

The Road to Homeownership: A Longitudinal Analysis of Tenure Transition in Urban China (1949-94)*

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Introduction

Since 1978, China has embarked on the ambitious transition from a planned economy toward a market economy, which has resulted in profound changes in every aspect of the society, including the provision and consumption of housing. With privatization in the housing system and the emergence of a housing market, the rate of homeownership in urban China has sky-rocketed from around 20% in the 1980s to 46% in 1996 (Huang and Clark, 2002) and to 72% in 2000 according to the 2000 Census. Because of the predominance in the public rental housing sector before housing reform, most homeowners in urban China are first-time buyers. Tenure transition from rental to first homeownership is considered in the Western literature to be one of the most important life events, and it has generated a large body of literature. However, the existing literature focuses on tenure change in market economies where the freedom of housing choice is usually granted and homeownership is encouraged and rewarded. Tenure change in both the socialist and transitional economies is poorly understood. It is the goal of this article to examine the pattern and dynamics of tenure change in urban China, a socialist society in transition.

In socialist Chinese cities, housing was considered a welfare benefit and public rental was the dominant housing tenure. Privately owned housing, however, has always been an integral part of the housing stock, especially in inner cities, despite the socialist transformation of private housing and the extensive construction of public housing during the socialist era. The recent housing reform in urban China, launched nationwide in 1988, aims to transform the welfare-oriented housing system into a market-oriented system through privatization (Tolley, 1991; Wang and Murie, 1999; Huang and Clark, 2002). Homeownership has been highly promoted through the sale of public housing and private housing provided by developers. Most urban households in China are being given the opportunity to own their flats/houses for the first time. Due to decades of suppression of homeownership and the recent promotions, the urban Chinese have been embracing this opportunity, and a class of homeowners is emerging. Despite profound changes in housing consumption, there is a relatively small but growing body of literature on housing behavior in urban China (e.g. Logan *et al.*, 1999; Li, 2000a; 2000b; Huang and Clark 2002; Huang, 2003a; 2003b; Wang and Li, 2004); yet, most studies focus on the reform era, with little attention being paid to housing behavior in the socialist era, and its change over time.

Using a longitudinal survey dataset and the method of event history analysis, this article examines the transition from rental to first homeownership in urban China during 1949-94, a period which covers both the socialist (1949-87) and the early stage of

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housing reform (1988–94).¹ It is hypothesized that this tenure transition is affected not only by socio-economic factors, but also by institutional factors unique to the socialist housing system, especially in the socialist era. Although elements of the socialist housing system continue in the reform era, it is hypothesized that socio-economic factors will gradually replace institutional factors in shaping tenure transition because of the introduction of private housing markets. Furthermore, significant spatial and cohort differences are expected in tenure transition.

The article is organized as follows. After a literature review on tenure transition to homeownership in both the West and China, the history of the housing system in urban China is briefly described. The fourth section discusses different connotations of homeownership in Chinese cities and its change over time. The fifth section presents the data and methodology used, followed by an empirical analysis of the transition to homeownership. The findings are concluded in the final section.

Literature review

Tenure change from rental to homeownership has conventionally been considered a symbol of improvement in social economic status. Homeownership not only provides a stable shelter and a psychological haven, but it is also a piece of property that has the potential to increase in value, and gives the owner increased participation in political activities and community building (e.g. Clark *et al.*, 1994). With its broad ramifications, tenure change has generated a large body of literature. In general, there are two approaches in the literature — the economic approach and the socio-demographic approach. Assuming households are economically rational, economists argue that they change from renting to ownership to maximize utility within a given budget constraint (Arnott, 1987). The hedonic price function is often used to estimate housing utility, which is measured by the values of particular aspects of a property, such as the number of rooms and the age of the property. The main concerns are housing prices and how much households are willing to pay for certain housing elements. Using this approach, homeownership is not just a consumption decision but it is also an investment decision made in competitive housing markets. Thus, household income, assets and housing market conditions are considered the most important factors affecting the transition to homeownership (Henderson and Ioannides, 1983; 1985; Plaut, 1987). In general, high household income, low housing prices and low interest rates encourage the change to homeownership. Demographic factors are considered to affect the process through changing socio-economic status only and not through the life cycle per se (McCarthy, 1976; Kendig, 1984; Deurloo *et al.*, 1987).

In contrast, the socio-demographic approach considers the tenure transition to homeownership a complicated event that is inextricably linked with demographic characteristics of households (Clark and Dieleman, 1996). While recognizing the importance of the housing market, demographers argue that household characteristics such as family size and composition, and trigger events such as birth of children and marriage, are significant factors affecting the tenure transition (Clark *et al.*, 1984; Morrow-Jones, 1988; Deurloo *et al.*, 1994). In general, when single persons become married, when couples turn into families, and when people become older² they are more likely to change to homeownership. Yet, the timing between tenure transition and some life-cycle events may be reversed. For example, with increasingly expensive housing, Myers (1985) argues that first-time buyers often delay having children in order to buy a

1 While the overall economic reform was launched in 1978, the socialist housing system continued and the nationwide housing reform was not launched until 1988. Thus, in this article, 'transitional era' or 'reform era' refers to the period after the housing reform was launched (post-1988).

2 Later in the life course there is a tendency to return to renting when people are aging and children leave home (Murie *et al.*, 1991; Clark and Dieleman, 1996).

property. Clark *et al.* (1994) argue that it is gradually becoming more common to first become a two-earner household then buy a house in anticipation of having a family. In addition, changes in economic circumstances such as price inflation and increasing mortgage rates can deter the transition to homeownership (Rudel 1987; Clark *et al.*, 1994; Deurloo *et al.*, 1994).

The existing literature has given us a fairly good understanding of tenure transition in market economies, however we know relatively little about the process in other economies such as China — a socialist economy in transition. In socialist urban China, housing was considered a welfare benefit provided by the state in the form of public rental. Most households had few options but to wait for the allocation of public housing. While privately owned homes were allowed, homeownership was not encouraged or rewarded. In contrast to not so well-to-do tenants in public housing in market economies, it is the most privileged groups that live in public rental housing and the less privileged groups that live in private housing in socialist urban China (Bian *et al.*, 1997; Zax, 1997). Thus homeownership in socialist China had different connotations from those in market economies. The recent housing reform aims to privatize the housing system and to develop a housing market. Households have been granted a range of options in both the public and private sectors, and homeownership has been highly promoted (Huang, 2003a). While the market is beginning to play an important role — similar to the West — housing behavior is still constrained by the persistence of socialist institutions (Li, 2000a; Huang and Clark, 2002). Thus, housing and homeownership are perceived somewhat differently in urban China, and housing behavior is likely to be different over time, and different from that in market economies.

Because there was little information available on housing in socialist China, there was a poor understanding of housing behavior. The recent housing reform has resulted in a flourishing literature, yet most research focuses on macro aspects of the housing system, such as housing policies, housing problems and the recent housing reform (e.g. Kirkby, 1990; Zhou and Logan, 1996; Zhang 1998; Wang and Murie 1999). While housing consumption in urban China has been experiencing profound changes, micro-level study on housing behavior has been very limited, mainly due to the lack of systematic micro-level data.³

Utilizing survey and fieldwork data, a small group of scholars has provided a first glimpse of housing decision-making in China, mainly during the reform era. Huang and Clark (2002) argued for a framework based on the institutional relationships between the main actors in the housing system and their changes to understand tenure decisions in transitional urban China. They proposed that a stronger relationship between households, the state and work units, indicated by factors such as urban and permanent household registration, higher job rank and higher work-unit rank, is likely to keep households in the public and rental sectors by the mid-1990s. While socialist institutions continue to affect housing behavior, these authors argued that market mechanisms are beginning to shape tenure decisions just as in the West. Li (2000a; 2000b) focused on newly built commodity housing in Beijing and Guangzhou. He argued that the emerging housing market is highly segmented, and tenure decisions are very complex. Furthermore, he contended that the redistributive nature of the housing system remains in force as market forces begin to function, even in cities known for their openness. In addition to tenure, households are also moving to preferred neighborhoods. Using a stated preference approach, Wang and Li (2004) found that neighborhood factors are more important than dwelling factors in housing choice in Beijing. Despite the importance of some socio-demographic variables such as education and income, both Li (2004) and Wu (2004) argued that residential mobility in Chinese cities is less a result of life cycles and consequent housing adjustment than it is in the West. Instead, institutional forces and the position of households within the spectrum from state redistribution to market reward are more relevant.

3 Housing information was not collected in national censuses until the latest 2000 Census. Yet, the micro-level data for the 2000 Census are still not available to the public.

The limited research on housing behavior is mainly composed of cross-sectional analysis, focusing on the reform era. It is the goal of this article to offer a longitudinal analysis on tenure change from renting to owning, covering both the socialist and reform era. Further, the focus will be on the move to *first* homeownership. Before presenting empirical analyses, I will briefly discuss the housing system in urban China and the connotations of homeownership in the Chinese context over time.

The housing system and its transition in urban China

The housing system in urban China has followed a zigzag path in the last 50 years because of dramatic changes in ideology and political economy. It has changed from a market-oriented housing system dominated by private housing before the mid-1950s, to a welfare-oriented housing system dominated by public rental in the following three decades, and then to a transitional housing system with a mix of public and private housing since 1988. Before 1949, when socialist China was founded, the majority of urban housing was private and the share of public housing was negligible because of the government's long-term involvement in wars (Zhang, 1997). Although the socialist government built some public housing and transformed some private housing into public housing during the early 1950s, private housing continued to dominate the housing stock. According to the Chinese Communist Party (CCP) Central Committee (1956), private housing accounted for 53.9% in Beijing, 66.0% in Shanghai, 78% in Jilin, 86.0% in Xuzhou and 80.3% in Wuxi in 1955. Private housing was also predominately in the hands of a few large landlords, and the majority of the working class suffered from excessively high rents, crowding and poor housing conditions (Zhang, 1997; Wang and Murie, 1999).

Recognizing there were severe housing problems, the socialist government was determined to transform the housing system in line with its ideology that housing was a welfare benefit to the public. First of all, starting from 1956, the government began the process of socialist transformation in housing. Three methods were adopted to transform private housing — 'state management', 'public-private partnership' and 'a regulation approach'⁴ (Zhang, 1997). While private homeownership was recognized, the state took control of rent standards and management of private rental housing. In 1958, the central government decided to adopt 'state management' as the major form of socialist transformation, and provided detailed instructions to accelerate the process⁵ (Zhang, 1997). By 1964, 70% of the private rental housing stock was transformed (Editorial Board, 1990), and in 1966 the government decided to transfer all 'transformed' private housing into state ownership because it believed that landlords had already received their capital returns over the years. Thus the socialist transformation was also considered as socialist 'purchase' of privately owned properties

4 'State management' means the state took control of private rental housing in regards to housing allocation, rent standards, maintenance and day-to-day management, while the landlords remained nominal owners who received rents from the state instead of the tenants. This transformation aimed to protect tenants from unlawfully high rents and poor housing conditions by cutting off the direct linkage between landlords and tenants and intervening in housing maintenance. Because the new government lacked expertise in housing management, and businesspeople were often considered politically neutral, a 'public-private partnership' between landlords and public housing agencies was formed to run their rental housing business. The third method focused on rent regulation and price control. It was applied to small landlords who could retain their property and had the right to lease their housing on the market. However, they had to do so under state supervision.

5 For example, the government identified the subjects for socialist transformation – landlords with rental housing of over 150 square meters of floor space in large cities and those with less in other urban areas (often 50 or 100 square meters in small and medium-sized cities). It also stated that property owners should receive a fixed percentage (20-40%) of rent income charged by the state to tenants.

(Zhang, 1997). The remaining private houses were mainly for owners' self-occupancy rather than for profit. During the Cultural Revolution (1966–76), the state continued to eliminate private homeownership under the ideology of *yida ergong* (large-scale public ownership). A significant amount of the remaining private housing, which was often owned by professionals and government officials, was impounded and confiscated by the Red Guard and government agencies,⁶ of which some was returned to the original owners after the Cultural Revolution. Thus, a private housing market was virtually eliminated by the late 1970s.

The second approach to transforming the housing system was to construct public rental housing for urban residents. Yet, with the socialist ideology of 'production first, consumption later' (*xian shengchan, hou xiaofei*) and constant political campaigns, public housing construction was maintained at the minimum level in the 1950s and 1960s, and was virtually stagnant during the Cultural Revolution. On average, housing investment accounted for only 0.78% of GNP annually between 1949 and 1978 (SSB, 1990). In 1978, the economic reform was launched, and the government's focus shifted from class struggle to economic development. With the spectacular economic growth and the dramatic change in ideology, there was a boom in public housing construction in the 1980s and 1990s. Housing investment accounted for about 7% of GNP annually and around a quarter of total investment funds in the 1980s (World Bank, 1992). In particular, the change in the budgetary system in the 1980s allowed work units, especially state-owned enterprises and government agencies, to retain part of their profits to build housing for their employees (Wu, 1996), which has significantly improved housing conditions in Chinese cities.

The socialist transformation of private housing and the massive scale of construction of public housing have fundamentally changed the housing system into a welfare-oriented system dominated by public rental housing. A small amount of private housing has been maintained, mainly for self-occupancy. The rate of homeownership was reduced to below 10% in the late 1970s (Yang, 1992). Public rental accounted for more than 84% during 1986–90 in cities in Sichuan province and between 75% and 86% in Liaoning province, with less than 25% of homeownership in these two provinces (Pudney and Wang, 1995). Public housing was allocated to residents based on a set of non-monetary criteria such as job rank, job seniority and household size; and rents were maintained at a nominal level of less than 1% of household income (Bian *et al.*, 1997; Wang and Murie, 1999). While the low-rent policy has been beneficial to tenants, it has been clear that the massive public provision has become a huge financial burden to both the government and work units (Zhang, 1999). At the same time, while housing conditions have improved significantly compared with the early 1950s, the level of housing consumption is still very low and severe residential crowding is common (Huang, 2003b). The desire for change thus surfaces once again.

After pilot experiments, housing reform was launched nationwide in 1988. It aims to increase housing consumption through privatizing the housing system and creating a housing market. Various reform programs have gradually been introduced. First, public housing is being sold to sitting tenants who receive large subsidies (Tolley, 1991; Wang and Murie, 1999). This gives urban households the opportunity to own a flat, which was virtually impossible in the socialist era. The State Council (1998) announced the end of public rental housing after 1998, with the exception of 'cheap rental housing' (*lianzu fang*), which is designed to help extremely low-income households. With the state's determination to end public housing provision and heavily subsidized prices, most sitting tenants of public housing purchased their flats and became homeowners. According to the 2000 Census, about 30% of all urban households owned their properties that were previously classed as public housing.

6 There were no formal statistics and detailed records on how much housing was confiscated. But according to a central government document, 340,000 households in 130 major cities and 265 towns lost their privately owned dwellings to the government (Cao, 1982).

Second, private housing newly built by developers — ‘commodity housing’ (*shangping fang*) — and self-build housing by individuals or groups of households for self-occupancy (*zijiang fang*) — are allowed and are becoming a viable option to households. Because of the expensive prices of commodity housing, especially in big cities like Beijing,⁷ ‘affordable housing’ (*jingji shiyong fang*), a special type of ‘commodity housing’ with government-controlled prices (profit rate <3%), has been promoted by the government (State Council, 1998). Furthermore, ‘affordable housing’ is in principal for sale only (State Council, 1998), which is clearly another way to promote homeownership. By 2000, 9.21% of all urban households had purchased ‘commodity housing’, and 6.54% had purchased ‘affordable housing’, while more than a quarter of households in cities (26.78%) lived in self-build housing.

In addition, the government has been actively promoting the development of the secondary housing market by providing regulations and relaxing constraints on housing transactions.⁸ The increasingly mature housing market allows the ‘trade-up’ and ‘trickle-down’ processes, which in general lead to a higher rate of homeownership. Furthermore, to help households acquire their properties, a housing provident fund (*zhufang gongjijing*), a compulsory long-term housing saving plan provided by individuals and their work units,⁹ and monetary housing purchase subsidies (*goufang butie*)¹⁰ set up by work units are available (Huang, 2005). In addition, loans from state and commercial banks are becoming another important source to finance homeownership. For example, the Bank of Construction had outstanding mortgages of RMB 1.7 billion yuan at the end of 1997 (*China Real Estate News*, 6 May 1998, p. 1).

Because of these reforms promoting homeownership, the rate of homeownership has increased significantly, reaching 72% in 2000. Urban China is becoming a society of homeowners. As a result, a housing system dominated by public rental housing for more than three decades is in the process of being transformed into a market-oriented housing system dominated by private homeownership, which is a complete reversal of the socialist transformation and massive construction of public housing in the socialist era. It should be highlighted, however, that because of the Tian’anmen Square incident in 1989, housing reform was postponed after its launch in 1988 and most of the programs were not implemented until 1994 when the State Council decided to continue the reform (State Council, 1994). This is important as the survey used in this study (discussed later) was conducted in 1994, and so it may not be able to fully capture the main changes brought about by the housing reform.

In summary, the housing system in urban China has experienced two unprecedented transformations over the last five decades. Starting from the mid-1950s, the socialist transformation of private housing and the massive construction of public housing converted a private housing system into a welfare-oriented housing system dominated by public rental. Since the late 1980s, reforms have been implemented to privatize the public housing system, and homeownership has been highly promoted. During these profound transformations, urban households have no option but to behave accordingly. Thus, a

7 The average price for commodity housing in Beijing was 4,815 yuan in 1998, compared with 1,485 yuan for public housing (ECCRESY, 1999).

8 For example, in the early stages of housing reform, households who purchased public housing at subsidized prices could not sell their flats on the open market for the first 5 years (State Council, 1994). But later this constraint was removed as long as households had gained full ownership of their properties.

9 Every employee in state or collective run enterprises or government agencies is required to save no less than 5% of his/her salary to his/her housing provident fund account. At the same time, his/her work unit contributes the same amount of money. The housing provident fund belongs to the employee, and can only be used to purchase, build or remodel properties (State Council, 1999).

10 In regions where the ratio of housing price (for a 60 square meter affordable house) to household income is larger than 4, work units can issue monetary housing subsidies to households with no housing or those whose housing consumption is under the standard set by the government (State Council, 1998).

longitudinal study is needed to better understand housing behavior in a constantly changing context.

Connotations of homeownership in urban China

The concept of homeownership seems to be universal. An owned home not only means a stable shelter, but also a piece of property, an investment, and a symbol of establishment. Yet, with the change of ideology and political economy in urban China, homeownership does not necessarily hold the same connotation as in market economies, and it deserves a close examination before the transition from renting to homeownership is empirically studied.

Before 1956, the housing system in urban China was dominated by private housing owned by a few large landlords. Homeownership was obviously a symbol of wealth and prestige. Housing, together with land, had for thousands of years been considered by the Chinese as the best investment that families could depend on. In general, only a small group of rich and powerful households (*dahu*) in cities owned houses. Yet, with the socialist transformation in housing, the connotation of homeownership changed dramatically. Landlords (*dizhu*), especially large landlords, were classified as the enemies and exploiters of the proletarian class, a class struggle which was by no means over for the socialist government. 'There are still remnants of the overthrown landlord and comprador classes, there is still a bourgeoisie, and the remodeling of the petty bourgeoisie has only just started' (Mao, 1957). To transform the landlord class, most of the privately owned houses were eventually converted to public housing, one way or another, and landlords were allowed to keep only a fraction *just for self-occupancy*. In addition, individual homeowners, such as professionals and government officials, were classified as representatives of the capitalist class or anti-revolutionary during the Cultural Revolution (Wang, 1990), and their houses were often confiscated while they were sent to the countryside. Thus, for both large landlords and individual owners, homeownership placed a stigma on them that often resulted in political persecution.

In addition, the property rights of homeowners were very limited during the socialist era. Traditionally, property rights can be disaggregated into three distinct sets of rights — the right to use or control, the right to derive income and the right to transfer or alienate (Demsetz, 1967; Qi and Walder, 1999). Since profiting from housing was considered to be gaining without working (*bulao erhuo*) and exploiting the working class, homeowners only had the right to use or control, and the other two of the three sets of property rights were not allowed in socialist urban China. In contrast, renters of public housing enjoyed far superior rights over their dwellings than traditional tenant rights. Once they had access to a dwelling in the public sector, they could occupy it as if they owned it. Thus, renters of public housing in Chinese cities are often called *de facto* owners (Tolley, 1991). In other words, owners in the socialist era did not enjoy much more beneficial property rights than public renters. The concepts of property, investment as well as privilege associated with homeownership did not seem to be linked to homeowners in socialist Chinese cities.

Furthermore, private housing usually consisted of bungalows built before 1949 or former suburban farmhouses, thus they were often in poor condition with few modern facilities such as running water, gas or a private bathroom. In contrast, public housing newly built by work units and the government — mostly multi-story apartment buildings — is equipped with these facilities, although still at a modest level compared with Western standards. As owners with at least 150 square meters of floor space in large cities or 50 square meters in small cities were considered landlords, and part of their housing was subject to the socialist transformation, they actually ended up owning very small units. Moreover, owners and their family members usually did not qualify for subsidized public housing, as they already had their own housing. Thus, living in privately owned housing in socialist Chinese cities often meant poor

conditions and severe crowding, which does not correspond to owner-occupied housing in the West.

Since housing reform was launched in 1988, the socio-economic meaning of homeownership has changed again. With the government's promotion of homeownership in both the public and private sector, urban households began to appreciate the opportunity of owning their own property. While purchasing public housing is more or less motivated by heavy subsidies, purchasing commodity housing is mainly motivated by the desire for better housing and homeownership. The massive transition to homeownership, especially during the late 1990s, indicates the return of the desire for homeownership after decades of suppression during the socialist era. With around 72% of urban properties being owned, homeownership is once again the most preferred tenure mode.

With the rapid development of the housing market, two of the three property rights — the right to derive financial gain and the right to sell or alienate the property — that were not enjoyed by homeowners in the socialist era have now been granted. Housing transactions are promoted and facilitated by government policies and government agencies (e.g. the municipal housing bureau), private institutions (e.g. the real estate exchanges and real estate companies), and various media/events (e.g. TV and newspaper advertisements, the Internet, housing fairs). Profiting from housing is now not only allowed by the government, but also desired and actively pursued by the public.

In summary, homeownership has acquired different socio-economic connotations over time in urban China due to changes in the housing system and ideology. Since the housing reform, homeownership once again has become a symbol of well-being. Compared with the pre-socialist era, when homeownership was limited to a small group of households, today ownership is enjoyed by ordinary households whose properties are mainly for self-occupancy. In this sense, the socialist transformation contributed to equality in housing consumption and the distribution of homeownership.

Empirical analysis

Data and methodology

The following empirical analysis aims to examine the transition from rental to first homeownership in Chinese cities where the housing system has been in constant transition. The survey of *'the state and life chances in urban China'*, conducted in 1994 by sociologists Dr Xueguang Zhou, Dr Phyllis Moen and Dr Nancy Tuma at Duke University, and their collaborators in three Chinese institutions (People's University, Tianjing Academy of Social Sciences and Fudan University) is utilized. The survey used a multistage sampling procedure. First, six provinces (Hebei, Heilongjiang, Gangsu, Guangdong, Jiangsu, Sichuan) were selected, each representing a conventional geographic region in China (Zhou, 1994). Second, in each province, the capital city was chosen to represent large cities with a population of over 1 million. A medium-sized city (population between 200,000 and 1 million) and a small city (population under 200,000) were randomly selected based on the *1990 Yearbook of Chinese Cities* (SSB, 1990). In addition, two municipal cities, Beijing — the political center — and Shanghai — the largest industrial city — were included. Thus, 20 cities in total were selected, which cover a variety of geographic locations and types of urban economies (Zhou, 1997) (Figure 1). The sample size in each city was proportional to populations of cities in its rank in that province. Third, residents in each city were selected based on a stratified random sampling scheme. The primary sampling unit was residents' committees (*juweihui*) — the smallest administrative unit in Chinese cities. In each city, every *n*th residents' committee was selected based on the residential statistics provided by the municipal government. A similar sampling scheme was used to select

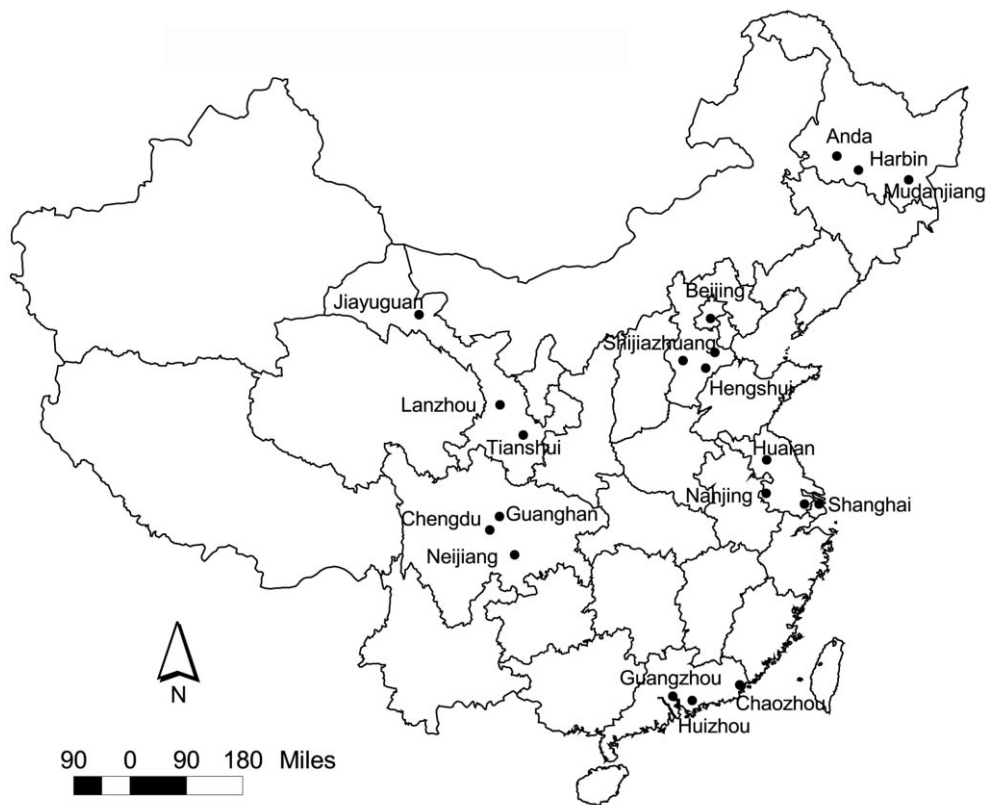


Figure 1 Distribution of surveyed cities

households belonging to each residents' committee. Finally, a member of the household aged 25–65 was randomly selected and interviewed. In total, 4,073 residents were interviewed. After excluding records with missing data, those who started their first job and housing career before 1949, and those who bought their first house before starting their first job, there were 2,478 respondents that lived in the rental sector when they started their first job. They are the subjects of this study.

The survey collected retrospective information about respondents' socio-economic information, and their housing history. Detailed information on every housing unit in which the respondents lived since they started working was recorded. This included housing tenure, the year moved in and out, housing conditions — such as the amount of floor space, the number of rooms and facilities (kitchen, bathroom, running water, phone) — and the location (city size and province) of the housing unit. This information allowed sophisticated analysis of housing behavior. In this study, the focus was on the first tenure transition from rental to homeownership since a person entered the labor market. Recall errors are inevitable in a retrospective survey. However, since residential mobility was fairly low until the late 1990s, the respondents did not have to recall many moves. Another limitation to the dataset was that people died or moved out of the cities before the interviews were completed.

A longitudinal research methodology was used to study the change from renting to first homeownership. The advantages in comparison to cross-sectional analysis have been well documented (Tuma and Hannan, 1984; Davies, 1987; Clark, 1992). In particular, recent developments in event history analysis and related modeling techniques have made it easier to study the occurrence and timing of life events, such as the rent-to-own transition. The event history models focus on the duration in the rental sector before the change to ownership. An important advantage of these models is

that they can handle censoring and time-varying covariates, which are conceptually difficult to deal with in conventional regression models. Instead of using Cox's proportional hazards model, which requires intensive computing, a discrete-time logit model was applied using the standard logistic regression procedure after converting the data to person-year format (Allison, 1984; 2001). This also allowed explanatory variables to be treated as time varying with little inconvenience (Withers, 1997).

The logit model takes the following form:

$$\log \left[\frac{P_{it}}{1 - P_{it}} \right] = \alpha(t) + X_j(t)\beta_j$$

where P refers to the conditional probability that individual i experiences the event at time t given that the event has not already occurred; $\log(P_{it}/(1 - P_{it}))$ is the log-odds of the probability of an event occurring; $\alpha(t)$ is a different intercept for each discrete-time period; $\beta_j(j = 1, 2 \dots J)$ is a vector of parameter estimates for a given covariate vector $X = (X_1, \dots X_j)$; and $X_j(t)$ is a vector of covariates, measured at each discrete time interval t if it is time varying, or at the beginning of the spell if it is time constant. The model assumes that for any individual in the population, the odds of the event occurring at each discrete time are proportional to the odds of the event occurring for the baseline population, whose hazard function is characterized by a zero covariate vector.

Tenure transition to first homeownership

As housing was considered a welfare benefit in socialist China, the housing system in Chinese cities has been dominated by public rental housing. According to the survey, public rental has accounted for more than 60% of housing tenure during 1953–68, and more than 70% since 1968 (Figure 2). The socialist transformation of private housing in the 1950s and 1960s, and the massive construction of public housing especially in the 1980s and 1990s, have clearly contributed to the dominance of public rental. Yet, there has always been a significant component of private housing in both the rental and owner-occupied sector. Private rental declined dramatically from about 17% in 1949 to 5.3% in 1963, and since then it has remained below 5%. Despite the discouragement of homeownership during the socialist era, the rate of homeownership accounted for more than 25%. It declined slightly in the 1950s and 1960s, but there was a trend of increasing homeownership in the 1980s and 1990s as a result of housing reform. According to the housing history described by respondents, some households moved back and forth between owning and renting, different from the conventional wisdom of households moving only from owning to renting during the socialist era.

As China has experienced very different eras, five cohorts corresponding to five historical periods were differentiated: those who started their first job and housing career during 1949–55, a period of post-war recovery and a dominant private housing market; those who started during 1956–65, a period of socialist transformation of private housing; those who started during 1966–77, the era of the cultural revolution and confiscation of private housing; those who started during 1978–87, a period of rapid economic growth due to economic reform and massive public housing construction; and those who started after 1988, when housing reform was launched.

Figure 3 shows the distribution of tenure transitions from rental to first homeownership by cohort. For cohort 1949–55, cohort 1956–65 and cohort 1966–77, about 20% of renters made their first transitions to homeownership during 1949–94, compared with 11.20% of cohort 1978–87 and 4.70% of cohort 1988–94. The relatively low rates of tenure transition for the younger cohorts, especially cohort 1988–94, should not be interpreted as a low probability of changing to homeownership. Instead, because of the relatively short period they spent in the housing market, they did not have much opportunity to do so. In addition, the timing of tenure transition spreads across different historical periods, with relatively more transitions occurring in the later periods. It is also interesting to note that many transitions occurred during 1956–65 and 1966–77, a period

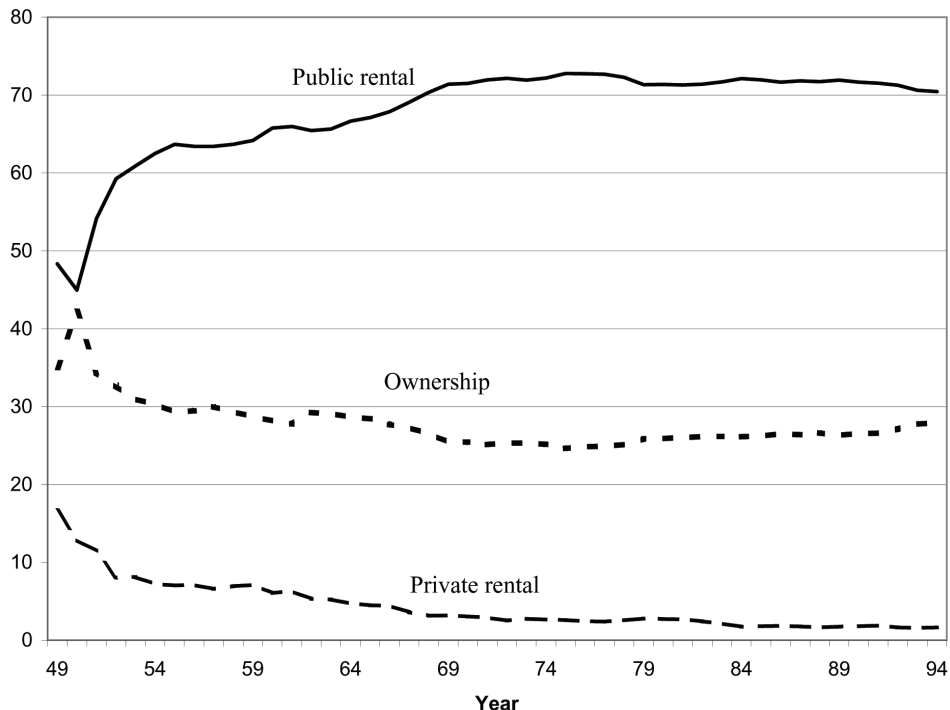


Figure 2 Housing tenure structure over time (1949-94)

with aggressive socialist transformation and massive confiscation of private housing. The conventional wisdom of unidirectional tenure transition (from owning to renting) during this period is challenged and a more nuanced perspective should be developed.

Another visual means of describing the rent-to-own transition is the survival curve. According to Figures 4 and 5, the survival curves are much flatter and the durations are much longer than those in Western countries (Clark and Dieleman, 1996). This means that the hazard of changing from renting to owning is lower and it takes longer for the transition to take place in Chinese cities. Overall, less than 25% of renters changed to homeownership after four and a half decades in the housing market.¹¹ Yet, there are differences between cohorts. First, within the first five years of their housing career, the survival curves for cohorts 1949-55, 1956-65, 1966-77 and 1978-87 are almost identical, while the survival curve for cohort 1988-94 is steeper. This shows that relatively fewer renters in cohort 1988-94 survived the first five years and the actual hazards of changing from renting to owning were higher than for the other four cohorts. This is in fact expected, as the housing reform heavily promoted homeownership. Second, from the fifth year onwards, the four cohorts before 1988 display somewhat different paths in the survival function, especially with longer duration. For example, after 20 years in the rental sector, 87.11% of cohort 1956-65, compared with 79.76% of cohort 1966-77, survived the rent-to-own transition. In other words, cohort 1956-65, who started their housing career when homeownership was discouraged, were less likely to make the tenure transition later in their lives. Both the log-rank and Wilcoxon tests show significant differences between cohorts in the hazards of changing from rent to first homeownership.

In addition, there are significant differences between public and private renters (Figure 5). The survival curve for public renters is clearly flatter and higher than that for private renters, indicating public renters have higher survival rates and lower hazards of transition to homeownership than private renters. Within the first 11 years,

11 The survival curve for all renters is not shown in the figures for simplicity of presentation.

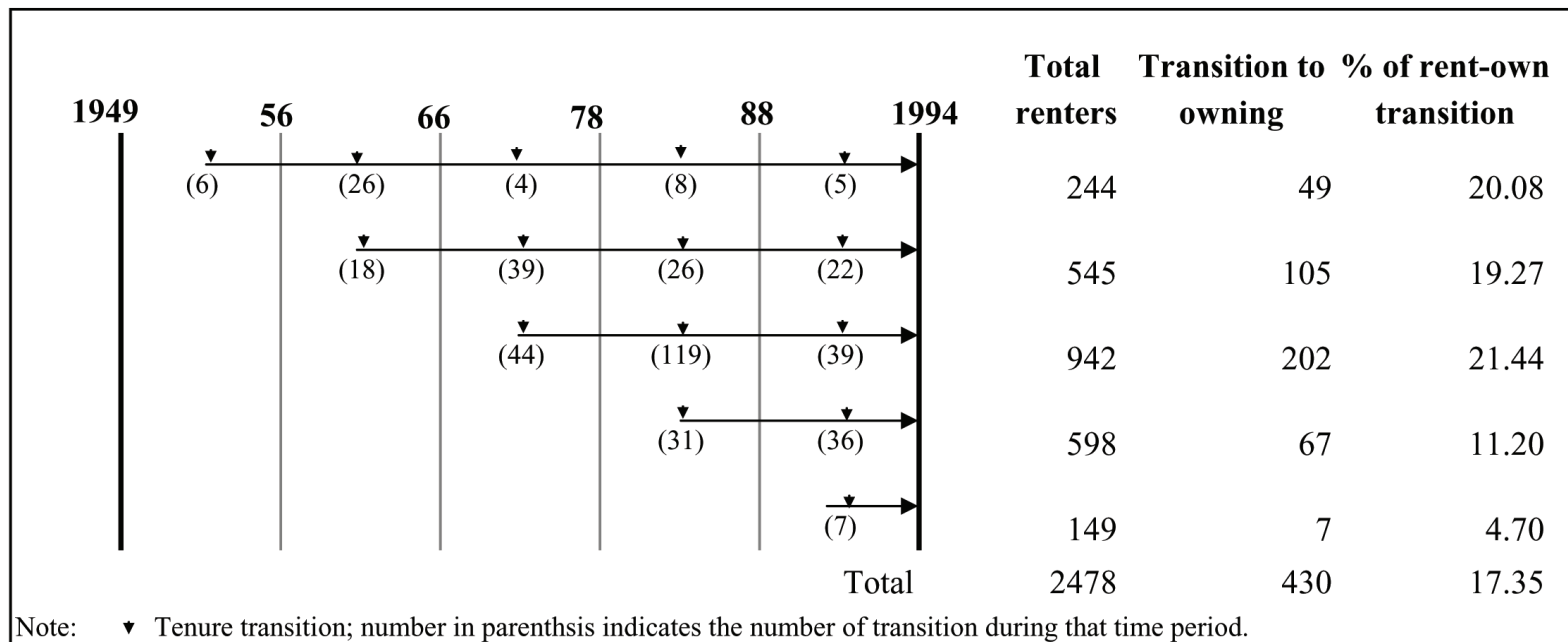


Figure 3 Distribution of respondents started in rental dwellings and their transition to owning (note: tenure transitions, numbers in parentheses, indicate the number of transitions during that time period)

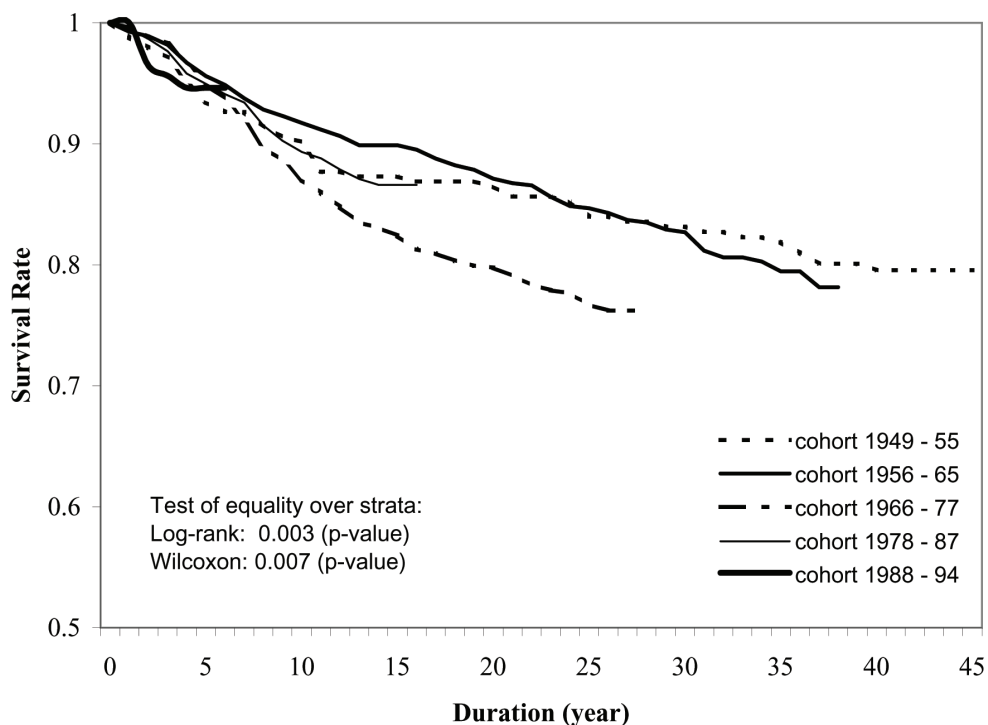


Figure 4 Survival distribution function by cohort

about 22% of private renters had already made the transition, compared with less than 12% of public renters. The extremely low rents and *de facto* homeownership in the public sector may have contributed to the difference. The curves level out after about 30 years, meaning renters are unlikely to move to own after being in the rental sector for so long.

Modeling the tenure transition

To statistically test the hypothesis, discrete-time logit regressions are applied to the person-year data using the standard logistic regression. Because of a predominantly welfare-oriented housing system before 1988 and reforms towards a market-oriented housing system since 1988, two models are considered for tenure transition before and after 1988, respectively.¹² The dependent variable for both models is a dummy variable, indicating tenure transition from renting to first homeownership (yes vs. no). There are four sets of independent variables, most of which are time varying and lagged (previous year) variables (Table 1). The first set consists of conventional socio-demographic variables, including cohort indicating the period of entering the housing market and as a proxy for age, sex, marital status, change in marital status since last year, education and income (Table 1). Household income is conventionally used to predict tenure change. But due to the design of the sample, only annual income for the respondent over time is available, and thus is used in this analysis. So caution is needed in interpreting the effect of income.

12 Ideally, three regressions should be conducted to model tenure transition before 1956, during 1956-87, and after 1988 in correspondence with the market-oriented housing system, the socialist housing system, and the transitional housing system in these eras, respectively. However, due to the small number of tenure transitions before 1956, the model cannot converge. Thus, tenure transitions before 1956 and during 1956-87 are combined, and the results for the 1949-87 model are very much the same as in the 1956-86 model.

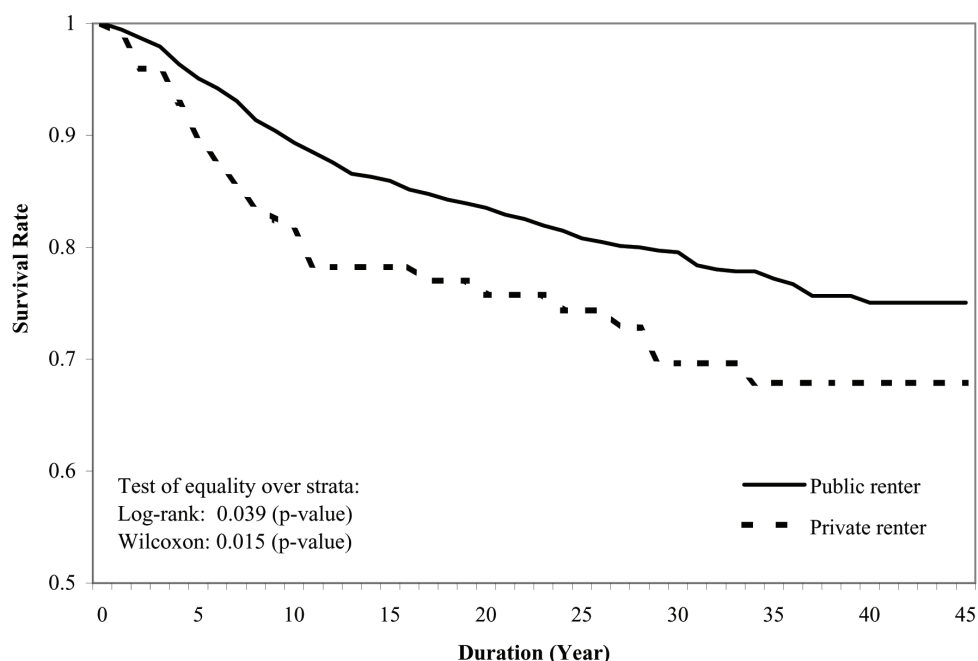


Figure 5 Survival function distribution by rental type

The second set includes institutional variables unique to the socialist housing system. It is well documented in the literature that an individual's political status (such as job rank and household registration status) and organizational characteristics (such as the nature and ownership of work units) play significant roles in housing consumption (e.g. Logan *et al.*, 1999; Li, 2000a; 2000b; Huang and Clark, 2002; Huang 2003a; 2003b). Thus, a respondent's job position and work unit are included to indicate his/her political status and work-unit characteristics. Since the survey examined urban residents only, it is impossible to test the effect of household registration status on tenure transition. In addition, as the rate of multi-generation cohabitation was high (Logan *et al.*, 1998), young adults often lived in their parents' houses. Thus, the work units and job positions of parents, especially fathers, may affect housing consumption. However, due to significant missing data on fathers' work information over time, they are not included in the models. The third set includes housing-related information such as tenure (public vs. private rental), number of residents and number of rooms in previous dwellings, and duration in the housing sector and its squared value. The fourth set consists of contextual variables, including city size and region.

Both models are significant and the results are listed in Table 2. First of all, most socio-economic variables are either non-significant or have different effects from Western models. Education and income, which are often important factors in tenure transition in market economies, were found not to be significant in both socialist (pre-1988) and transitional (post-1988) urban China. The cohort variable is significant in both periods, but it has different effects from those in the West. Older cohorts in urban China are less likely to change to homeownership than younger cohorts (negative coefficients), demonstrating advantages associated with seniority in accessing public housing in both the socialist and transitional housing system. In particular, cohort 1949–55, the oldest and those who benefited the most and the longest from the public housing system, and cohorts 1956–65 and 1966–77, who experienced the government's suppression of private housing and homeownership, were significantly less likely to make the tenure transition than their following cohorts. Marital status has a negative effect (–1.262) in the pre-1988 model, indicating that married people are less likely to

Table 1 Variables used in the discrete-time logit model

Variables	Definition and coding	Baseline	Time varying	Lagged
<u>Socio-demographic</u>				
Cohort	1949-55			
	1956-65			
	1966-77			
	1978-87			
	1988-94	*		
Sex	Male			
	Female	*		
Marital status	Ever married		yes	yes
	Single	*		
Marital status change in last year	Yes		yes	yes
	No	*		
Education	College +		yes	
	High school			
	Elementary or junior high			
	Illiterate	*		
Income (yuan)	Annual income		yes	yes
<u>Institutional</u>				
Job position	Party or administrative position		yes	yes
	Technical/professional position			
	Ordinary worker	*		
Work unit	Government agencies		yes	yes
	Public organizations			
	State-owned enterprises			
	Collective enterprises			
	Private and other firms	*		
<u>Housing</u>				
Tenure	Public rental			
	Private rental	*		
Number of residents			yes	yes
Number of rooms			yes	yes
Duration in the rental sector	Years since the beginning of housing career		yes	
Duration ²	Square of duration		yes	
<u>Context</u>				
City size	Large city		yes	
	Medium city			
	Small city	*		
Region	Eastern		yes	
	Central			
	Western	*		

* The baseline group for the variable.

change to homeownership than single persons before 1988; yet it is not significant in the post-1988 model. In a welfare-oriented housing system, being married is one of the main criteria for people to access long-term housing in the public sector. As married people are more likely to access permanent apartments with *de facto* ownership than single persons, it is not surprising that they are less motivated to change to homeownership. Since 1988, housing reform has provided alternative housing options in the private sector, which reduces the importance of marital status in housing consumption. Yet, the event of marital status change in the previous year was found not to trigger tenure change in either period, indicating tenure transition to homeownership in urban China was not a housing adjustment triggered by life-cycle events such as marital status change, as in the West.

Second, while a respondent's job position was found not to be significant to tenure transition, the nature of work units was significant but only in the pre-1988 era. Under the socialist housing system, people working in the public sector, especially those in public organizations (-0.771) and state-owned enterprises (-0.513), were less likely to change to homeownership than those in the private sector, because the former were more likely to access better public rental housing from their work units. Yet housing reform since 1988 seems to have reduced the importance of work units in tenure transition, as people working in the public sector could achieve homeownership through purchasing public housing while those in the private sector could do so in the private housing market.

Third, housing conditions were important to tenure transition in both periods. Not surprisingly, households living in crowded conditions, with more residents and fewer rooms, were more likely to change to homeownership. In other words, households who were satisfied with their housing conditions were less likely to change to homeownership in both periods. In addition, the longer people lived in the rental sector, the more likely they were to change to homeownership; however, the tendency seems to have leveled off over time, with a negative coefficient for the squared duration variable. There seems to be no evidence for duration dependency in either period. While the result seems to be puzzling for the pre-1988 era, the sale of public housing since 1988, especially with heavy subsidies given to those with high job seniority and thus often long duration in the public rental sector, contributed to the positive effect of duration. Yet, public rental was only significant in the pre-1988 model (-0.641), not in the post-1988 model, indicating public renters were less likely to change to homeownership than private renters in the socialist era, probably due to *de facto* homeownership enjoyed in the public sector. As one main component of housing reform was to sell public housing to sitting tenants with subsidies, public rental no longer deterred tenure change to homeownership, as was the case in the socialist era. In fact, the coefficient for tenure is positive (0.002) in the post-1988 model, although not significant, indicating public renters were more likely to be homeowners, mainly through purchasing their occupied dwellings.

Fourth, significant spatial variations in tenure transition can be seen in both periods. People living in large cities were less likely to change to homeownership than those in small cities, and those in the Eastern region were generally more likely to make the transition than those in the Western region. In addition to different housing stocks and housing markets, municipal governments behaved differently during both the socialist transformation and the recent decentralized housing reform, which created different housing opportunities and constraints and resulted in different housing behaviors (Huang, 2004). Case studies are needed to better understand the spatial variations.

Comparing the post-1988 model with the pre-1988 model, on the one hand, there are many similarities, indicating the continuity of the socialist housing system until the mid-1990s. For example, in both models, older cohorts were less likely to change to homeownership than younger cohorts, mainly because of their access to public rental housing. On the other hand, there are important differences between the two models, corresponding to the two very different housing contexts within which households act. For example, marital status had a significant negative effect pre-1988, but not post-1988, mainly because of the availability of private housing and the market-oriented

Table 2 Estimate results for tenure transition from renting to first ownership

Independent variables		Transition before 1988		Transition after 1988	
		Coefficients	Odd ratio	Coefficients	Odd ratio
<u>Socio-demographic</u>					
Cohort	1949-55	-0.750	0.473**	-7.552	0.001***
	(ref. 1978-87 for pre-1988 model)				
	1956-65	-0.608	0.545**	-5.315	0.005***
	(ref. 1988-94 for post-1988 model)				
	1966-77	-0.322	0.725	-3.785	0.023***
	1978-87			-1.331	0.264**
Sex (ref. female)	Male	-0.255	0.775*	-0.495	0.609**
Marital status (ref. single)	Ever married	-1.262	0.283***	-0.574	0.564
Marital status change in last year (ref. no)	Yes	0.090	1.094	0.711	2.036
Education (ref. illiterate)	College +	-0.394	0.675	0.196	1.217
	High school	-0.010	0.990	-0.166	0.847
	Elementary or junior high	-0.070	0.932	-0.341	0.711
Income (<i>yuan</i>)		-1.0E-04	1.0E+00	-9.0E-05	1.0E+00
<u>Institutional</u>					
Job position (ref. ordinary worker/staff)	Party or administrative	0.009	1.009	0.155	1.168
	Technical/professional	-0.145	0.865	0.007	1.007
Work-unit (ref. private and other firms)	Government agencies	-0.425	0.654	-0.177	0.838
	Public organizations	-0.771	0.462**	-0.442	0.643
	State-owned enterprises	-0.513	0.599*	-0.761	0.467
	Collective enterprises	-0.121	0.886	-0.134	0.875

Housing					
Tenure (ref. private rental)	Public rental	-0.641	0.527**	0.002	1.002
Number of residents		0.021	1.022**	0.039	1.040
Number of rooms		-0.353	0.703***	-0.334	0.716**
Duration in the rental sector		0.166	1.180***	0.209	1.233***
Duration ²		-0.005	0.995***	-0.001	0.999
Context					
City size (ref. small city)	Large city	-0.746	0.474***	-2.037	0.130***
	Medium city	-0.262	0.770	-0.839	0.432***
Region (ref. Western)	Eastern	0.490	1.632**	0.784	2.190***
	Central	0.288	1.334	0.498	1.645
Intercept		-2.806	0.060***	-3.101	0.045**
<hr/>					
-2 log likelihood with intercept only		2475.85		1143.76	
-2 log likelihood with intercept and covariates		2327.38		969.77	
-2 likelihood ratio chi-square test		148.47***		173.99***	
Wald chi-square test		146.52***		131.71***	
D.F.		25		26	

Significant at the *0.1 level; **0.05 level; ***0.01 level.

housing allocation system in which marital status was no longer a requirement. Similarly, work units and housing tenure were no longer significant to tenure transition in the post-1988 model, as people working in both the public and the private sector, and people living in both private and public rental housing, could purchase homes. The two models show that tenure transition in urban China is determined not only by micro-level factors at the individual and household level, but also by macro-level factors, such as the nature of the housing system, so that tenure transition has to be understood in its specific historical context.

Conclusions and discussion

The housing system in urban China has experienced profound transformations, such as the socialist transformation of private housing during the late 1950s and 1970s, the massive construction of public housing in the 1980s, and the recent housing reform to privatize the public housing system. Households have had no option but to behave according to sometimes hectic policy changes. While we know relatively little about housing behavior in China in general, we know even less about tenure transition in a temporal context. This article aims to help us better understand housing behavior in urban China by examining the tenure transition from rental to first homeownership. Instead of focusing on the recent reform era as many existing studies do, this article examines the period 1949–94, which covers both the socialist and reform eras. As the housing system has changed with ideology and political economy, the connotation of homeownership has changed correspondingly. In urban China, homeownership has not always been desirable and rewarding, and it was once an excuse for political persecution. Thus, the findings on tenure transition have to be interpreted in a changing context with different meanings attached to homeownership.

The empirical analyses suggest that homeownership has always been an important tenure in urban China, in spite of aggressive elimination of homeownership for decades in the socialist era. The transition from renting to first homeownership is a complex process determined not only by households' socio-economic status and housing conditions, but also by households' institutional status as well as the nature of the housing system. Thus, transitions during the socialist era (pre-1988) and the reform era (post-1988) are modeled separately to appreciate the effect of the housing system. The two models share many similarities, indicating the persistence of the socialist housing system in the reform era. For example, it was found that older cohorts were less likely to change to homeownership than younger cohorts in both the socialist and early reform eras, mainly because of the housing privileges enjoyed by the former in the socialist housing allocation system that continued in the reform era. More importantly, there are significant differences between the two models because of profound changes in the housing system. For example, in the socialist era, married people, those working in the public sector as well as those living in public rental housing were less likely to change from rental to homeownership than single persons, and those working in the private sector and living in private rental housing; yet, these factors were not significant in the reform era. This shows that the socialist housing system in urban China generally favored the former group by providing better public rental housing with *de facto* ownership rights, which discouraged them to change to homeownership. In contrast, the housing reform has introduced alternative housing options and market-oriented allocation mechanisms so that these factors — unique to the socialist housing system — were no longer important. Despite the relatively short time period since the reform, the results have already shown that tenure transition in urban China has to be understood in a historical context.

Although housing reform was launched in 1988, significant changes in the housing system did not happen until after 1994. Thus, the dataset used in this analysis, collected in 1994, may not be able to fully capture the most recent changes brought about by the

housing reform and thus the impact on tenure transition. In the last decade or so, housing behavior in urban China has begun to be shaped by market forces, although socialist institutions have still played important but decreasing roles (Huang and Clark, 2002; Li 2000a; 2000b). Homeownership is rewarded, and households with higher socio-economic status are generally more likely to obtain homeownership in both the public and private domain. For example, according to the 2000 Census, more than 50% of people in Beijing with some college or higher education owned their own homes, compared with less than a third of those with high school education and less than a quarter of those with less than high school education (Huang, 2005). Thus, the insignificance of factors such as education in the post-1988 model has to be interpreted in its specific historic context. Similarly, seniority was usually rewarded in tenure transition in the reform era, as the elderly often enjoyed more subsidies when they purchased their occupied public housing. Thus age (or cohort) may have a positive effect on tenure transition; yet, it has not been captured by this dataset. In addition, while tenure transition is a household decision, some household factors such as household income are not tested in this study due to the specific survey design. Further research is needed to better understand tenure transition and the impact of housing reform.

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