The war for young talent has led many of China's big cities to develop different policies to attract and retain them. Although many Chinese cities have loosened hukou restrictions or reduced the requirements for obtaining a local hukou (e.g., Guangzhou and Shenzhen), more policy intervention is needed to help young, skilled migrants who are willing to settle in destination cities. Firstly, governments should offer more public benefits to young skilled migrants, especially public housing and education. For example, given that housing experience plays an important role in shaping their settlement intentions and outcomes, the government has earmarked a certain number of public housing units for young skilled migrants to improve their housing well-being. Also, governments should provide access to public education for skilled migrants, which could facilitate family reunification and avoid family separation due to children's education. Secondly, governments should establish a special social security scheme to provide them with specific unemployment insurance, thereby increasing their job security and boosting settlement intentions. Finally, governments should actively explore purchasing affordable housing and make young skilled migrants a key target group, thereby helping them enter homeownership. In the context of the worsening housing affordability crisis, purchased affordable housing

could be seen as a panacea for protecting housing rights.

3. Housing experiences

Policies to promote homeownership in China's affluent cities are needed to help young skilled migrants, who would otherwise be disadvantaged, access affordable rental housing and eventually homeownership. That is, renting is also seen as a temporary and important housing strategy to achieve the goal of homeownership for migrants in the absence of intergenerational housing support. For example, governments should encourage the development of a long-term rental market that can provide decent and affordable accommodation for migrant tenants. This could prevent young, skilled migrants from seeking cheaper alternatives in informal settlements, which are generally associated with poorer housing conditions and tenure insecurity. In fact, governments could also redevelop informal settlements to improve housing quality, and this type of housing can also be used as a source of long-term rental housing, reducing pressure on the limited supply of formal housing markets. In addition to physical housing conditions, renters are usually disadvantaged by public benefits coupled with homeownership. As such, governments should actively promote the implementation and promotion of policy reforms called "zu shou tong quan", where tenants can have equal access to public services with homeowners, especially public education. The findings of the qualitative analysis suggest that some young skilled migrants buy a house for their children's education. In order to avoid education inequality caused by housing tenure, the government should ensure that school-age children attend schools in their neighborhoods rather than linking school places to homeownership. In addition, governments should integrate the migrants into the affordable housing system and even provide them with more public housing units. Finally, given that housing prices are still expensive, even though they have fallen after the pandemic, buying a home in China's super city is still a barrier for migrants or they experience higher financial stress. Against this background, governments should seek to develop purchased affordable housing. Governments can, for example, buy back unpurchased commodity housing on the housing market from developers

and sell it to migrants at cost. On the one hand, this can avoid the pressure on the return of capital caused by the inability of developers to sell their commodity housing and reduce the risk of developers going bankrupt. On the other hand, this could help migrants to achieve their homeownership goals.

Taken together, this thesis calls for policymakers to consider the interplay between employment, settlement and housing, rather than looking at them in isolation, when considering future policies to encourage private sector employment, increase settlement intentions and promote homeownership.

Appendix

Appendix 1. Interview questions

The core questions of the interview were divided into four parts. The first part focuses on employment. The purpose of the first part on employment is to understand the participants' work experiences and their perceptions and feelings about working for different employers. The interview questions in the first part are as follows:

- (1) How stable do you think your current job is? Why?
- (2) Do you think job stability is important?
- (3) Why is job stability important? Or not important?
- (4) Do you think the type of employer is a measure of job stability? Why?
- (5) How does it feel to work in the public sector (or private sector or self-employment)?
- (6) Is this your first job?
- (7) How does it feel to have worked in the public sector (or private) before?
- (8) Would you consider changing jobs in the future?
- (9) How do you understand the “bianzhi”? (Chinese public system)
- (10) Do you think more and more young Chinese people want to work in public sector? Why?
- (11) Do you want to work in the public sector? Why?
- (12) What is the difference between working in the public sector and the private sector? (for example, advantages and disadvantages).
- (13) Do you think public sector jobs are more stable than private sector jobs and self-employment? Why? How is this stability reflected?
- (14) How is the pandemic affecting your work?

The second part aims to capture the participants' housing histories and housing

situations in Guangzhou. The interview questions in the second part can be divided into two sub-groups - those who have accessed homeownership in Guangzhou and those who have not accessed home ownership in Guangzhou. **For participants who have not become homeowners in Guangzhou, the interview questions are as follows:**

Housing situation:

- (1) Have you moved in the past three year?
- (2) Where is your dwelling?
- (3) What's your housing area of dwelling?
- (4) What's the number of rooms in your dwelling?
- (5) Is your new dwelling accessible to public transportation?
- (6) Have you lived in your new home? With whom?

Housing costs

- (1) What's your rent of your dwelling?
- (2) Do you consider intergenerational housing support playing a important role in access homeownership in Guangzhou for young people? Why?
- (3) Are you feeling under pressure to pay the rents?
- (4) Why are you feeling stressed? (eg. Pandemic in China, decrease in income, lose the job)

Communities:

- (1) Do you like the communities of current dwelling?
- (2) What aspects of the communities are you satisfied with?
- (3) What aspects of the communities are you dissatisfied with?

Public services (education and health care)

- (1) Are you satisfied with the public services tied with the current housing? (eg. Education and health care) Why?

- (2) Do you attach importance to children's education? Why
- (3) What do you think receiving a good education means to your children?
- (4) Are you willing to purchase a new dwelling so that your children can receive a better education? Why?

Residential mobility (If you have moved, Compare to previous home):

- (1) How long did you live there and with whom?
- (2) How would you describe your previous home? Did you feel satisfied with your previous home?
- (3) What aspects of your previous housing were you satisfied with? What aspects of your previous home were you most satisfied with?
- (4) What aspects of your previous housing were you dissatisfied with? What aspects of your previous home were you most dissatisfied with?
- (5) Why did you move from your previous home?
- (6) Regardless of homeownership status, is the previous housing more satisfying to you or the current housing? Why?
- (7) How did you think about the decision to move?
- (8) How did you choose your current home? What factors affected your choices? How satisfied were you with your choice?
- (9) Why did you move to your current home? What factors stimulated the move?
- (10) What aspects of moving to a new home might be better than now? What aspects might get worse?
- (11) Who wants to move? you or your family members (which ones)?
- (12) How do they feel about moving away from your current housing?

The effect of the Pandemic:

- (1) How has the pandemic affected your homeownership status and homeownership expectations? Or housing situation

General questions:

- (1) What's your motivation for buying a house in Guangzhou?
- (2) Do you want to access homeownership in future? Why?
- (3) What does access homeownership in Guangzhou means to you?
- (4) What are the factors that limit your housing tenure expectation to achieve? How do they make you feel?
- (5) Do you think housing supports from government is important for young people to access homeownership? What kinds of housing supports you want to receive from governments? Why?

For participants who have become homeowners in Guangzhou, the interview questions are as follows:

Housing characteristics:

- (1) Where is your dwelling?
- (2) What's your housing area of dwelling?
- (3) What's the number of rooms in your dwelling?
- (4) Is your new dwelling accessible to public transportation?
- (5) Have you lived in your new home? With whom?

Housing costs:

- (1) What's your total housing price of your dwelling?
- (2) Are you purchasing the dwelling in Guangzhou in full payment or with the loan?
If with a loan, what is the proportion of loan to total housing prices?
- (3) What is the source of funding for purchasing dwelling?
- (4) Do you receive your parents' housing support? How much?
- (5) Do you consider intergenerational housing support playing a important role in access homeownership in Guangzhou for young people? Why?
- (6) Are you feel under pressure to pay the mortgage?
- (7) Why are you feeling stressed? (eg. Pandemic in China, decrease in income, lose the job)

Communities:

- (1) Do you like the communities of current dwelling?
- (2) What aspects of the communities are you satisfied with?
- (3) What aspects of the communities are you dissatisfied with?

Public services (education and health care):

- (1) Are you satisfied with the public services tied with the current housing? (eg. Education and health care) Why?
- (2) Do you attach importance to children's education? Why
- (3) What do you think receiving a good education means to your children?
- (4) Are you willing to purchase a new dwelling so that your children can receive a better education? Why?

Compare to previous home:

- (1) How long did you live there and with whom?
- (2) How would you describe your previous home? Did you feel satisfied with your previous home?
- (3) What aspects of your previous housing were you satisfied with? What aspects of your previous home were you most satisfied with?
- (4) What aspects of your previous housing were you dissatisfied with? What aspects of your previous home were you most dissatisfied with?
- (5) Why did you move from your previous home?
- (6) Regardless of homeownership status, is the previous housing more satisfying to you or the current housing? Why?
- (7) How did you think about the decision to move?
- (8) How did you choose your current home? What factors affected your choices? How satisfied were you with your choice?
- (9) Why did you move to your current home? What factors stimulated the move?
- (10) What aspects of moving to a new home might be better than now? What aspects

might get worse?

(11) Who wants to move? You or your family members (which ones)?

(12) How do they feel about moving away from your current housing?

The effect of the Pandemic:

(1) How has the pandemic affected your homeownership status and homeownership expectations? Or housing situation

General questions:

(1) What's your motivation for buying a house in Guangzhou?

(2) What does access homeownership in Guangzhou mean to you?

(3) What are the factors that encourage your housing tenure expectation to achieve?
How do they make you feel?

(4) Do you think housing supports from government is important for young people to access homeownership? What kinds of housing supports do you want to receive from governments? Why?

(5) Will you consider buying a new dwelling in Guangzhou in the future? Why?

The third part focuses on participants' settlement intentions in Guangzhou. The interview questions are as follows:

Settlement intentions in Guangzhou:

(1) Do you intend to stay in Guangzhou for the long term?

(2) Why do you intend to stay in Guangzhou for a long time? Or for a short term; or not sure?

The fourth part aims to understand the relationship between employer types, long-term settlement intentions, and homeownership outcomes. The interview questions included in the fourth part are as follows:

The relationship between employer types, long-term settlement intentions, and homeownership outcomes:

- (1) When you first came to Guangzhou, what did you value most: job, housing, or settling down? Why?
- (2) Do you think that the employer types can determine the homeownership outcomes in Guangzhou? Why?
- (3) Does working in the public sector (private sector) encourage (discourage) you to stay longer in Guangzhou? Why?
- (4) If you want to stay in Guangzhou for a long time, would you consider buying a house in Guangzhou in the future? Why?
- (5) Does the nature of employer determine the homeownership expectation that translates into actual outcomes in Guangzhou? Why?

Overall, these interview questions are included in the semi-structured interview for discussion. More importantly, some open-ended questions and some potential probes are also included, but it depends on the discussion and scenario. As it is more flexible, I do not discuss it in this section.

Appendix 2: Extract from coding frame

- The meaning of employer types for young skilled migrants
 - Job stability
 - ✧ The balance between pursuing income and job stability
 - ✧ The two sides of job stability
 - ✧ Job (in)stability brings emotional (in)stability
 - Work pressure and working hours
 - Personal welfare benefits
 - Bianzhi

- The meaning of homeownership for young skilled migrants
 - Housing conditions
 - Housing experience
 - A gateway to marriage for men
 - Security for women
 - Access to public education
 - Social integration
 - A sense of achievement
 - Feeling anxious after buying a house

- The relation between employer types, long-term settlement intentions, and homeownership outcomes in Guangzhou
 - The effect of employer types on homeownership outcomes
 - ✧ Job stability
 - ✧ Housing provident funds
 - The role of settlement intentions in shaping the association between employer types and homeownership outcomes
 - ✧ Jobs are the first consideration

- ✧ Job stability
- ✧ Decent incomes
- ✧ Job Changes
- ✧ Moving homes

Appendix 3: Participant Information Sheet

Understanding young skilled migrants' homeownership outcomes in Guangzhou: the role of employer types and settlement intentions

PhD candidate: Haitao Du (h.du.1@research.gla.ac.uk)

Supervisor: DR MARK WONG (Mark.Wong@glasgow.ac.uk)

Supervisor: DR PHILIP O'BRIEN (Philip.O'Brien@glasgow.ac.uk)

You are being invited to take part in a research study. Before you decide to take part it is important for you to understand why the research is being done and what it will involve. Please read the following information carefully and discuss it with others if you wish. Ask the researcher/s if there is anything that is not clear or if you would like more information. Take some time to decide whether or not you wish to take part.

Thank you for reading this.

The purpose of this study is to investigate young talent workers' housing tenure outcomes, expectations, and aspirations. The fieldwork has two parts, including questionnaire survey and semi-structure interview.

The questionnaire and interview will involve participants' information, such as personal information, housing history, housing tenure expectations, aspirations, and outcomes. All information will be kept confidential.

Confidentiality will be respected subject to legal constraints and professional guidelines.

These datasets cannot be used to any commercial considerations. In addition, the datasets involve participants' personal information, including income, family structure, etc. The data collected by the interview will only use in researcher's PhD thesis and publication, for example journal. The datasets will be stored carefully by me. And I will store these datasets to my USB stick and set password.

I confirm that this project has been considered and approved by the College Research Ethics Committee.

To pursue any complaint about the conduct of the research: contact the College of Social Sciences Lead for Ethical Review, Dr Dr Benjamin Franks: email: socsci-ethics-lead@glasgow.ac.uk

End of Participant Information Sheet

Appendix 4: Consent Form

Title of Project: Understanding young skilled migrants' homeownership outcomes in Guangzhou: the role of employer types and settlement intentions

Name of Researcher:Haitao Du..... Dr Mark Wong and Dr Philip O'Brien.....

I confirm that I have read and understood the Participant Information Sheet for the above study and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

I acknowledge that participants will be referred to by pseudonym.

I acknowledge that participants will be identified by name in any publications arising from the research.

I acknowledge that there will be no effect on my grades arising from my participation or non-participation in this research.

- ♦ All names and other material likely to identify individuals will be anonymised.
- ♦ The material will be treated as confidential and kept in secure storage at all times.
- ♦ The material will be retained in secure storage for use in future academic research
- ♦ The material may be used in future publications, both print and online.
- ♦ I agree to waive my copyright to any data collected as part of this project.

- ♦ I understand that other authenticated researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.
- ♦ I understand that other authenticated researchers may use my words in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form

I acknowledge the provision of a Privacy Notice in relation to this research project.

I consent / do not consent (delete as applicable) to interviews being audio-recorded.

I agree / do not agree (delete as applicable) to take part in the above study.

Name of Participant Signature

Date

Name of Researcher.....Signature

Date

..... End of consent form



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of Glasgow

College of Social
Sciences

Appendix 5: Ethics forms

Content on pages: 246-247 removed due to confidentiality issues

Appendix 6: Access Declaration Form

Content on pages: 248-251 removed due to confidentiality issues

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