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ABSTRACT

We review the evolution of housing policy in the People's Republic of China as the government has, between 1949 and the present, shifted the provision of housing services from a market system to a planned system, and back again. Properly designing and assessing housing policies in China or elsewhere requires knowing the price and income elasticities of housing demand. While demand elasticities for housing have been much studied around the globe, relatively few studies have estimated housing elasticities in formerly planned economies. We use the unusually rich data from the 1991 to 2006 Chinese Health and Nutrition Surveys to estimate that in China's renewed market phase the permanent income elasticity of housing services demand in China is .70 and the elasticity of housing services demand with respect to the price of space is $-.64$. We also estimate that in China the own-price and income elasticities of the demand for habitable space are $-.38$ and $.29$, respectively.

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1. Introduction

In the past 25 years, the housing system in China has seen fundamental changes. Privatization and commercialization reforms led to the establishment of a commercial housing market that dramatically changed both housing consumption and the macro economy. The value of real estate investment grew at an average annual rate of 24% each year and increased from 361.4 billion Yuan in 1998 to 2,528.9 billion Yuan in 2008. Between 1991 and 2003, the proportion of new housing units purchased by private individuals rose from less than 30% to more than 85% (Ye et al. 2010). The Chinese National Bureau of Statistics reports that the average selling price of new dwellings increased from 2,359 Yuan per square meter in 2003 to 5,357 Yuan per square meter in 2011. At the World Bank 2011 Yuan-Dollar exchange rate, the 2011 price per square meter translates into \$58 per square foot, which was more than half the 2011 price per square foot for existing-home sales in the U.S.¹, where incomes were almost an order of magnitude larger than in China.²

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¹ Source: Zillow, as reported at Whitaker (2012) <https://www.clevelandfed.org/Newsroom%20and%20Events/Publications/Economic%20Trends/2012/Trends%20in%20Housing%20Prices%20per%20Square%20Foot>

² The Chinese prices per square meter are strikingly high even allowing that the Chinese figures are for new dwellings and that the median new home buyer in China tends to be much higher in the Chinese income distribution than the median U.S. buyer is in the U.S. distribution.

The shift from centrally planned resource allocation to reliance on markets changes, but does not eliminate, the role of the Chinese government in the provision of housing. Properly designing and assessing market-related housing policies requires information about the price and income elasticities of demand (Mayo and Gross (1987)) and the price elasticity of supply (Rydell (1976)).³ Here, we focus on demand elasticities for China. (See Fu et al. (2007) for a discussion of determinants of housing supply's price elasticity in China.) Reviews of demand elasticity estimates for the U.S. and for market economies around the globe indicate that housing is both price and income inelastic (see Polinsky (1979) and Goodman (2003) for the U.S. and Malpezzi (1999) for international results), but the reviewed studies leave open the question of whether populations steeped in planned economy traditions would approach housing consumption in ways similar to people elsewhere. (For the Soviet era, Alexeev (1988) found that Russian housing demands were especially income inelastic and Buckley and Gurenko (1998) found an essentially zero income elasticity.) This paper uses a large panel data set from 1991 to 2006 to study housing demand in China from 1991 to 2006. Specifically, we examine how households' demand for habitable space responds to changes in income and the price of space.

The paper is structured as follows: Section 2 provides general institutional information on the housing system in China since the establishment of the People's Republic of China; Section 3 describes our theoretical model; Section 4 briefly summarizes the literature;

³ Indeed, fully assessing ordinary income transfer programs also requires information about housing's demand and supply elasticities because those elasticities affect the extent to which transfers to renters benefit landlords rather than tenants.

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Section 5 discusses our data; Section 6 discusses our empirical results, and Section 7 concludes.

2. The housing system in China

Chinese housing policies have changed greatly in the more than sixty years since the establishment of the People's Republic of China in 1949.⁴ Transitions from a pre-1949 private market to the state housing provision system and later back to an active housing market significantly altered the economy of the nation and the livelihoods of Chinese people.

2.1. 1949–1956: transition period of the urban housing market

Before 1949, the urban housing sector operated in private markets. The Chinese Communist government, after coming to power in 1949, started to build a public housing system. However, the government did not immediately attack landlords with giant private housing property holdings. Instead, the government protected both the ownership of private property and reasonable activities between landlords and tenants, but banned speculative land development. The supply of public housing was small. In Beijing, there were approximately 1.2 million houses in 1950, of which 23% were publicly owned. 330,000 out of 410,000 households lived in rented houses (Lü et al. 2001, p. 114).

After the initiation of the first Five Year Plan in the early 1950s, the government expanded public housing developments and exerted controls on the housing market to meet demand from surging urban populations. On one hand, by setting a standard for the rent charged by landlords, the government aimed to contain the rising price of housing. On the other hand, the government initiated massive construction of public housing. A special housing system emerged in China: the “work unit communities” (Lü et al. 2001, p.117). Under this system, state-owned enterprises or work units were responsible for constructing housing for employees, including a complete set of facilities, e.g. schools and restaurants, to meet other basic needs. Local governments provided lands for these organizations at no cost. Upon distribution, each family was assigned one to three rooms, depending on the household size, ages, occupations and work experiences of the household head, not on income or housing price (Song et al. 2005, p.165). As a result, the offering of housing played the role of a social wage (Wang & Murie 1999, p.71). By 1955, public housing development had increased the proportion of publicly owned housing in Beijing to 45%.

2.2. 1956–1977: the socialist transformation of the housing system

Even though public housing had grown to be a more significant part of the housing system, the private sector still existed in the period before 1956, and landlords were still able to be engaged in “reasonable” rental activities. However, after 1956, the government gradually exerted stricter control over the housing market and transferred the ownership of private housing to the state by offering several compensation plans to private owners. The state became responsible for distribution, rent setting, repair, maintenance and other general management.

As the Cultural Revolution unfolded in 1966, the whole nation was in turmoil, including the housing sector. During the transformation period between 1956 and 1966, landlords were still able to retain housing for their own households and enjoy some income from the state under certain compensation plans. With the changing political climate that attacked “exploiters” and non-socialist activities, states

terminated compensation plans to landlords. Many of the landlords' own houses were confiscated and many landlords were sent to the rural area for “re-education.” The private housing sector greatly diminished during the ten-year Cultural Revolution. By 1981, only 18% of housing in 225 cities was privately owned. In addition, regular management of housing was severely disrupted. In Xi'an City, five percent of state-controlled houses and 20% of private houses were in dilapidated condition. (Wang & Murie 1999 p.86–89)

2.3. Post 1978: privatization and commercialization of urban housing

As the Cultural Revolution drew to a close, Chinese leaders faced serious problems in the housing market: excessive housing demand, housing supply shortage, under-maintenance, and housing inequality (Song et al. 2005, p.169). When Deng Xiaoping came to power in 1978, he initiated a number of political and economic reforms, including urban housing reform. As Wang and Murie (1999) note, in 1979, a series of reform experiments were begun; these experiments aimed to transform the public housing system into a market system. Efforts were made to encourage homeownership, including setting sales prices, subsidizing homeowners, raising rents to market level, and initiating financing programs.

Based on experience from experiments across the 1980s, the National Housing Reform Plan was carried out in 1988 with the formal objective of privatization and commercialization of housing. The plan also confirmed the principle of “sale first and rent second” (Song et al. 2005, p.175). Several additional policies were developed later on. A compulsory housing savings system was established. Both employers, public or private, and employees were required to save five percent of each employee's wage into a housing fund, which could only be used by the employee's household for housing related expenses. Required contributions have grown over time and now vary across cities, ranging from 7 to 13% (China Briefing, 2012). This fund, if not used, could be withdrawn after retirement. In addition, a commercial housing system was begun with the aim of shrinking the dominant “work unit communities” system. From 1981 to 1992, the number of real estate companies rose from 1 to 17,000, including state-owned, foreign, and joint development companies. In Shenzhen, the major city that had benefitted most from the new market-focused policies, foreign investment became the largest portion of total construction investment (Zhou & Logan 1996). The reform also generated a wide range of financial institutions, e.g. the Construction Bank and the Industrial and Commercial Bank, as well as new institutions for home insurance. By 1994, over 4,000 housing credit departments were in service all over the country (Song et al. 2005, p.174–175).

As restrictions on rents were relaxed, households with low income started facing an affordability problem. Affordability consequently became a major concern of the government, and it initiated an affordable housing program called the “Anju Projects” in major cities in 1995. 12.5 million square meters of apartments were built with an estimated investment of 12.5 billion Yuan in 1995. (Wang & Murie, 1999, p.195–198). Until 1998, the housing sector was basically divided into three parts: commercial housing, affordable housing, and government-assisted rental housing. In 1998, direct provision of housing by employers was ended, replaced by pay supplements for housing for some employees (Man, 2011).

In 1998, the housing market entered into a ten-year bullish period. The value of real estate investment rose, on average, 24% annually, increasing from 361.4 billion Yuan to 2,528.9 billion Yuan between 1998 and 2008. The real estate sector grew from about four percent of GDP to over five percent in the same period (Ye et al. 2010).

2.4. Rural reforms

The Chinese housing system in rural areas experienced similar patterns of changes as in the urban areas. In the 1950s and 1960s,

⁴ For particularly detailed treatments of China's housing policies over time, see Wang & Murie (1999) and Lü et al. (2001). Man (2011) offers a variety of views of how China's housing market reforms are affecting housing and cities in recent years.

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