



Promoting Affordable Housing in Changning District, Shanghai



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Executive Summary

This study focuses on the housing market in Changning District, Shanghai, China, in response to a request made to the World Bank for technical assistance. The district is expected to provide a target number of affordable housing units determined by central government, choosing from a range of different types of affordable housing programs. Changning has identified the recently established Public Rental Housing (PRH) program as the primary mechanism.

The study assesses the need for and the supply of housing in Shanghai generally and Changning in particular. It then evaluates the appropriateness of PRH to reach the district's affordable housing target. The study analyzes (i) population, income, and demographic trends in Shanghai and Changning to determine housing demand; (ii) the quality, quantity, and price of housing options in these areas to understand supply; and (iii) the financial feasibility and appropriate targeting of PRH housing in the district.

Shanghai has made exceptional gains in expanding access to housing in recent years. The speed and scale of public and private housing investment to accommodate urban population growth in Shanghai is unique to a city of its size. Over two thirds of the city's housing stock dates to the 1990s, suggesting that the quality and standards of much of the city's housing is suitable for long-term occupation and investment. The amount of floor space per capita in the past two decades has also increased by over two and half times, illustrating overall housing conditions had indeed improved for many city residents. Attention paid to housing has enabled the city to avoid many of the challenges other rapidly growing large cities in the region are facing such as growth in informal settlements and expansion of slums. Rather, as with the case of world cities such as New York or London, the main challenge for the city is se-

curing access to affordable housing amidst a context of both increasing income inequality and rising property values.

Although there has been significant attention paid to and public investment made in Shanghai's overall housing stock, the market still faces considerable challenges in delivering low-cost housing. This study finds that housing options for low-income groups in the city are limited and often prohibitively expensive. Privatization has benefited many *hukou*¹ holders, who have very low housing costs and relatively high savings rates. There is, however, an oversupply of housing at the high end of the market. The high number of owned yet unoccupied units suggests that speculative activity is common. Changning faces a number of constraints in supplying affordable housing to low-income groups through Economic and Affordable Housing (EAH) and PRH programs. The benefits of public investment in these housing schemes appear to be captured by higher-income groups that could otherwise purchase housing on the private market.

Although national estimates reveal a substantial surplus of urban housing, the study estimates that there is deficit of 2 million housing units in Shanghai. While income levels have risen and the housing stock is generally new and of good quality, demand far exceeds supply. High demand and reportedly high levels of speculative property investment have increased the price of housing. Evidence also suggests that high housing costs have led to overcrowding and substandard housing conditions. A large portion of the gap between supply and demand is probably addressed through the informal rental market, where prices and living conditions of tenants are not widely known. There

1. A hukou is a household registration record.

also exists a large population, recognized as “collective households,” that carries a much higher occupant density than other household types and is composed of members who share housing and living expenses out of necessity.

Despite the overall deficit in the supply of housing in Shanghai and Changning, many existing units are unoccupied. Rising incomes have encouraged speculative housing investment across the city. Housing costs in Shanghai and Changning, for both purchase and rental, are high, suggesting supply constraints. Paradoxically, data also indicate that vacancy rates are also high.

Changning District authorities lack detailed and reliable information on the extent and nature of current housing needs of different population segments. Achieving a balance between demand and supply and ensuring that limited public resources are targeted effectively requires a sound understanding of the current and projected housing needs of different socioeconomic groups. District authorities also lack detailed and reliable information on housing supply and about the broader rental market against which PRH units will compete, or the market distortions PRH might introduce or exacerbate. A clearer understanding of supply, differentiated by type, cost, location, and so forth, is needed to better provide affordable housing options given location, land, and finance constraints.

The forms of affordable housing assessed in this study require substantial subsidies, which distort the housing market and constrain both the types and numbers of units that can be provided. The main goal of Changning District’s program is increasing the supply of PRH, especially to attract young, talented professionals without hukou who will help maintain the district’s competitiveness. At the time of the study, vacancy rates at a newly built PRH project were 40 percent, though they have since improved considerably, arguably because there are few criteria for eligibility. There is evidence that suggests existing PRH units are consumed by people with higher incomes and who could afford private rentals. The study finds that land and development costs for producing PRH units represent a considerable public expense. Even with the subsidy, PRH unit prices are similar to private market rental

units, which eliminates the utility of a public subsidy for affordability purposes. Additionally, developers report less interest in undertaking PRH projects because of low demand and overly restrictive design standards. This reduces the effectiveness of PRH in reaching intended beneficiaries and raises the opportunity cost of reaching Changning’s affordable housing goals.

Shanghai should consider policies that support housing as a good that responds to private investment and transaction decisions throughout the metropolitan region, rather than a service or safety net to be provided by the government. Housing decisions are strongly influenced by location, access to transportation, employment, and commercial centers. Without adequate data on housing demand and preferences among different populations, subsidies can be easily misdirected and captured by groups that do not need them. The city could establish a housing price observatory that regularly collects data on housing prices by tenure type, transactions, and volumes. These data would allow stakeholders in the public and private sectors to better understand the dimensions of urban property markets, which likely operate both within and across administrative districts in the city.

A key challenge for the district government is transitioning from being a provider to an enabler, or facilitator, of housing, since the range of housing needs and the rate at which they change makes a supply-driven approach ineffective. In other words, how might Changning meet supply targets for adequate, low-cost housing set by higher levels of government, without requiring that such units are provided directly by government? A key response will be to identify ways that government action can stimulate and enable the supply of housing by others, particularly the private sector and individuals. The challenge is to find mechanisms that ensure subsidies will go directly to the households in need of housing assistance. Improved information on and understanding of the nature and extent of housing needs will help district authorities match available resources to declared targets. This study finds that the groups most likely to benefit from housing assistance policies include low-income migrants who are self-employed or work in the informal sector.

Abbreviations and Acronyms

DRC	Development and Reform Commission	m ²	square meters
EAH	Economic and Affordable Housing	PHA	Public Housing Agency
EASIN	East Asia and Pacific Region/East Asia Infrastructure Unit	PIR	price-to-income ratio
FAR	floor-area ratio	PPS	probability proportional to size
FLISP	Finance-Linked Subsidy Program	PRH	Public Rental Housing
FMR	fair market rent	RFP	requests for proposals
GDP	gross domestic product	RMB	renminbi
HUD	Housing and Urban Development	SASS	Shanghai Academy of Social Sciences
HPF	Housing Provident Fund	SHUFE	Shanghai University of Finance and Economics
LIHTC	Low-Income Housing Tax Credit	UDRUR	Urban and Resilience Management Unit
LRH	Low-Rent Housing	UPLRB	Urban Planning & Land Resources Bureau

CURRENCY EQUIVALENTS

Exchange Rate Effective May 31, 2013

Currency unit	=	renminbi (RMB)
US\$ 1.0	=	RMB 6.13
US\$ 0.16	=	RMB 1

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Chapter 1

Introduction

A. PURPOSE, BACKGROUND, AND METHODS

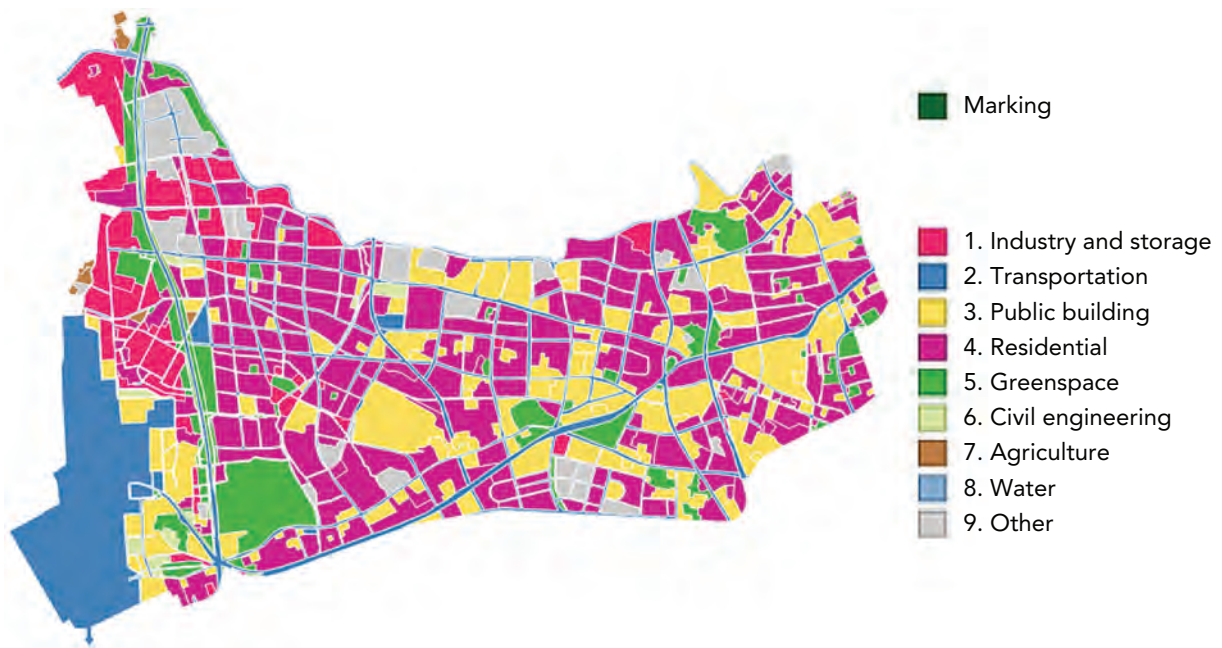
The main objective of this study is to help Changning District officials meet their affordable housing goals. This study focuses on a market analysis of housing in Shanghai and Changning to identify how city leaders can better align housing demand and supply to more accurately target affordable housing to those that need it. Changning must balance construction targets established by higher levels of government with the most effective approach for providing affordable housing.

Changning is a densely populated and centrally located district within Shanghai's urban core. It is one of 16 districts overseen by the Shanghai municipality. The district's total population is approximately 690,571 as indicated in the Sixth Census and covers 37.2 square kilometers, giving a density of 18,564 people per square kilometer. Changning is located in the western part of the city, between the city center and Hong Qiao International Airport (see the map in Appendix A). With a thriving commercial sector and new high-speed train terminal, the district has become a magnet for rural and urban migrants alike, seeking to better their economic opportunities. This migration has led to increased housing demand, especially for residents with low incomes or without a household registration record or *hukou*.

Land in Changning is used efficiently, with a favorable mix of residential, commercial, and manufacturing allocations. As can be seen in figure 1.1, there is no obvious disconnect between housing and places of work and shopping, although there are fewer offices in the west, where there is a preponderance of lower-income housing. Residential space is situated throughout almost all of Changning District (except in the area occupied by the Hongqiao Comprehensive Transportation Hub). Comparatively more residential space is found in the western part of the district and more public buildings to the east, but the public buildings are interspersed with residential areas. Offices are concentrated in the east, the center, and the northwest; shopping malls are scattered around the entire district.

The study draws from existing secondary sources and statistical data as well as primary data collected from housing suppliers and consumers in Shanghai and Changning District via a survey, focus groups, and interviews. Existing statistical and census data provided information on the characteristics of the city's housing supply, including the description, condition, and size of dwellings as well as vacancy rates and tenure forms. Additional information was gathered through interviews and focus groups with real estate agents, developers, and property owners to better understand the constraints and challenges they face in the housing market. An analysis drawing on cen-

Figure 1.1: Land Use in Changning



Source: SHUFE housing transactions database.

sus data and household surveys studied housing demand in Shanghai and Changning. Another analysis of census data provided demographic, income, and employment trends and characteristics. These data complemented existing surveys that collected information on household characteristics, including household size, tenure status, age structure, education, residency status, and education levels. Additional primary data was collected through a survey of district residents (both owners and renters), case-study interviews, and focus groups.

B. CHINESE GOVERNMENT STRATEGY TO PROMOTE AFFORDABLE HOUSING

China has witnessed simultaneous expansion in both urbanization and economic growth. Thirty years ago, just 20 percent of the population lived in urban areas in contrast to 51.27 percent today. In the first decade of the twenty-first century, the government embraced urban development.

China successfully carried out large-scale investments in urban infrastructure, especially transportation, and has committed to expanding the supply of affordable housing. With the rapid growth of the economy and as commercialization of housing continues to take hold, prices have dramatically increased, prompting the government to introduce new policies to make housing more affordable.

Prior to China's economic reform efforts, housing in urban areas was publicly owned and allocated—independent of demand or location factors. This resulted in low levels of investment in the housing sector and chronic under-supply of quality housing, especially since rents did not cover the cost of operations and maintenance (Wang and Murie 1996). In the 1980s, as part of the initial economic reforms, the government began testing policies for privatizing housing in selected cities by allowing employees to purchase housing from their work units at very low prices. Nevertheless, work units continued to play a

major role in the production and allocation of housing throughout the 1990s. It was not until 1998 that the direct production and allocation of housing by work units truly ended. Employers instead began providing housing allowances so that employees could purchase housing on the market.

Market reforms improved the overall quality of the housing stock but also greatly increased prices, thus reducing affordability and availability for several demand groups.

At this time, the government also laid the foundations of its vision for how households of different income groups would acquire housing. Upper-income households could purchase commercial housing on the market. Middle-income households would be supported through publicly subsidized ownership programs and assistance with mortgage finance. Low-income households would be provided with low-cost rental housing. As a result of this gradualist reform policy, urban housing conditions improved dramatically. Floor area per capita increased from 6.7 square meters in 1978 to 28.3 square meters in 2007 (Zheng, Man, and Ren 2009) and owner-occupied homeownership reached 84 percent by 2010 (Man, Zheng, and Ren 2011).¹ It is important to note, however, that these ownership rates only account for people holding official residency permits or hukou and living in formally registered housing. As housing conditions over the last 20 years have improved, prices have also increased exponentially, making the Chinese housing market severely unaffordable (Man, Zheng, and Ren 2011; Wu, Gyourko and Deng 2010).

The Chinese government sets overall affordable housing targets independent of market considerations; it then delegates responsibility to lower levels of government for determining the programming and financing to reach these targets.

1. Per capita floor space and per capita living space are different official measures. Per capita floor space represents the entire area of a residential building divided by the number of residents. Per capita living space is calculated based on the area of bedrooms, exclusive of kitchens and bathrooms. Floor space measures also include only hukou holders. Due to this, the measure likely both underestimates the number of residents in a building, and—because it includes hallways, common areas, elevators, and patios—obscures the amount of private living space.

The government's 12th Five Year Plan announced that 36 million affordable dwelling units would be built between 2011 and 2015, with the objective of reaching 20 percent of the total urban population. These targets are divided across provincial governments. They in turn assign the tasks to specific municipalities and districts based on administrative divisions rather than objective criteria such as population size, housing demand/supply, or economic conditions. Although China is a unitary state, provincial and city-level governments have significant autonomy and bear the financial responsibility for implementing these directives. Given the high priority of the housing agenda, local officials are held fully accountable and failure to meet their targets could result in demotion or even dismissal. Local officials are, therefore, under significant pressure to deliver on these targets. They also enjoy wide latitude in how to meet the targets and are free to choose and prioritize among the five different affordable housing programs listed below:

1. ***Renovated Housing***: upgrading of existing housing stock in shanty town areas
2. ***Relocation Housing***: housing built as a form of compensation for households displaced by development
3. ***Public Rental Housing (PRH)***
4. ***Economic and Affordable Housing (EAH)***: shared equity housing, with 30–50 percent public ownership to maintain affordability
5. ***Low-Rent Housing***

Due to the scarcity of vacant land, Changning faces financing constraints, which in turn influence its affordable housing strategy. Most cities in China use revenues from land sales in peri-urban areas to invest in affordable housing schemes. However, Changning is an inner-city district where land is expensive and vacant land is limited. These financing options are therefore not available and district leaders are under great pressure to find new funding solutions. The district has prioritized three programs to meet municipal targets: it allocates the largest share of funding to PRH, followed by relocation and renovation housing programs, and finally a limited number of EAH units.

These EAH units are allocated to Changning hukou holders but built are outside the district as determined by the municipality.

In contrast to the rest of China, Shanghai uses PRH as an economic development tool rather than a solution to meet the needs of low-income or special needs residents. Cities in China compete with each other to attract the most talented and well-qualified young workers who will help develop their local economies. Subsidized housing is one means of attracting such workers, such as young financial specialists or engineers, to live in Shanghai and Changning. Given the high cost of living in Shanghai and employment opportunities for recent university graduates elsewhere, the city is facing competition in attracting a younger work force. However, as this study will show, these consumers are also able to afford private market rental housing.

C. BACKGROUND OF HOUSING ISSUES IN SHANGHAI AND CHANGNING

The production and consumption of housing in Shanghai has changed dramatically and in some ways has improved in recent decades, thanks to a number of market reforms. Up through the 1980s, housing conditions in Shanghai were poor due to serious problems of overcrowding and a preponderance of substandard units. The city experimented with different approaches to address this issue. First, it attempted to improve management of existing public housing by raising the rent and requiring larger security deposits of new tenants. It subsequently introduced a program to gradually privatize public housing by selling units at a discount to existing tenants. By 1995, more than 60 percent of the housing was in the private sector, another third was owned by collectives, and less than 5 percent was state owned (Wong et al. 1998). For the first time, during this period, the private sector began to supply housing for sale in the open market: nearly 60 million square meters were constructed in 1996 alone (Ganesan 2000). This amounted to over 650,000 units.

Another innovation was the establishment of a Housing Provident Fund (HPF) in the 1990s, the first of its kind in China. The Shanghai HPF is a compulsory savings program that allows employers and employees to contribute 7 percent of their salary toward the purchase of a home with below-market mortgage interest rates. From the outset, the fund not only issued mortgages for homebuyers (like most HPFs) but also provided capital to private developers to increase housing supply. Within five years, nearly 98 percent of employees, numbering 4 million, were contributing to the Shanghai HPF (Wong et al. 1998). By 1998, with RMB 18 billion, the Shanghai HPF accounted for almost half of the housing provident funds in China and served as a model that was scaled up nationally (Rosen and Ross 2000: 85).

Through these initiatives, Shanghai was able to expand the supply of adequate housing by promoting mortgage lending, providing construction finance, and privatizing work-unit housing. However, housing prices have been escalating consistently, making it difficult for low- and middle-income households, those moving from rural to urban areas, and young workers to buy a home. *City leaders have expressed concern about the “sandwich class”—those whose incomes are above the eligibility level for low-cost, subsidized housing, but who are unable to afford unsubsidized properties in the private sector.* In the words of one official, “these people have to face inconveniences cropping up in day to day life and career development for lack of a stable dwelling.”² Leaders of the central government have expressed similar concerns.

Under the 12th Five Year Plan, the central government expects Shanghai to supply 1 million affordable housing units, reaching approximately 20 percent of households. This would account for 60 percent of the homes to be built across the municipality. The extent to which the existing affordable housing stock was taken into consideration in

2. *Youth Daily*, March 7, 2012: <http://www.sial.sh.cn/yjsEnglish/news20412.htm>.

establishing these targets is unclear. The municipality's own 2008 plan, presented in "Affordable Housing Development Plan for 2008–2012," set a much more modest target of approximately 400,000 housing units to reach 8 percent of households (Shanghai Municipal People's Government 2008). Shanghai has formally delegated implementation of the affordable housing program to its 17 districts/counties. Each district's responsibilities are clearly specified, including provision of land, capital investment, construction, and the allocation of housing units. The municipality will retain responsibility for planning, policy formulation, and coordination.

D. ORGANIZATION OF THIS STUDY

The study is organized into three chapters. Chapter 2 assesses trends in housing supply and demand in Shanghai and Changning District, including the implications of urban migration and residency controls on housing needs. Chapter 3 examines government efforts to expand access to affordable housing in Shanghai and the district, and identifies key constraints and barriers. Chapter 4 reviews the main findings of the study and, drawing on international lessons, provides alternative recommendations for the expansion of affordable housing options.

Chapter 2

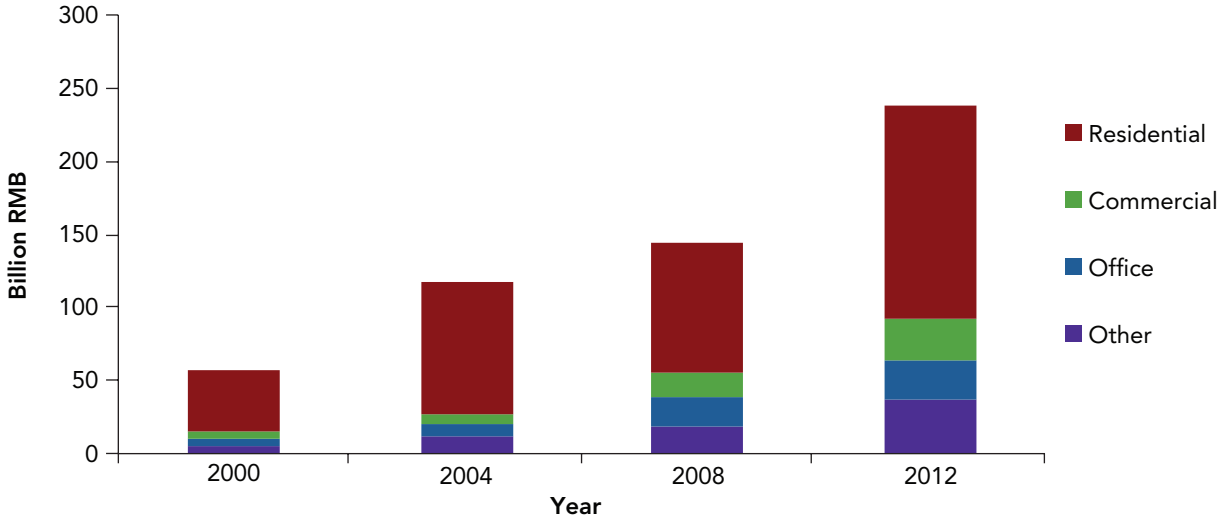
Housing Market Assessment of Shanghai and Changning

A. TRENDS IN THE EVOLUTION OF SHANGHAI'S HOUSING AND LAND MARKETS

The volume of real estate investment in Shanghai has grown rapidly. Real estate investment grew from RMB 56.7 billion in 2000 to RMB 198 billion in 2010, an increase of nearly 250 percent in just a decade. Figure 2.1 shows the growth in residential property investment in Shanghai since 2000. In 2012, investment in residential property alone was more than twice that of investment in *all types of property* combined in 2000.

Investment in residential property has corresponded with a decline in the annual supply of available land for residential uses. Limited land supply has resulted in higher costs for residential development and an increase in the price of new housing. Figure 2.2 shows that the amount of land for residential development has declined relative to industrial property. Industrial land has a fixed value of “1” while residential land is shown as a proportion of that value. The figure shows two different measures of land supply. Between 2000 and 2009 land supply was measured in floor area terms (panel a), while

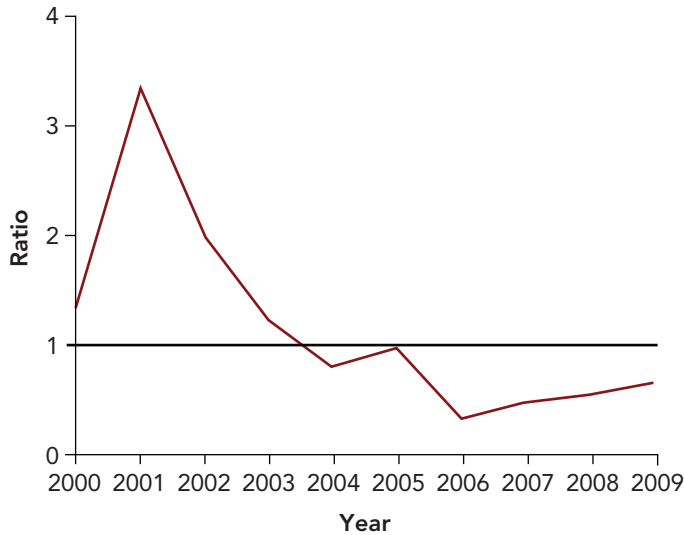
Figure 2.1: Investment in Real Estate of Shanghai, 2000–12



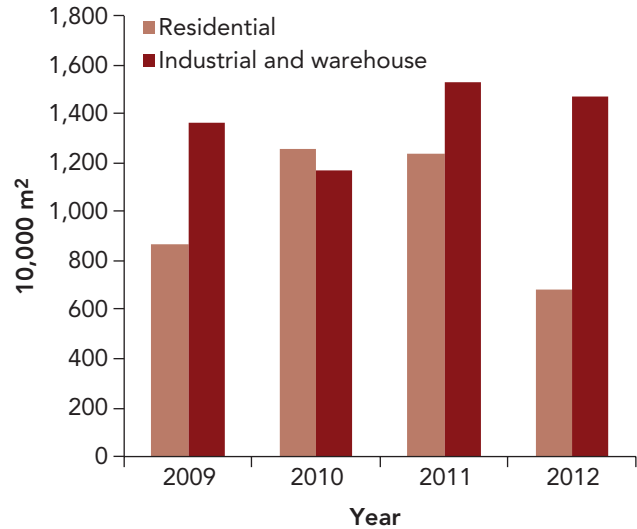
Sources: National Statistical Year Book 2011 and Shanghai Statistical Year Book 2012.

Figure 2.2: Ratio of Residential versus Industrial Land Use in Shanghai

a. Land supply measured using floor area (2000–09)



b. Land supply measured using land area (2009–12)



Source: Shanghai Statistical Year Book, table "Lease of Land Plot Tenure."

Note: Land supply was measured in terms of floor area between 2000 and 2009 (panel a). Land supply was measured in terms of land area from 2010 onwards (panel b).

from 2009 onwards, it has been measured in total land area terms (panel b). However, both measures illustrate a trend that in relative terms, land supply for residential uses is declining compared to industrial uses. For example, in 2012, the amount of residential land supplied (6.85 million m²) was less than half the amount of industrial land (14.7 million m²).¹

Thanks to Shanghai's increasing real estate investment, housing stock as measured in floor space increased from 208.65 million square meters (m²) in 2000 to 562.63 million m² in 2012, an increase of over two and a half times. Per capita living space for urban residents rose from 5.4 m² in 1985 to 17 m² in 2010 and housing conditions improved significantly. Nevertheless, increasingly unaffordable housing costs and the inequitable housing situation between local hukou holders and migrant workers suggest that there is room for improvement.

1. Shanghai Statistical Yearbook 2013, Table 18.7. <http://www.stats-sh.gov.cn/tjnj/nje13.htm?d1=2013tjnje/E1807.htm>

As housing production has increased, average prices in China have also risen steadily, doubling between 1999 and 2010

(Man, Zheng, and Ren 2011). In Shanghai, prices have risen more sharply than the national average: the average price per square meter rose from RMB 6,000 in 1995 to RMB 27,000 in 2011, a fivefold increase (see figure 2.5 below). Population growth has exceeded the production of new housing units, and the demolition of existing stock has further constrained supply and raised prices. As rising housing prices have greatly outpaced income growth, housing affordability is a key concern for the city and the district.

Density in the urban core is decreasing. This follows a nationwide trend wherein large Chinese cities are becoming less dense as they grow, in part due to land use regulations (Henderson 2009; World Bank 2014). Shanghai has existing floor-area ratio (FAR) maximums for the central city area, though development intensity is actually lower than allowed under this regulation. This is due in part to the "two increases and two decreases" policy, which aims to

mitigate the dangers caused by land subsidence in Shanghai owing to its soft geological foundations, the weight of high-rise buildings, and potential sea-level rise due to climate change, as well as the desire to reduce density in the central city and improve quality of life. A more detailed geological assessment of the area could help guide appropriate FAR regulations, especially if more flexibility is given to mixed-use development and such policies are consistently enforced by the city.

The availability and price of land affects housing affordability. Since Changning is centrally located, it is essentially built out and must rely on infill development to provide additional housing. By contrast, other areas of Shanghai have converted vacant or green spaces into new urban developments because land assembly in these areas is less costly. As mentioned above, FAR restrictions have lowered the overall density of the city. However, assessment of the efficiency of these developments does not account for the cost of extending infrastructure and transportation networks to these areas. Nor is there consideration of residents' costs in time and money to access commercial and employment centers.

Table 2.1: Population Structure in Shanghai and Changning District, 2010

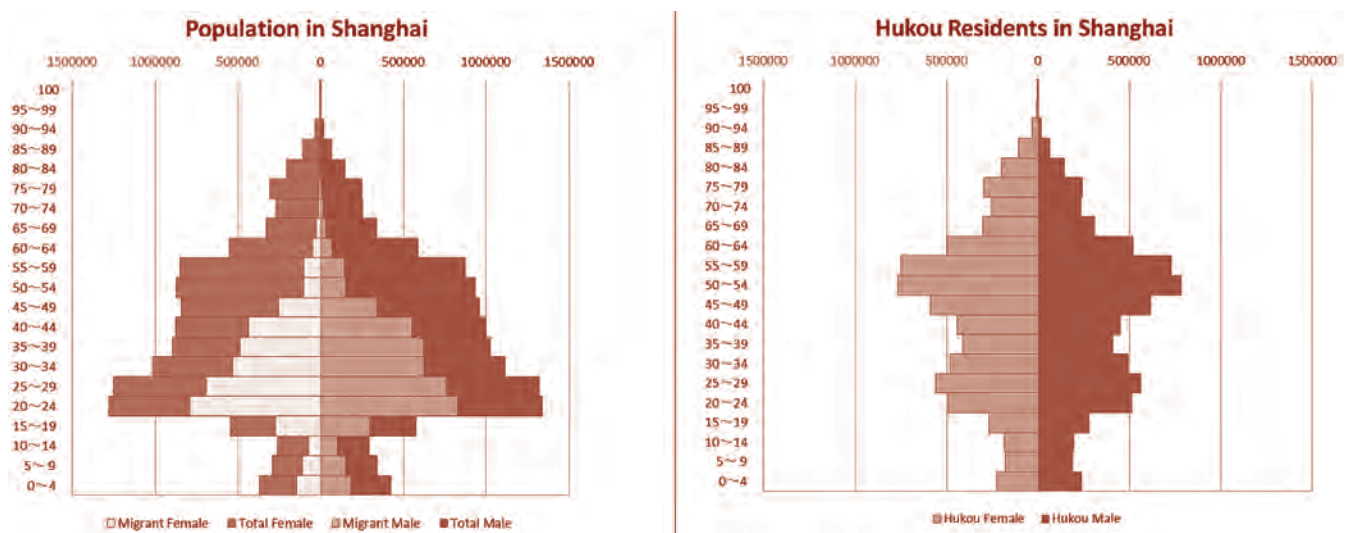
	Shanghai	Changning
Resident population	23,019,148	690,571
Hukou holders residing in the municipality	14,042,148	504,803
Migrant population	8,977,000	185,768
Foreign residents	208,284	42,152
Shanghai hukou holders (irrespective of place of residence)	14,123,202	623,041
Hukou holders living outside their locality	81,002	118,238

Source: Bureau of Statistics in Changning District (2010).

B. DEMOGRAPHICS AND HOUSING NEED

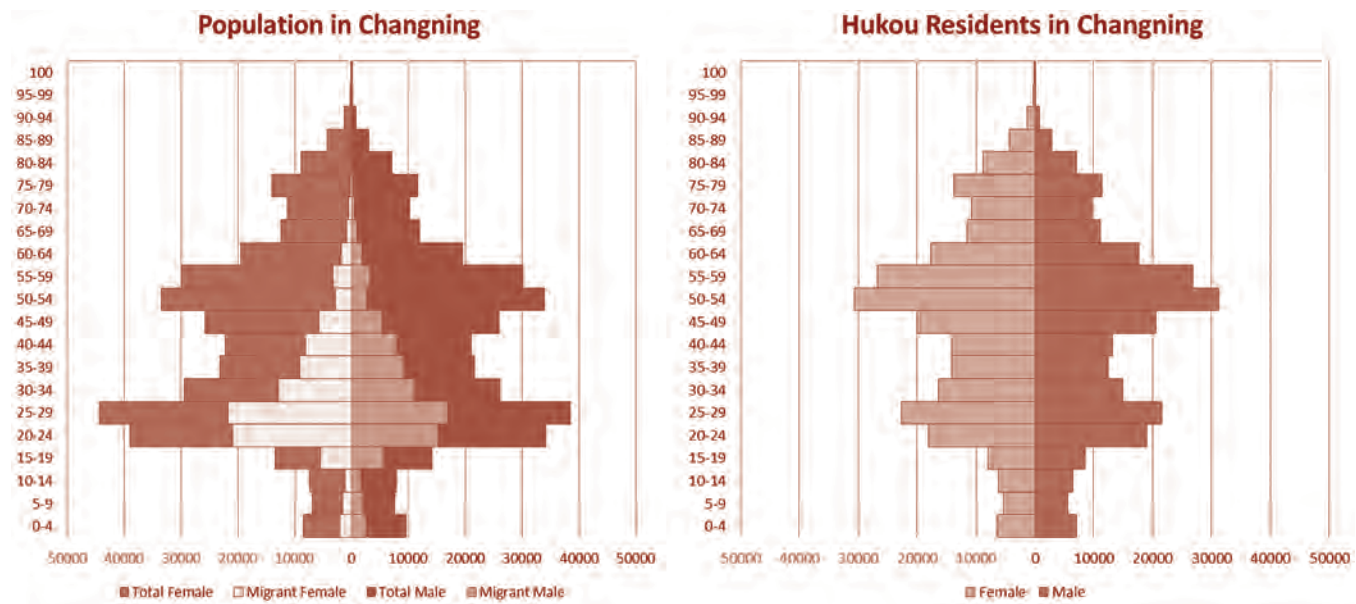
Housing demand in Shanghai will mainly come from its non-hukou holding population. Although the city's overall population has steadily increased over the last decade, surpassing 23 million in 2010, this is largely driven by in-migration (figure 2.3). The native population is aging and its growth rate has been nearly flat at 0.6 percent. By

Figure 2.3: Population Characteristics in Shanghai, 2010



Sources: Census, National Bureau of Statistics, 2010.

Figure 2.4: Population Characteristics in Changning, 2010



Sources: Census, National Bureau of Statistics, 2010.

comparison, the population of non-hukou holders has grown at 3.24 percent. They now comprise 39 percent of the city’s population, a threefold increase in the past decade. These migrants are also young, on average between 22 and 30 years old; and as the average age for first-time marriage² is 25 for men and 23 for women, they will be forming new households. These trends suggest that demand for housing will come primarily from young migrants.

Likewise in Changning, the migrant population is the strongest driver of current and future housing demand. The district’s population has been declining at nearly 2 percent per year since 2000 and would have declined even further were it not for in-migration. Migrants from other parts of China, and even from other countries, account for 25 percent of Changning’s population (figure 2.4). Though it has just 3 percent of Shanghai’s population, Changning is home to nearly 20 percent of the foreigners living in Shanghai. Changning’s hukou holders are also growing older and are having fewer children. Their declining number is in part due to the one child policy and high rates of out-migration, precipitated by the Shanghai’s ef-

orts to redevelop the central neighborhoods where vacant land is scarce. The district is able to acquire low-cost land in suburban locations to resettle the displaced residents. Such resettlement accounts for more than a third of the outflow from the district between 2000 and 2010 (approximately 171,820 people).³ In contrast, there has been a net annual increase of migrants, approximately 1,273 per year since 2000. They also tend to be young and more likely to form new households.

Migration will be the most important driver of population growth in Changning. If the current hukou population remains steady during the current decade (2010 to 2020), and in-migration continues at the 2010 rate, then the district’s population could total 793,575 by 2020, an increase of 103,004. This would be approximately equivalent to 318,705 households compared to 266,000 households in 2010⁴—an increase of 5,270 a year. A large proportion of these households would likely consist of a diverse mix of national and international migrants, requiring an equally wide mix of housing.

3. Census, National Bureau of Statistics, 2010.

4. This assumes that the average household sizes remain at 2.49. The “family households” are estimated at 243,000 and the collective households are 23,000.

2. <http://www.stats-sh.gov.cn/fxbg/201110/234457.html>.

Hukou status matters in assessing housing demand. Hukou, China's unique system of household registration, is based on place of origin, which predetermines the associated services households may (or may not) access, including subsidized housing. Those with a local hukou have preferential access to government-provided housing, education, and health facilities. However, since 2005, only migrants with an educational attainment above college level have been allowed to apply for a local hukou.⁵ Locally registered citizens are entitled to local social welfare services according to their hukou registration address, regardless of their actual place of residence. For example, a household with a hukou registered in Changning District

5. City governments can tighten the policy at their discretion. In 2002, Guangzhou reversed its program of hukou reform on the grounds that migrants overloaded the urban infrastructure and Zhengzhou followed suit in 2004 (Fan 2008: 68).

but currently living elsewhere may only benefit from the district's affordable housing program. (Nearly 20 percent of Changning hukou holders live outside the district but are still entitled its public services). This distorts the local market for affordable housing because district officials cannot adequately assess demand for services like housing. Officials must provide services to nonresident hukou holders, but are not required to serve migrants who *do* actually live in the district.

Changning District's demographic trends also suggest the need for a diverse housing stock. Different populations have different housing needs. Young, single professional migrants may initially benefit from the flexibility of rental housing, but they may want to own an apartment once they marry and start a family. Other migrants may favor rental housing because of proximity to work, or may be

Box 2.1: Integrating Relocation Housing: The Case of Brazil's PROSAMIM Program

The city of Manaus is the economic hub of Brazil's Amazon region and its population has grown sixfold to 1.8 million since 1970. The city's expansion has coincided with a growth in informal settlements, especially in areas prone to annual flooding by small tributary streams (*igarapés*) of the Amazon River. As part of a plan to reduce exposure to flooding and improve the quality of life for residents of informal settlements, the state government initiated a resettlement and upgrading program in 2003: the Social and Environmental Program for the Igarapés (*Programa Social e Ambiental dos Igarapés de Manaus*—PROSAMIM).

Squatters living in *igarapés* were relocated a short distance and had the option of choosing a publicly built apartment in one of two building forms. One form was a traditional three-story midrise apartment block with uniform rectangular building footprints, stairwells, common area locations, and simple rectangular massing. The other building form featured same floor plan, but the second story was rotated 180 degrees, creating a cantilever design that introduced a level of flexibility in the building's form and use. The differences in the buildings are seen in figure B2.1.1: "HB2" in panel a shows the traditional design and "HB1" in panel b shows the later, cantilevered design. The shaded areas represent possible areas of incremental expansion.

Each building has the same number of apartments (six) and the same initial floor space per unit (48 m²). However, the design of HB1 allowed residents to invest in and expand their apartments over time to suit household needs. Residents typically used the space for a home-based enterprise (HBE) to make or sell items for local markets, or to add an extra room for relatives, guests, or renters. This increases the market value of the unit, as well as the commitment residents have in maintaining the building. The mixture of residential and commercial activities in the buildings also encourages foot traffic and activity on the streets, which discourages certain types of crime. Type HB2 by contrast precludes such investment, discourages HBEs, and reduces residents' commitment to care and maintenance.

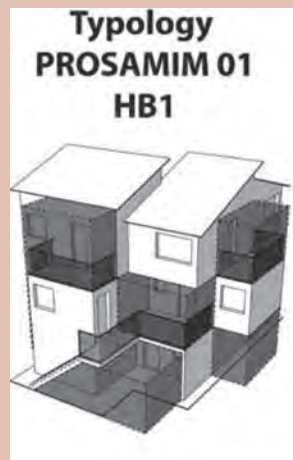
(continued next page)

Box 2.1 (continued)

The PROSAMIM case demonstrates that design has an important role in meeting the diverse housing needs of low-income residents. Good design supports community activity and spaces and lays a foundation for incremental improvement of units.

Figure B2.1.1: PROSAMIM Floor plans

a. Cantilevered design



b. Traditional design



Source: Harper et al. 2013: 18.

uninterested in or unable to afford long-term finance for a home purchase. Elderly and retired residents may favor smaller and less-expensive units that require less maintenance and that have access to public transportation.

C. TYPOLOGY OF HOUSING AND ESTIMATE OF TOTAL SUPPLY

As of 2011, Shanghai's total housing stock comprised 550.77 million m² of floor space. The Shanghai Housing Bureau classifies this stock into six different types of dwellings (see table 2.2). The bulk (90 percent) is classified as multistory apartments. The poorest-quality housing, referred to as "Old terraced housing" and "Shanties and other," comprises about 4 percent of the total housing supply in terms of square meters of floor space.

There is no accurate estimate of the total number of dwellings in Shanghai, as published data only references floor space and masks disparities in access to housing.

Such data do not distinguish among different types of supply that serve different income groups. For example, more affluent households occupy large villas, whereas low- or middle-income households live in small units at high density. It is not possible to estimate the proportions in each category. Similarly, data do not include informal housing, which is estimated to represent a significant proportion of the total stock in most Chinese cities and is unlikely to meet official land regulations and building codes. Official statistics also do not include residential housing found on land designated for other purposes such as agriculture, industry, or educational institutions. Therefore, dormitories for workers and students,

Table 2.2: Housing Supply in Shanghai by Dwelling Type

Type of housing	Description	Total floor area (million m ² as of 2011)	Average unit size (m ²)	Total number of units
Villas	Detached or semidetached low-rise with a yard or garden (these tend to be older homes and of high quality, but there are also newer homes).	22.1	343.9	64,263
Apartment	Apartments in multistory (six floors and below) or high-rise (over six stories) residential buildings of varying standards and conditions. Work-unit housing that was later privatized is included here which is also of varying quality such those built in the 1950s with poor facilities.	494.8	92 (range is ~60–140)	5,378,261
Townhouses	Attached or semidetached single-family homes with small gardens and balconies.	4.96	211.2	23,485
New terraced housing	Conjoined, low-rise houses, with good modern facilities and amenities (small gardens and/or balconies).	5.24	50	104,800
Old terraced housing	Typically built of brick and wood in an old architectural style, they are poorly equipped, with small spaces and lack indoor sanitation and kitchen facilities. There are two main types: those built before and those built after the 1940s. The quality of the housing was considered to be too low to be privatized. Many of these units are owned by the municipality and are rented at low cost.	12.22	50	244,400
Shanties and other	Housing with the poorest condition	11.37		n.a.

Sources: Classification and total square meters are derived from the Shanghai Bureau of Statistics. Unit size estimates are based on World Bank staff calculations.

Note: n.a. = Not applicable.

residential space in industrial zones, or residences built on rural land housing many low-income (especially migrant) households are not included in the floor space estimates. *As a matter of public policy, data on actual housing units should be maintained. The data should be differentiated by characteristics like size, condition, and how units meet the needs of different demographic and socioeconomic groups.*

This study estimates that there are 6.73 million formal housing units in Shanghai, which represents a deficit of 2.17

*million units.*⁶ We estimate that approximately 2.43 million units are commercially produced housing, while the remaining 4.3 million units were privatized with the lib-

6. The estimates are drawn from total floor space data reported by the *Shanghai Statistical Year Book* and different housing types indicated in table 2.2. Shanghai had a total of 526 million m² of living space (*Shanghai Statistical Yearbook*). Of this, approximately 291.78 million m² were sold as commercial housing from 1996 to 2010 (*Shanghai Statistical Yearbook* from 2000 to 2011, compiled by the Shanghai Academy of Social Sciences [SASS]). To estimate the deficit, we draw on the total number of households in Shanghai, which was 8.9 million in 2010.

Table 2.3: Housing Supply in Changning by Dwelling Type

Type of housing	Total floor area (m ²)	Approximate number of units
Villas	563,900	1,720
Apartment	20,000,000	215,713
Townhouses & duplexes	None	0
New terraced housing	211,300	4,654
Old terraced housing	136,200	3,008
Shanties and other	97,700	115

Source: World Bank calculations based on floor area provided by Changning District.

eralization of the housing market.⁷ The deficit is likely being met through institutional housing (work and student dormitories), housing in industrial zones and agricultural areas, and informal housing arrangements, most likely rentals. Section D will discuss the mismatch between supply and demand in greater detail.

*We estimate that Changning District has approximately 225,210 housing units, a deficit of 63,790 units.*⁸ Table 2.3 shows the estimated number of units by housing type. Changning’s housing supply has been relatively stagnant, with only a modest increase from 18.2 million m² in 2005 to 21 million m² in 2010. First, this is due to limited supply of undeveloped land in the district. Second, compared to the rest of Shanghai, the district’s housing stock is older: 68 percent was built between 1980 and 1999, with only 18 percent built since 2000.

7. We divide the total square meters of commercial housing by the average unit size (around 120 m²) (<http://www.fangdi.com.cn/>, “Newsletter” of August 1, 2012) to arrive at our estimates. According to the *Shanghai Statistical Year Book*, there were 235 million m² of privatized housing units. The average size of such units is estimated at approximately 54 m² based on construction standards used prior to the economic reform efforts of China.

8. Changning has 21 million m² of housing and 289,000 households.

D. QUALITY AND CONDITIONS OF THE HOUSING SUPPLY IN SHANGHAI

The housing supply deficit in Shanghai is attributed to three interconnected factors. First, large-scale house demolitions have taken place in central districts to make way for commercial development. This has displaced residents from the city center and reduced the stock of affordable housing, even as the city’s population continues to grow. Second, production of new housing for different markets is constrained by a lack of competition among developers. Land for housing is made available in very large parcels, requiring large amounts of capital from developers and inadvertently incentivizing higher-cost units. Third, land for housing is limited due to a lack of vacant land and regulatory factors, such as large land allocations for industrial use. Industrial use comprises 29 percent of developed land in Shanghai,⁹ which is near the cap of China’s national urban planning standard and significantly higher than the international norm of 10 to 15 percent (Tao 2011).

Low-income households have adopted a number of strategies to cope with this housing deficit. The bulk of low-income housing is provisioned outside government programs through collective housing (for example, dor-

9. <http://cppcc.people.com.cn/n/2014/0121/c34948-24180049.html>.

Housing choice is determined by priorities in both the short and long term

Three generations of the “Fang” family live in a small apartment and a crowded neighborhood close to a main road in Changning District. The neighborhood had no sanitation until a mobile public toilet was recently provided. Still, the family has opted to remain. Any new dwelling would be far from the city center and they would lose their current easy access to health care facilities and schools. In addition, they cannot afford to buy a government-subsidized EAH unit. Finally, they hope their current neighborhood will be redeveloped and that they will receive relocation benefits.

mitories provided by employers) or private rental units in “urban villages.” The rapid (though dwindling) rate of rural-to-urban land conversion leaves the remaining pockets of urban villages, such as the Gaojiabang area in Xuhui District, to provide low-cost (and low-quality) rentals in central Shanghai (Wu, Zhang, and Webster 2012; Song, Zenou and Ding 2008). Such privately provisioned housing accounts for approximately one third of the housing in the country’s eight largest urban areas (Logan, Fang, and Zhang 2009), cities that also have large migrant populations. More recent data are not available but there is little to indicate that this pattern has changed noticeably.

Secondhand rentals of substandard housing are also an important source of informal housing, especially in Shanghai’s central area. These municipally owned units were not privatized because the government considered them to be too dilapidated (they lack kitchens or toilets) or because they had multiple owners with de facto rights. Nevertheless, they are centrally located. The original occupants were offered usufruct rights for a nominal fee (about RMB 80 a month and RMB 20 for property management) that could be bequeathed, sold to Shanghai hukou holders only, or rented. As many of those with usufruct rights are Shanghai hukou holders, able to benefit from government-subsidized housing ownership programs, these units are often let out to migrants and low-income households (Wu 2006). Despite their poor condition, these units are desirable options as they are affordable and located within the urban core of Shanghai. However, they are also the primary targets for demolition under the inner-city renewal program and their numbers are diminishing.

Housing conditions in Changning are better than those of Shanghai as a whole. The per capita living area averages 26.5 m² and there are 1.84 rooms per household on average, the highest among the central districts.¹⁰ Most of the housing stock (95 percent) in Changning consists of apartments. Other types of housing stock are negligible: villas comprise less than 1 percent of the total number of

units, for example. The older terrace and shanty housing stock, which is generally considered to be of low structural quality, comprises about 1.4 percent of the total. **In terms of amenities, most units have gas, running water, kitchens, bathrooms, and toilets** (see table 2.4).

Due to problems with affordability and the deficit of officially approved housing, especially for non-hukou households, overcrowding continues to be a significant issue in Shanghai and Changning. Overall, 25 percent of households in Shanghai and 15 percent in Changning live in “crowded” conditions (13 m² or less per capita). Overcrowding is especially bad for migrants. For migrant workers with rural hukou in Shanghai, per capita floor area is 12.3 m², significantly less than the city average of 33.9 m². In Changning, migrant households and households with a migrant spouse are significantly more likely to live in overcrowded conditions than hukou holders (Zhang and Chen 2013).

Housing tenure is also largely determined by residency status. A household survey conducted by the Shanghai Academy of Social Sciences (SASS) in 2010 found that residents without hukou are more likely to be renters and more likely to be renting substandard dwellings.

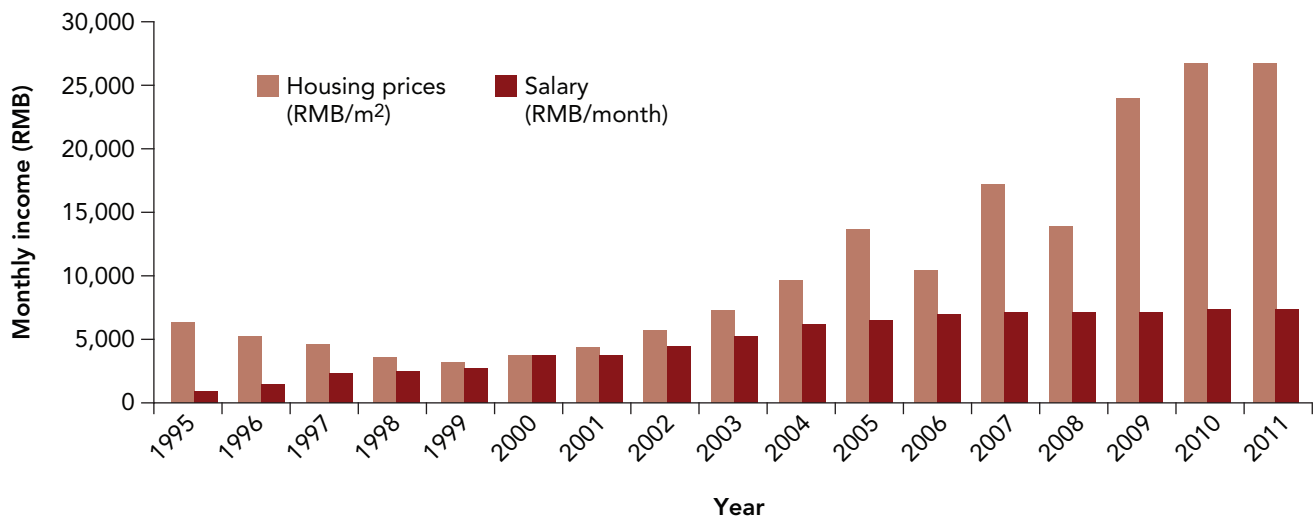
Table 2.4: Characteristics of Low-Quality Housing in Changning District

Households with access to services	Percentage
Total number of households in Changning	100.0
With shared kitchens	5.7
Without own kitchens	2.8
No shower facilities	6.1
Shared toilets	6.0
No toilets	2.9

Source: Calculated based on table 9-3 of Sixth Census on Shanghai Household Housing Status (<http://218.242.177.53/rkpc/huibian/indexch.htm>).

10. Sixth Census on Shanghai Household Housing Status (<http://218.242.177.53/rkpc/huibian/indexch.htm>).

Figure 2.5: Monthly Income of Shanghai Residents' and Unit Housing Prices (in RMB)



Sources: Shanghai Municipality's Annual Report; average housing prices in Shanghai (1995 to 2011).

This finding is supported by the work of Wu and Webster (2010). During the reform efforts of the 1990s, hukou status also allowed occupants of work unit housing to purchase them at far below market cost, representing a vast housing subsidy. High-income hukou households, in addition to purchasing work unit houses at discounted rates, also bought commodity houses or owned their own private houses, which encouraged speculative housing consumption.

E. INCOME LEVELS AND AFFORDABILITY CONSIDERATIONS

Incomes and savings rates in Shanghai have been increasing since the 1980s. Average salaries and household expenditures have increased steadily since 1980, more than tripling between 2000 and 2011. By 2011, the average salary had reached RMB 51,968 and average household expenditures had reached RMB 25,102. During the same period, savings per capita increased nearly five times, from RMB 16,331 to RMB 77,989, although this increase is mainly attributed to the savings of the highest earners. However, as figure 2.5 shows, the rising cost of housing has far outpaced the growth of incomes in the past decade.

To more accurately measure housing affordability for different income levels, we estimate the median annual household income in Shanghai at RMB 54,235.47.¹¹ The income of the lowest income households is assumed to be 25 percent of the median income or RMB 13,558.86. This allows us to calculate the price-to-income ratio (PIR); international practice suggests that the threshold for affordability should be a price between 3 and 5 times the annual net household income. Table 2.5 provides an estimate for housing affordability for different income levels.

11. The estimates of household affordability at different income segments and with different forms of residential status are based on the findings of a survey conducted by SASS in 2010. It is not clear if the income data used to define the median includes those working in the informal sector. The SASS survey had a total sample size of 1,232, composed of households in 12 districts of Shanghai. Sampled districts included all the central city districts (namely, Huangpu, Luwan, Xuhui, Changning, Jing'an, Hongkou, Putuo, Zhabei, and Yangpu) and three districts in the urban outskirts (namely, Pudong new district, Minhang, and Baoshan). The sampling method used was probability proportional to size (PPS). Suburban districts tend to have larger houses than those in central areas because they are drawn from adjacent rural counties where the cost of land is comparatively lower. Therefore, it is assumed that suburban housing demand is modest and not relevant for this study.

Table 2.5: Affordable Housing for Different Income Segments

Income category/% of median	Household income (RMB)	Price-to-income ratio	Total housing price (RMB)	Price-to-income ratio	Total housing price (RMB)
High (120 percent of median income or above) (38%)	65,082+	3	195,246+	5	325,410+
Medium (80–119 percent of median income) (30%)	43,388–65,081	3	130,164	5	216,940
Low (50–79 percent of median income) (22%)	27,118–43,387	3	81,354	5	135,590
Lowest (less than 50 percent of median income) (10%)	13,559	3	40,677	5	67,795

Source: 2010 SASS Survey.

In Shanghai and Changning District, prices for purchasing or renting housing far exceed affordability levels. In Shanghai, over 70 percent of housing units sold between 2010 and 2012 cost between RMB 300,000 and RMB 2 million (table 2.6)—6 to 10 times the median income. Moreover, Changning’s mean housing prices are very unaffordable at 40 percent higher than the city as a whole. However, the market value of housing is different from what people

actually pay. For example, recipients of privatized public housing units pay only for maintenance, even though the market value of the house may be more than they could otherwise afford if they were first-time buyers.

Many households with hukou were previously able to purchase public housing at a discount, a form of housing subsidy. Such households now spend less than 10 percent of their net incomes on housing, since recurring housing expenses, such as rent or mortgage payments, are essentially eliminated.

Table 2.6: Housing Sold in Shanghai, 2010–12

Unit price (RMB)	Number of units sold
Less than 300,000	16,680
300,000–1 million	156,282
1–2 million	177,584
2–3 million	53,142
3–6 million	39,280
6–10 million	9,660
Over 10 million	6,388

Source: Real estate transactions database of SHUFE, as of July 2012.

F. HOUSING MARKET DISTORTIONS AND AFFORDABILITY IMPLICATIONS

The housing production system makes it extremely difficult for small developers or contractors to compete with the large real estate developers and state-owned enterprises. This reduces competition and market efficiency in delivering different types of housing. For example, there is evidence that a limited number of developers and contractors are able to undertake PRH projects, enabling them to manipulate prices, which in turn discourages competitive pricing. Developers interviewed for this study also sug-

gest introducing simplified procedures exclusively for the affordable housing segment. The designs and standards for affordable housing are almost identical to those of commodity market housing. Therefore, any exceptions or deviations from the regulations require more approvals. This costs developers time and resources and creates a disincentive to invest in affordable housing.

Access to mortgage finance and thus housing also remains out of reach for the urban poor. Despite growth in the commercial mortgage sector, there remain several barriers to its expansion to low-income groups and migrants (Li 2010; Sato 2006). The maximum mortgage term can go up to 30 years, but the typical term is about 10 to 15 years (Zhu 2006). There is no risk-based pricing mechanism in China's mortgage system (Deng and Liu 2009), which dissuades lending to lower-income groups. The number of new loans in Shanghai has dropped since 2010. The last six months of 2012 showed growth, but nowhere near the earlier heights. The lower volume of mortgage loans suggests that the dramatic rise in real estate prices made housing less affordable.

Despite the supply deficit, vacancy rates across Shanghai are high, suggesting that the housing supply does not match demand. Housing construction in Shanghai is continuing unabated, at a time when a great number of apartments remain unoccupied (are sold but no one is living in them). One aspect of a property bubble is high levels of investment in second homes and this currently applies to many middle- and upper-income households (Huang and Jiang 2009). As of 2012, 15.4 percent of Chinese urban households owned two housing units, and 3.6 percent owned three or more (Gan et al. 2013). There is a risk of oversupply of high-end housing in central areas that households cannot afford, as well as an oversupply of low-cost housing in suburban locations where households are unwilling to live due to limited services and economic opportunities. Fieldwork carried out for this study suggests that occupancy rates in most of the EAH projects are low. This possibly reflects low acceptability of EAH over other considerations, such as easy access to places

of employment, social facilities, and other amenities normally associated with urban life.

Such a restructuring of the city into segregated land uses involves massive increases in transport costs and commuting time between residential and employment areas. This offsets any savings from land costs and also reduces the social heterogeneity essential for social mobility and integration. The inner city is being redeveloped primarily for commercial uses, thus reducing the mix of land uses that is essential for an economically dynamic and socially harmonious urban form.

High savings rates and growing incomes encourage speculative investment, which also distorts the housing market. Speculation increases prices for all housing segments and increases the risk of a market crash (Granger 2005). When housing prices fall below what is owed on the properties, or delinquencies and defaults increase, damage is done to the real estate market, finance, and construction sectors, and indeed the overall economy. Recent policies, including restrictions on second home purchases, are appropriate ways to reduce speculative investment, but it remains to be seen if they will be sufficient.

Prices in the formal rental market have been increasing steadily. From 2001 to 2010, the residential housing price index rose 36 percent (see figure 2.6). Moreover, real rental rates could be rising faster than the index price suggests, since much of the sector is informal. In 2011, average rent in the nine central districts of Shanghai ranged from RMB 2,700 per month (in Pudong) to RMB 3,600 (Jingnan District), with rents in Changning and Luwan at RMB 3,200 per month.¹² This is well above the affordability levels of median-income households, who earn roughly RMB 4,520 per month. ***Despite this increase in rental rates, gross rental yield ranges from 2.5 to 3 percent, which is not enough to compensate for the risks of tenancy. Landlords prefer to keep the apartments off the market at a time of rising property prices, which further suppresses supply.***

12. http://esf.sh.soufun.com/newsecond/news/5316065_2.htm.

Box 2.2: HOPE VI Program in the United States

The HOPE VI program was initiated by the U.S. Department of Housing and Urban Development (HUD). Envisioned as “more than bricks and mortar,” HUD lays out five objectives for the HOPE VI program:

- Changing the physical shape of public housing by replacing the worst public housing developments with apartments or townhouses that become part of their surrounding communities.
- Reducing concentrations of poverty by encouraging a greater income mix among public housing residents and by encouraging working families to move into public housing and into new market-rate housing being built as part of the neighborhoods where public housing is located.
- Establishing support services to help public housing residents get and keep jobs.
- Establishing and enforcing high standards of personal and community responsibility.
- Forging broad-based partnerships in planning and implementing improvements in public housing.

By leveraging other public and private dollars, the HOPE VI program has converted the nation’s worst public housing projects into the foundations of healthy neighborhoods. The redevelopment of the World War II-era High Point Garden public housing project in West Seattle, Washington, demonstrates the transformative potential of community-driven planning mixed with high levels of public and private commitment.

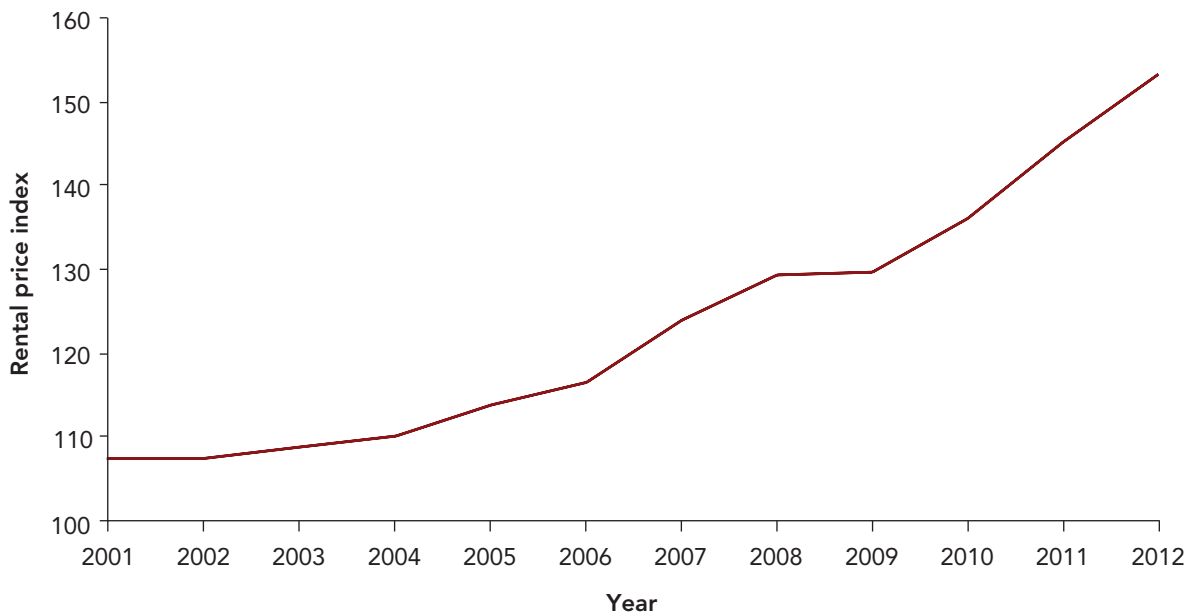
High Point experienced a period of decline between 1950 and 1990, which reduced the number of housing units from 1,300 to 700. The decline was due partially to isolation caused by an abutting creek and the problematic site planning, which makes passing through and monitoring the streets very difficult. The residents who remained at High Point in 1990s were some of the most impoverished and disadvantaged in the city, and they lived in an environment dominated by drugs, crime, and other illicit activities.

The HOPE VI grant marked the beginning of what would become a four-year planning process for the redevelopment of High Point. Realizing the importance of engaging residents in the planning process, the Housing Authority and its planning and design consultants hosted a series of community meetings to reach a range of stakeholders. Based on these consultations, project goals were established to realign the High Point street network with that of the rest of West Seattle, ensure that housing units throughout the development would be mixed income and serve all ages, provide a network of pedestrian-friendly infrastructure tied to parks and open spaces, and create high-quality community services. A 34-block master plan based on New Urbanist and sustainable principles responded to community goals.

The High Point project was developed in two phases, with construction of Phase I beginning in 2004 and Phase II beginning in 2006. Over a period of 10 years, the 120-acre site redevelopment provided more than 1,600 mixed-income housing units and enhanced community services. The transformation was initiated in 2000 with a US\$35 million HOPE VI grant from HUD and supplemented by US\$106 million from other public funding sources, US\$68 million from tax-exempt borrowing, and US\$56 million in tax credit equity. Private investment, approximately US\$285 million, accounts for more than half of the investment in the US\$550 million redevelopment.

Source: Adapted from Turbov and Piper (2005).

Figure 2.6: Shanghai Rental Price Index, 2001–12



Source: Data from *Shanghai Statistical Yearbook 2011* and *2013*.
Note: Index 100 represents the price in 2000.

Rents are increasing as the number of formally registered rental units is dropping. The area of registered residential rental property fell from 1,026,300 m² in 2009 to 857,200 m² in 2010.¹³ Lack of data makes it challenging to estimate the actual supply of rental properties and the number of individuals and households that are currently renting. Interviews conducted for this study suggest that landlords prefer informal rental arrangements in order to avoid paying taxes and completing time-consuming administrative procedures. Therefore, the drop in registered rental properties does not indicate a reduction in rental housing or the demand for it; more likely it indicates the presence of a growing informal rental market.

Residency restrictions also interfere with private housing market transactions. Migrants without hukou are precluded from purchasing a home unless they establish residency in the city for a period of two years, during which time they must pay taxes. This creates an unnecessary barrier

to entry for migrants who could otherwise afford to buy a home, and raises the price of rental units because those ineligible to buy have no other options. Although the policy may reduce speculation in local housing markets caused by absentee nonresident owners, it is also possible to discourage such activity through tax code reforms or by limits to registering multiple properties.

Mean housing prices in Changning are 40 percent higher than the rest of the city, but smaller, less-expensive units are the most active market segment.¹⁴ This trend implies that there is an oversupply of larger, more expensive units that are either unaffordable or undesirable to district residents. Older and smaller apartments account for most of the housing sales in Changning. Between 2010 and 2012, approximately 14,004 units of housing were sold in Changning District, of which 88 percent were secondhand sales. The largest number of secondhand apartments sold (close to 5,600) were 60 m² and ranged

13. *Shanghai Statistical Yearbook 2011*.

14. Data obtained from ongoing research by Prof Huiping LI at SHUFE.

in price from roughly RMB 300,000 to RMB 2 million. This suggests there is an active property market in the district with regular turnover of older, smaller, and more affordable units.

Appropriate interventions for affordable housing would expand access by reducing the gap between demand and supply. Currently, the city's housing market skews toward wealthier hukou holders. They enjoy several advantages, including receipt of ownership of publicly built apartment units at little cost, access to mortgage finance and

high savings rates for secondary home purchases, and market restrictions that exclude migrants from transactions. These benefits raise the price of both apartments and rental housing across the city, which places the urban poor and residents without hukou at a considerable disadvantage. Poorer residents must live in areas where land and property is less valuable, and where housing quality may be substandard. These areas may be far from employment opportunities and services such as schools or health care, which in turn places additional cost and time burdens on poorer households.

Chapter 3

Government Affordable Housing Interventions

A. OVERVIEW OF EXISTING AFFORDABLE HOUSING PROGRAMS

Affordable housing targets are developed by the central government, which then tasks local governments to meet these goals. Local governments can select different affordable housing strategies to meet these targets, but they bear the financial responsibility for implementing them.

These supply targets are an important performance measure for local administrators. Local governments typically use land sales to finance new housing developments. Due to its small size and central location, however, Changning has very little land for sale. The district has elected to meet its Economic and Affordable (EAH) unit target by building in suburban areas where land and development costs are lower. The district is also trying to create Public Rental Housing (PRH) through conversion of existing buildings for residential use. Low Rent Housing (LRH) is too expensive for the district to finance, given the level of subsidies required for development.

Recently, the Shanghai government has attempted to expand the supply of rental housing for middle-class professionals. Since 2009, the focus of the city's housing policy has shifted from LRH to PRH. The city intends to provide 200,000 PRH units over the next five years, targeted at specific groups. This action raises the question of whether targeted groups are the most deserving of public subsidies, or if this policy is the most effective means of

allocating public resources for the stated objectives.¹ The municipality has proposed that PRH projects be located (i) in central areas for individuals, (ii) in suburban areas for migrant workers employed in industrial parks, and (iii) in areas where “talented” or highly skilled professionals are concentrated.² In 2012, Changning District provided 1,600 public rental units: 800 new units were constructed, 360 were adapted from existing buildings, and 380 units were rented from farmers who received housing units as a compensation for their expropriated land.

Affordable housing programs in China are primarily based on stimulating supply. It is widely recognized that these direct assistance programs have predominantly benefitted middle- and upper-income households (Duda, Zhang, and Dong 2005; Man 2011; Mostafa, Wong, and Hui 2006). Existing programs are detailed below. Overall, however, affordable housing programs comprise a small portion of Chinese housing stock. This chapter assesses the feasibility of two programs in Changning: EAH and PRH.

Changning District's supply-side housing programs are summarized below.

1. In terms of sources and types of financing for PRH, there are three modes: (i) the government finances, builds and manages the properties; (ii) PRH is financed by government but built by outside organizations, including private companies; (iii) communities finance the construction process.

2. http://www.shfg.gov.cn/fgdoc/zczhl/201206/t20120614_551146.html.

- Economic and Affordable Housing.** EAH is a subsidized home-ownership scheme developed as a public-private partnership, where local governments provide the land with a small discount, and private developers finance the construction. The local governments then buy the units at cost and sell them to households at below market rates. The developers also receive a share of the units to sell at market rates, which enables them to recuperate their costs with some profit. In all, approximately 12 million EAH units have been built (Deng, Shen, and Wang 2011) since the launch of the program a decade ago. Although the program successfully produced housing, its relatively high cost has meant that intended beneficiaries have generally not been able to afford it (Duda, Zhang, and Dong 2005; Meng and Feng 2005; Rosen and Ross 2000). Consequently, this program primarily benefits middle- and upper-income households. In addition, since state-owned enterprises are the primary producer of EAH housing, there is a high incentive for collusion with local government officials. (Wang, Wang, and Bramley 2005).
- Public Rental Housing.** PRH offers relatively high-quality housing to several eligible groups including migrants with stable employment and *hukou* holders in need of more affordable housing at a price slightly lower than the average market price. The eligibility criteria vary widely across cities. In practice, however, most tenants in Changning are employed professionals because of the high prices these units command. The program allows cities some flexibility in siting and developing projects. The city can purchase and rent PRH units in new private apartment developments, infill projects, and converted buildings, in addition to designating units in relocation housing as PRH. Table 3.1 details various scenarios of PRH provision by building type, ownership, and unit cost. The table shows that PRH unit costs have great variation depending on the financing approach, ownership format, and type of building.
- Low-Rent Housing.** LRH specifically targets the lowest-income households. Only 500,000 units had been built as of 2011, although a 2009 policy statement included an ambitious target of 5.6 million new units (Deng, Shen, and Wang 2011; Tan 2009). The LRH program has been challenging because funding for construction comes from local governments; they are reluctant to provide land

Table 3.1: Summary of Methods for Creating Public Rental Housing in Shanghai

Case	Supply methods	Land use	Building type	Owner	Cost per unit (RMB)
Case 1	EAH and relocation housing converted to PRH	Residential for affordable housing	Residential	Housing Provident Fund company	681,818
Case 2	Office into residential	Office	Office	PRH company	Unknown
Case 3	Industrial building into residential	Has changed into residential	Industrial	PRH company	208,695
Case 4	Commercial building into residential	Commercial	Department store	Private developer	Unknown
Case 5	Rent from private developer	Residential	Dormitory	Private developer	250
Case 6	Re-rent of relocation housing	Residential for affordable housing	Residential	Landless farmers	1,700 to 2,800

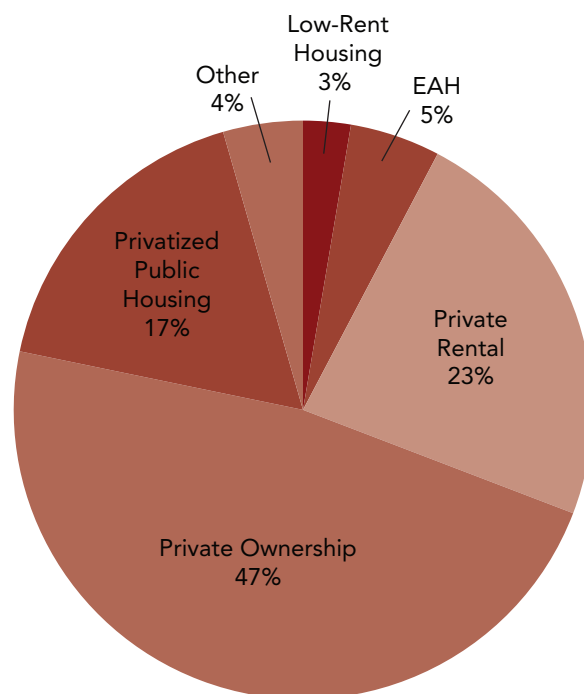
for LRH or collect fees from developers who are technically required to contribute to these projects (Deng, Shen, and Wang 2011). Although the central government has agreed to commit funds to the program, there is still the expectation that local governments will provide land.

There is also a demand-side program for improving access to housing finance through the Shanghai's Housing Provident Fund (HPF). As with most provident funds, the HPF is based on a contribution of 7 percent of employee salaries. Individuals accrue funds as a pension and are subsequently eligible to take out a low-interest loan for the purchase of a house. Critics of the HPF have offered the following arguments: First, it is a regressive system, as higher-income contributors are much more likely to use the funds to purchase a house. Second, it competes with banks for upper-income borrowers, in spite of changes that were intended to allow lower-income contributors to benefit (Chiquier and Lea 2009). Third, there is a significant regional bias in the program, with higher rates of program participation in the large coastal cities (Ye and Wu 2008). Finally, HPF loans are usually not large enough to finance a home purchase, and thus are generally combined with conventional mortgages (Yeung and Howes 2006).

Affordable units constitute a small proportion of China's urban housing stock. Data from China's National Bureau of Statistics suggest that in 2010 affordable housing programs constituted a small share of China's urban housing stock. **Only 5 percent of households lived in homes purchased through the EAH program and only 3 percent were renting through the LRH program.** Privatized public housing is the largest form of government support for access to housing: 17 percent of households benefited from this program (figure 3.1).

In Shanghai, formal and informal rental markets provide an important source of housing and, over time, their importance is likely to grow. However, as mentioned before, the amount of municipal housing is declining after the housing reform, while the supply of commercial

Figure 3.1: Distribution of Urban Housing Types in China



Source: Sixth Census, National Bureau of Statistics, 2010.

housing, with prices between RMB 300,000 and RMB 10 million, is expanding.³ These prices are largely unaffordable for the low-income majority. Additionally, ever more of the migrant population is opting for long-term residence in Shanghai. For them, rental housing, often on the urban fringes, is the most accessible form of accommodation. According to a survey from 2012, nearly three quarters of rural migrants in Shanghai obtain housing through the private rental market and only 3.5 percent own their homes. This group constitutes 70 percent of all the migrants in the city.⁴ Data on the rental market is very limited but research for this study has identified six different types of units.

3. Data from the *Shanghai Statistical Yearbook 2011*, covering the years 2008–10.

4. <http://www.stats-sh.gov.cn/fxbg/201306/258477.html>.

Table 3.2: Types of Rental Housing in Shanghai

Type of Rental Units	Description
Commercial rental market	Apartments owned and managed by real estate companies and formally rented. Accommodates higher-income households.
Private rentals	Units owned by private individuals rented at market rate, often informally. Examples: privatized work unit housing or households who have received housing units as compensation for expropriation of land or property and use their newly acquired dwelling to supplement their income. Recipients of EAH housing may also continue to reside in their previous home and rent these units as petty landlords.
Low-Rent Housing	Heavily subsidized (i) commercial housing built by the private sector at the behest of local governments to house the poor, (ii) vouchers to enable these households to rent from the private sector, or (iii) publicly owned rental units serving the lowest-income households. Not open to non-hukou holders.
Public Rental Housing (PRH)	A new form of publicly owned housing built or managed by municipal companies for rent (often at market rates) for units of relatively high standard. Shanghai intends to use these for “talented professionals.” Some tenants may receive rental subsidies from their employer or the city if they possess a specific area of expertise the city is trying to attract. Non-hukou holders may benefit. There are no income criteria for program eligibility.
Work unit rentals	Rental units offered by employers. These could range from apartments to shared rooms in dormitories.
Municipal-owned rental units	Formerly work unit housing and inner-city neighborhoods that could not be privatized due to lack of modern amenities such as toilets and kitchens. Occupants were issued “Certificates” giving them permanent usufruct rights, including the right to sell or rent the property against nominal rent. Units are often rented out by certificate holders. These dwellings provide affordable rental rates in central locations to migrants and other low-income households and individuals, despite the poor quality.
Short-term leases	Shared room for temporary rental of up to six months, targeting recent university graduates and professional job seekers. They are managed and maintained by private organizations.

The rest of this chapter assesses the effectiveness of two affordable housing programs, EAH and PRH. The analysis considers both the demand for these types of housing based on an original survey, the costs of these units for consumers as compared to other housing options on the private market, and the high subsidies that currently sustain them. The chapter concludes with a summary of constraints and the broader limitations of each of these options as a large-scale affordable housing solution.

B. EAH AS AN AFFORDABLE HOUSING OPTION IN CHANGNING

Several factors make EAH an undesirable option for Changning compared to alternative means of providing affordable housing. First, from a supply side, the unit cost is equivalent or greater than private market rate units. This is likely due to a poor understanding of effective housing demand among targeted low-income pop-

Table 3.3: Estimated Price of Shanghai’s EAH in Five Different Price Locations

Floor price (RMB/m ²)			5,300	5,600	7,000	8,000	8,500
Total price	One bedroom	50 m ²	265,000	280,000	350,000	400,000	425,000
	Two bedrooms	65 m ²	318,000	336,000	420,000	480,000	510,000
	Three bedrooms	80 m ²	424,000	448,000	560,000	640,000	680,000

Source: Calculated by the World Bank for this study

Note: The EAH price is estimated using the floor area specified in the planning regulations multiplied by the floor price per m².

ulations. Large subsidies are required to bring EAH unit prices in line with international affordability standards. This limits creation of an adequate supply of affordable EAH units. Policy makers need to be more explicit about the intended beneficiaries of this program, which appear to be middle-income professionals.

EAH unit purchases would require heavy subsidies to create affordable price-to-income ratios (PIR).⁵ This study calculates that the maximum acceptable PIR for the poorest two quintiles of households in Shanghai is RMB 67,795 and RMB 135,590, respectively.⁶ The price of a 2–3 bedroom EAH unit would likely be RMB 340,000–500,000, including a down payment of RMB 100,000–150,000. This represents more than double the acceptable PIR for low-income households. At these prices, the unit is unaffordable for even the highest-income households without a subsidy. Clearly, the lowest-income residents are in greatest need of such subsidies. Table 3.3 provides

price estimates of EAH units based on the floor price at five locations across Shanghai.

EAH is too expensive even for the groups it is targeted to reach. A 2010 household survey carried out by the Shanghai Academy of Social Sciences (SASS) asked potential homeowners if they could afford RMB 500,000 for an apartment, including a RMB 150,000 down payment and a RMB 1,500 monthly 30-year mortgage payment. Half of the households with hukou responded that they could not afford to buy the EAH apartment. Among the lower-middle-income households—comprising 35 percent of the total population and the main target group of the EAH program—44 percent stated that EAH units were absolutely not affordable.

“There is a fundamental problem with [the EAH program]. Those who have enough money to buy do not meet the criteria, the poor who meet the criteria, of course do not have the money to buy.”

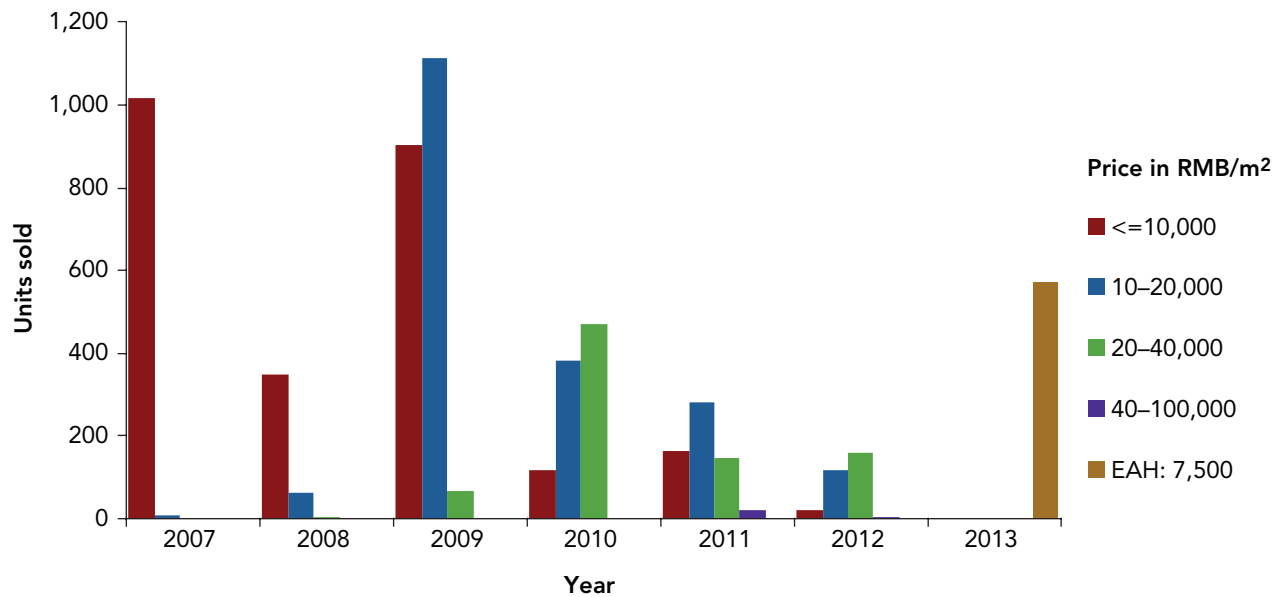
Mother and son interviewees

While EAH properties are less expensive than other housing options, the amount and location of supply may not match local demand. As figure 3.2 shows, the number of EAH units supplied in Xujing Town, Qingpu District exceeds the total market transaction activity for all housing in the area for the previous two years. Overall sales volumes in the market, especially for lower-cost housing priced at or below RMB 10,000 per m², have steadily

5. We use the internationally applied PIR as the criterion for assessing housing affordability. According to this, ratios of 3:1 to 5:1 are considered to be affordable (Flood 2001: 1). Man (2011) uses PIR values to establish four categories of housing affordability: “If PIR is equal to or greater than 5.1, the rating is ‘Severely Unaffordable’; if PIR ranges from 4.1 to 5.0, the rating is ‘Seriously Unaffordable’; if PIR ranges from 3.1 to 4.0, the rating is ‘Moderately Unaffordable’; and if PIR is equal to or below 3.0, the rating is ‘Affordable.’” Based on the 2010 Large Sample Urban Household Survey, Man estimates PIR values for China as a whole and for each of the 265 prefecture-level cities and finds a median level of 7.07 and a mean PIR for all the cities in China to be 8.79, well within the category of “Severely Unaffordable” (Man 2011: 11–12).

6. These quintiles represent 50 percent or less of median household income and between 50 and 79 percent of median household income, respectively. The figures represent a PIR value of 5.

Figure 3.2: Sales Volume and Price per Square Meter in Xujing Town, Qingpu District



Sources: Data for 2007 to 2012 (until July 2012 only) are derived from the real estate transactions database of SHUFE. Data for EAH housing of 2013 are derived from the Housing Security and Administration Bureau of Changning (http://cnfg.changning.sh.cn/view_0.aspx?cid=35&id=11&navindex=0). This reflects the number of EAH housing units available for application.

declined since 2009. For example, in Caolu, one of the six large neighborhoods of EAH affordable housing, as of July 2012, 6,785 (78 percent) of the 8,751 total units were sold, but only 4,325 (49 percent) were occupied, of which 1,610 units are rented out (18 percent). It is likely that this mismatch could encourage speculation, especially given the comparably low price. Units that are owned but not occupied reduce the overall supply of housing in an area and make it difficult for new buyers to enter the market.

While EAH prices are below those in the private market, they are still unaffordable for many residents. Figure 3.2 shows sales prices for commodity houses sold in Xujing Town from 2007 to 2012 compared to EAH houses currently under development in Xujing Town. The most active market segment is for housing priced at between RMB 10,000 and 40,000 per m² and for units larger than currently supplied by EAH (larger than 75 m²). At a cost of RMB 337,500, the smallest EAH unit (45 m²) is affordable only to high-income households (those at or above 120 percent of median income). Based on PIR as-

sumptions from table 2.5, the same unit would be nearly 2.5 times the PIR affordability limit for a low-income household (50 to 79 percent of median income). This demonstrates that public subsidies for EAH units do not extend to low-income households. Rather, they function as a public subsidy for households that likely can already afford private market housing.

“Mme Li” first applied for an EAH unit then went for a LRH instead. Although her application was approved, she gave it up because she cannot afford the RMB 267,000 cost of the unit. As she is retired, no bank will offer her a loan, nor will her relatives.

Housing finance may help low-income households afford EAH and private market housing, but formal sources are scarce. In a survey carried out for this study, some interviewees in Changning claimed that they could afford an EAH unit of 70 m², for a cost about RMB 400,000. Such households put the financing together by borrowing,

often from family members. For example, “Mr. Chang” recently purchased an EAH unit by borrowing from family but is now feeling under pressure: “*I cannot feel happy. I have borrowed 300,000 in total from my brothers and sisters. Although it is interest free, we have used most of our savings for my wife’s illness, and it will be a considerable cost in the medium term. The pressure on me is great. And nowadays my wife and I always argue about money.*”

Evaluation methods of EAH may also disqualify households that would be ideal candidates for the program. This limits both access to EAH and its broader appeal to different housing consumers. Shanghai introduced improved criteria and stricter assessment for EAH applications after the program came under public scrutiny. A database used to assess the eligibility of applicants includes total ownership of constructed area, even if the area is not useable, rather than “total living area.”⁷ Additionally, property jointly owned or inherited by families composed of members with different hukou statuses can be unfairly disqualified.

C. PRH AS AN AFFORDABLE HOUSING OPTION IN CHANGNING

A number of barriers limit the effectiveness of PRH as an affordable housing strategy in Changning. On the supply side there are high construction costs, due in part to limited bid competition among developers, as well as high land acquisition costs. Construction standards and furnishings are also comparable in price and quality to private market rental housing. Other issues are related to targeting and pricing weaknesses, similar to those for EAH projects discussed in the preceding section. A survey commissioned for this study finds that PRH is mainly preferred by higher-income households and that low-income groups are more interested in arrangements such as ownership or work housing. PRH residents are also dissatisfied with the mismatch between the location of

7. For example, a household with a small actual living area but also possessing 5 m² of inherited property shared with other relatives cannot use the 5 m², even though they own it. But this could disqualify them from PRH because the inheritance and the actual living area combined might exceed the floor area limit.

PRH units and their place of employment, which adds to commuting costs and reduces the appeal of the program. PRH units are also competing directly with private market rental housing units and are at times a more expensive choice despite the public subsidy. This raises questions about the necessity of public subsidies for rental housing that is neither affordable nor well targeted to low-income groups.

There are several supply-side challenges for Changning’s plans to promote PRH as an affordable housing solution. These include a limited supply of available land for development, as well as high land values that would permit construction of affordable units without heavy public subsidies for extended terms. The government’s waiver of fees and costs for land acquisition and construction also represent an indirect public subsidy to PRH developers, especially where land values are set to rise. The government’s selected locations for PRH developments may also not comport with local demands for housing and transportation access. This mismatch imposes costs on residents due to diminished mobility and access to employment centers (HUD 2014). Additionally, PRH developments must meet building and design standards similar to those of more expensive private rental projects, the costs of which are reflected in rental prices and, by extension, the cost of public subsidies to build and maintain them. Finally, it is not clear that Shanghai’s Housing Provident Fund, which has been identified as a source for financing affordable housing, is in a suitable position to securely invest in PRH.

The supply of PRH will likely be constrained as developers report high operational costs and modest profit margins on these projects. Major developers report that the high maintenance costs and risks (such as low occupancy rates) make PRH projects unattractive. As most big developers are listed companies, they are responsible to their shareholders and are committed to maximizing their profits. For example, the occupancy rate is less than 40 percent (2,000 households in 5,100 units) in the first two PRH projects in Shanghai, and only 23 percent for the PRH in Wuhan; and less than half the units in Zheng-

zhou have even attracted applications.⁸ Developers have indicated that they would consider providing PRH if they are only responsible for construction and can obtain a guaranteed profit margin, as applies in the case of EAH and relocation housing (capped at 3 percent).

The public subsidy advantage for PRH is essentially eliminated because the construction and development

8. <http://news.fudan.edu.cn/2012/0507/30608.html>.

standards make units competitive with private rental market housing. Such subsidies impose costs on local government that may not be sustainable and further distort the urban housing market to the benefit of some groups at the expense of others. Finishing costs amount to about RMB 800 per m², while the cost of furniture and household electrical appliances is about RMB 600 per m². For an apartment of 50 m², finishing and furniture costs alone would be RMB 70,000. Based on earlier estimates of housing affordability, which assume the a household pays

Box 3.1: The Low-Income Housing Tax Credit

Affordable rental housing in the United States is provided through a combination of federal and state programs. These programs are often supported by supplementary financing or subsidies from other institutions such as nongovernmental organization (NGOs) and local governments. Federal subsidies are rationed and awarded through competition between projects. One of the two main federal programs directed at affordable rental housing is the Low-Income Housing Tax Credit (LIHTC), a 10-year tax credit granted to investors that finance affordable rental equity.^a

The purpose of the federal LIHTC program is to create a financial incentive for private investors (both profit and nonprofit) to finance the development of low-income rental housing. The housing developer sells the tax credits to a private investor, who uses them to reduce his/her annual tax liability over 10 years. The LIHTC program targets the “sandwiched” population—that is, households with too little income to purchase or rent market-based housing, but too much income to qualify for subsidies. Credits are awarded by states on a competitive basis. They are then syndicated or sold to investors to provide a layer of equity. The owners must meet the basic eligibility requirements of income (maximum 50–60 percent of the area’s median income) and rent levels affordable to local population (HUD 2014).

From 1995 to 2005, 1,100,000 housing units were constructed under the program. Their financing, design, and target populations varied significantly according to state and local needs and preferences. On average, an additional 110,000 units are created each year, representing approximately 30 percent of all multifamily housing constructed annually in the United States. The program has proven successful at both creating affordable housing and providing good returns on investments (Chiquier and Lea 2009). There is also evidence that the LIHTC units do not crowd out the construction of unsubsidized housing in neighborhoods with stable or declining property values, and that these developments can actually reverse or stabilize the overall decline in property values (Baum-Snow and Marion 2009).

The LIHTC program has received some criticism. One critique by Cummings and DiPasquale (1999) is that it does not serve a low-income population without demand-side subsidies such as vouchers (see also box 4.2 on Section 8 vouchers). Another is that the difference between market rents and the social rents established in this program are not wide enough to justify the loss to the federal treasury (McClure 2000). A final criticism is that in some communities, the LIHTC can lead to an oversupply of units that remain outside of affordability levels (Nelson 1994).

Note: a. The other is tax-exempt bonds for multifamily rental housing financing, issued by local governments.

no more than one third of its annual income on housing, it would take a household at the lowest income level more than 15 years of rental payments to cover this cost.⁹ As this does not include the costs of land assembly and construction, these rental developments would represent a financially unsustainable means of providing rental housing to low-income groups at the scale required. Based on interviews with four developers, the cost for underground structure is about RMB 4,000 per m², which is equivalent to or even higher than the above-ground structure at RMB 3,100–3,300 per m². Table 3.4 details the main construction costs for PRH units in a city near Shanghai.

The high cost of land is the leading contributor to the unaffordability of PRH units. This shows no sign of abating, because local authorities need to maximize revenues from land sales. For example, the average cost for newly built PRH housing units ranges between RMB 8,000–12,000¹⁰ per m², including the cost of land. The cost of one of the first two PRH projects in Shanghai¹¹ is RMB 9,500 per m², half of which is the cost of land. The difference between the costs of PRH units in new-build projects and converted buildings is shown in table 3.5. As the table shows,

9. The lowest income group earns RMB 13,559 per year, of which RMB 4,519 would be allotted for rent according to affordability standards.

10. According to the local official in PRH office.

11. <http://news.fudan.edu.cn/2012/0507/30608.html>.

Table 3.4: Main Construction Costs for PRH Units near Shanghai (RMB per m²)

Activities	Cost (RMB per m ²)
a. Underground	
Building construction	3,500
Foundation	120
Interior finishing	200
Total	3,820
b. Above ground	
Building construction	1,400–1,600
Piped water and electricity	750
Interior finishing	750
Telecom	200
Total	3,100–3,300

Source: The budget plan of one PRH unit in a city near Shanghai.

the cheapest way to create PRH housing is to rent other types of existing buildings. The costs of PRH are mainly due to land prices, which are not a factor with reused or converted buildings. Construction, finishing, and other

Table 3.5: Basic Costs for PRH in Changning District

Type of PRH	Cost (RMB/m ²)	Estimated total costs for a building 24 meter+ high (RMB)	
		One-bedroom 50 m ² apartment	Two-bedroom 60 m ² apartment
Newly built	8,000-12,000, including land cost	400,000–600,000	480,000–720,000
Reused or converted buildings	3,000-5,000, excluding the land cost	150,000–250,000	180,000–300,000
Purchased structures	At market price	The price would be the same as for newly built, or even higher. It depends on the original type of building and the level of discount during the transaction. The price should be cheaper if for used building, because the quality is poorer and time and administration costs are lower.	

Source: World Bank calculations for the purposes of this study.

Note: Decoration is RMB 800 per m² and furniture and electrical fittings are RMB 600 per m².

costs are nearly the same for reused or newly built. Thus, it is important to make full use of the available floor-area ratio (FAR) and improve the efficiency and diversity of uses of available land.

Survey respondents did not express a preference for PRH over other forms of housing subsidy. Changning renters surveyed most frequently responded that the central and local government should increase involvement in LRH in kind, LRH with cash subsidies, and EAH. However, none of these programs are available for migrants. Among households that expressed a preference for PRH, 97 percent would pay a maximum of RMB 1,500 per month for a one-bedroom apartment (70 percent expect rents to be under RMB 1,000); 90 percent of households expect to pay less than RMB 2,000 per month for a two-bedroom apartment (60 percent expect rents to be within RMB 1,500). *These figures show preferences for different types of housing, and demonstrate that existing options such as PRH remain too expensive for the target population.*

Among survey respondents, renting is preferred to homeownership as a short-term solution. This suggests there is a significant demand for rental housing. If appropriately targeted, PRH could drastically improve options for groups with diverse housing preferences such as new migrants, the elderly, students, or young professionals. Based on the results of the SASS survey, 11 percent of households have a pressing need for better housing in the next two years and 22 percent have a less-urgent need. The 33 percent of households with a pressing need for better housing were asked what option they would prefer, apart from ownership of commodity housing. Surprisingly, rental housing was preferred over home ownership. Of these households, 20.9 percent would prefer to rent from the government, 16.8 percent would choose a zero down-payment mortgage, 13.4 percent would prefer to rent from their work unit, and 12.8 percent would choose EAH.

PRH is a very popular choice among high-income households with hukou with housing difficulties in Shang-

hai (estimated at 100,000 or more). The second-largest household group comprises approximately 75,000 low-income households with hukou. The smallest group of households in Shanghai is estimated at 66,500 who are middle-income and an equivalent number who are migrants. Table 3.6 shows the estimated housing choices among approximately 1,937,310 family households in main districts in Shanghai, by income and hukou status. This diversity of housing preference needs to be considered when translating housing demand into programs of housing supply.

Current PRH residents would prefer to live closer to their work. A survey conducted by Changning¹² to assess demand for PRH found that respondents preferred locations closer into the city, with 44 percent willing to move up to a half an hour away from the city center, 31 percent up to an hour away, and 18 percent not willing to move out of the district. In a survey of the first cohort of PRH residents in Shanghai, more than half of respondents reported a longer commute from home to workplace than before. Ninety percent are spending more than half an hour to go to their workplace after the move, in contrast to only 57 percent before moving (see table 3.7). The survey findings demonstrate that the spatial mismatch between PRH developments and employment centers represent significant time commitments and recurrent hidden costs for residents, who must regularly commute long distances.¹³

12. In 2011, a Changning District PRH Company took a survey of demand for PRH. The sample covered large-size enterprises (both employer and employees) and passengers randomly chosen near the entrances of one of the busiest metro stations, where all people from all Shanghai change trains. A total of 9,000 questionnaires were distributed and 4,723 were valid when returned. The survey success rate was 52.48 percent.

13. Recent research in the United States has shown that housing and transportation costs can often comprise up to 50 percent of household expenditures (HUD 2014). Most often, these transportation costs are the recurring costs related to purchasing, maintaining, and fueling automobiles. These costs effectively cancel out the savings made by purchasing lower cost housing far from employment centers and central city areas.

Table 3.6: Estimated Housing Preference among Different Groups in Central Shanghai

Household Residency	Income	Rent from government	Not clear	Zero down payment long-term mortgage	Rent from work unit	EAH	Others	Housing built by work unit with employee contribution	Rent from private landlord	Total
Hukou holders	Lowest income	0	28,490	23,742	75,973	0	0	0	0	128,204
	Low income	75,973	61,728	33,238	9,497	23,742	80,721	14,245	4,748	303,892
	Middle income	66,476	75,973	128,204	42,735	61,728	28,490	18,993	4,748	427,348
Migrants	High income	109,211	80,721	66,476	42,735	80,721	23,742	42,735	14,245	460,586
	Lowest income	9,497	23,742	0	0	0	4,748	0	0	37,986
	Low income	33,238	14,245	9,497	18,993	23,742	4,748	0	0	104,463
Migrants	Middle income	66,476	23,742	23,742	47,483	18,993	18,993	9,497	9,497	218,422
	High income	42,735	71,225	42,735	23,742	37,986	9,497	18,993	9,497	256,409
Total		403,606	379,865	327,633	261,157	246,912	170,939	104,463	42,735	1,937,310

Source: Estimates from SASS 2010 Household Survey.

Note: a. These housing units are built on land owned by work units with capital raised through employee contributions. This housing tends to be below market price because the cost of land is generally not factored into the price. Such housing is now rare.

Table 3.7: Commute Time (One-Way) Pattern of PRH Survey Respondents (Percent of Total)

Current commute time (% of total)	Commute time before moving in (% of total)				Sum (percent of total)
	Less than half hour	Half to 1 hour	1–2 hours	More than 2 hours	
Less than half hour	13.49	3.42	16.67	16.67	n.a
Half to 1 hour	44.44	58.97	35.42	0.00	n.a
1–2 hours	39.68	33.33	47.92	33.33	n.a
More than 2 hours	2.38	4.27	0.00	50.00	n.a
Sum (percent of total)	100.00	100.00	100.00	100.00	n.a
Commute time added	86.51	37.61	0.00	0.00	51.52
Commute time reduced	0.00	3.42	52.08	50.00	10.77

Source: Chang and Chen 2013.

Note: n.a. = Not applicable

While this study has identified a significant housing deficit across the city, PRH projects in Shanghai initially had very low occupancy rates. At the end of 2012, occupancy of municipal PRH projects in Shanghai was as low as 30–40 percent (Chen and Chang 2013). This lack of demand was in part because PRH developments are located far from economic activities and services, resulting in high commuting costs. More recently, occupancy rates have increased following subcontracting arrangements that were made with employers. The next section will demonstrate that PRH is also expensive compared to private market rentals and remains unaffordable for most low-income households.

D. PRH AND AFFORDABILITY

Despite heavy subsidies for construction, a large segment of the population will still be unable to afford PRH. A large survey to determine demand for PRH was undertaken by Changning District in 2011. The results showed that 59.19 percent of households could afford monthly rent of RMB 1,000–1,500, 23 percent rent of RMB 1,500–2,000, and 12 percent rent of RMB 2,000–2,500. A survey

of renters in Changning carried out for this study shows that their average rental expenditure is RMB 2,000 per month or one third of their total household income. Rent for a PRH unit is expected to be RMB 1,500 per month. According to a survey prepared for this study, this is both the desired monthly rental price and approximately one third of annual median incomes—well within the range of affordability. However, a recent study also finds that **about 25 percent of respondents from the first cohort of the 2011 survey could not afford the rent of a PRH unit, suggesting that prices remain unaffordable for a large number of urban residents (Chang and Chen).**¹⁴

Without a substantial subsidy, the PIR for PRH will fall far outside of international affordability standards.

Comparing these costs with the levels of affordability provided in table 2.5 (previous chapter), it can be seen that the units remain far too expensive for low-income households in the absence of a significant subsidy. Even the present rent for PRH of RMB 40 per m² is more than five times the amount that very low-income households

14. The level of subsidies for PRH housing is discussed in chapter 3.

could pay for a 50 m² one-bedroom apartment.¹⁵ Low-income households (those earning no more than RMB 43,387 annually) would be able to spend approximately RMB 24 per m² per month. Therefore, the heavily subsidized price of RMB 1,500 per month, or RMB 30 per m², barely approaches affordability and the desired rental price respondents identified in the survey. ***It is not known if any other country, at any level of economic development, has been able to sustain such high subsidy levels for more than a small proportion of the housing supply, or for more than a short period of time.***

The PRH option, as understood in this study, is not aimed at the majority of those in need of housing, but is a tool to attract talented workers as part of the strategy for economic development. The effective demand analysis can hardly apply if the goal is not to eliminate poverty, but to provide a better life for already privileged groups. However, the high vacancy rate shows that the existing form of provision cannot even meet the expectations of the targeted groups. The municipality has to offer more promotions and subsidies to attract them, thereby increasing economic costs and social inequality. For example, the survey found that some employers rent PRH units to foreign staff as benefits. In addition, the property management fee is included in the rent, but the maintenance cost will increase over time. International experience also shows that the maintenance cost is much higher for high-rise than for medium-rise housing.

PRH residents in Shanghai are affluent and well educated. Chang and Chen (2013) have explained the multiple reasons for PRH in Shanghai and stressed its function in attracting talented groups seeking a middle-class lifestyle. A recent survey undertaken by Fudan University shows that most PRH tenants are high income. Sixty-four percent of survey respondents reported personal annual disposable income to be higher than RMB 60,000, 30 per-

cent higher than RMB 90,000, and 13 percent higher than 120,000 RMB. Sixty-five percent of respondents have a BA degree or higher.

Changning and other districts are confident of finding tenants, even though rents in the district are high, because they have a cluster of “talented” professionals. This enables Changning to recover costs in five or six years and continue to run the program, whereas some poorer districts believe it is a very challenging task both to attract tenants and compete with the market. The situation is far less attractive for migrant households, however; they must rely on employer subsidies if they are to afford PRH units.

Compared with private sector rental housing, the costs of PRH become even more difficult to justify. As table 3.8 shows, the private rental units are larger and less expensive than PRH units and do not require any government subsidy. In one survey in Shanghai¹⁶ (sample size of 4,700), 73 percent of households said they would seek a PRH unit in the future, but 59 percent expected the monthly rent to be RMB 1,000–1,500 and 28 percent expected it to be RMB 1,501–2,000. Existing PRH is far more expensive than the majority expects. This may be because construction and equipment standards for PRH are higher than needed. The cost of meeting these standards is supported by subsidies, so that PRH costs more than housing available in the market. This raises the question of whether it would be desirable to accept, or even promote, the private rental sector as part of Shanghai’s housing market.

Locating PRH units in converted industrial buildings represents a better use of subsidies for housing provision. Due to the high cost of land assembly, the construction of PRH units in converted buildings is half that of new construction. For an ongoing project in a converted vacant industrial building, the total cost of RMB 47.8 million for 230 units results in a unit cost of RMB 210,000. At this

15. This is based on the following assumption: very low-income households earn approximately RMB 13,559 per year, a third of which (RMB 4,519) would be spent on housing annual. Affordable housing at this expenditure level would be RMB 7.53 per m².

16. The sample included the employees in office buildings in one comparatively developed district and passengers at a major underground station, from which people transit all around Shanghai.

Table 3.8: Comparison of Price between PRH and Private Rental in the Same Neighborhood in Shanghai

Size	PRH		Private rental	
	Built area (m ²)	Monthly rent (RMB)	Built area (m ²)	Monthly rent (RMB)
One bedroom	40.24–42.43	1,694–1,896	60	1,500
Two bedrooms	61.58–63.27	2,533–2,772	80	2,300
Three bedrooms	74.67–78.24	3,033–3,311	89	3,000

Source: World Bank fieldwork and the rental price of the same neighborhood from Soufan website.

cost level, the building’s rent capitalization rate may make lower rents more feasible than in newer, more expensive PRH developments.

There is a substantial mismatch between the types of PRH units provided and those sought by intended households. This demonstrates that the supply of housing does not reflect consumer demand. For example, the survey on PRH in Shanghai conducted for this study revealed that more than half (52.96 percent) of households prefer a one-bedroom unit with a built area of 40–60 m², about one third (36.42 percent) prefer two bedrooms of 60–70 m², and one tenth three bedrooms of 70–80 m². However, because the first two PRH projects in Shanghai were designed as EAH and relocation projects, the design was not tailored for PRH households. For example, in Xingning Apartments, 508 one-bedroom units were available, designed as LRH with a built area of 40.24–42.43 m² (living area is only about 30 m² in total), accounting for only about 5 percent of the total units.

E. SUMMARY OF CONSTRAINTS TO EAH AND PRH

The current forms of EAH and PRH provision are not based on housing needs or demand and provide poor location benefits, despite substantial subsidies. They are much less competitive and attractive compared to

alternatives on the private market. It is recommended that future supply of both EAH and PRH units should be based on a clear understanding of the extent and nature of housing demand, particularly with regard to tenure security, convenience of location, number of bedrooms, levels of fittings and furniture, and, therefore, affordability. The existing private market offers a choice of locations and affordability without dependence on substantial subsidies and therefore deserves official support.

Changing District authorities lack detailed and reliable information on the extent and nature of the current housing demand of different segments of the population. This study finds that low-income groups are either uninterested in or unable to afford homes subsidized through EAH and PRH. One reflection of this conundrum is that the local government has had to consistently adjust the eligibility criteria for EAH by increasing income levels to stimulate demand.¹⁷ This suggests that the various affordable housing programs are poorly targeted and too expensive for the intended beneficiaries of households earning below the median income. A similar pattern is observed in demand levels for PRH: as of March 2012,

17. For instance, under the EAH program, the initial income eligibility was set at RMB 27,600 per year and a per capita household asset level of RMB 70,000, just below the city’s median annual income of RMB 28,838. However, several increases were made, until the most recent eligibility criteria of RMB 39,600 income per year and RMB 120,000 in per capita assets were adopted. Further adjustments are planned.

Box 3.2: Chonsei: An Intermediate Rental Arrangement in the Republic of Korea

Chonsei is a rental agreement in the Republic of Korea where the tenant pays an upfront deposit that is equivalent to 30–70 percent of the monthly rent payments over the rental period. The rent payment value is calculated on the basis of the unit's market price. *Chonsei* emerged in the era of "financial repression," when the housing financing system was undeveloped and the housing market was highly regulated. As explained by Park (2007):

Technically, the *chonsei* contract combines two separate transactions. The first is a loan made by the tenant to the landlord, the second is a lease by which the landlord grants the tenant use of the residence for imputed interest payments on the *chonsei* deposit. Landlords are not restricted in their use of the deposit and frequently the *chonsei* money is used as leverage to invest in additional housing units.

Upon contract termination, the landlord repays the entire value of the deposit (excluding any interest earned). It has been increasingly a popular tenure choice for middle-class households, particularly in large cities like Seoul. As of 2005, about 22 percent of national households lived in *chonsei* rental housing.^a

There is wide agreement that *chonsei* is an "indigenous market response" to the economic, financial, and institutional environment (Renaud 1989). It effectively allows landlords to leverage their properties for further investment, and also allows tenants an intermediate housing tenure between ownership and rental.

Some of the key benefits of *chonsei* are as follows:

- Tenants recover their deposit and so are able to live rent free.
- Provides tenure security since landlords cannot increase rent or force out tenants
- Landlords have secure rental income through the deposit, which they can then invest, including in housing development.

The shortcomings of the *chonsei* system are as follows:

- Large cash deposit.
- Tenants are locked into the agreement for the duration of the contract.
- Tenants pay an opportunity cost when interest rates are on the rise, as their available cash is tied up in the *chonsei* agreement.

A similar intermediate system, *Antichresis*, is very popular in some Latin American countries.

Note: a. <http://kostat.go.kr/portal/english/help/1/index.board?bmode=read&aSeq=45123>.

there were only 60 applicants for the PRH in Changning, but the planned number of units to be constructed over the next five years is 2,500 to 3,000. Balancing housing demand and supply and effectively targeting limited public resources requires a sound understanding of the current and projected housing needs of different socioeconomic groups.

Officials need to consider the longer-term benefits that housing subsidies should provide to the city and its residents. The main beneficiaries of both programs appear to be middle- to upper-income professionals that work in high-skill occupations. Public housing is used as an incentive for these professionals to move to the city for work, which is actually an indirect public subsidy to their

employer. In contrast, employers who build and maintain housing for their workers do not receive public housing subsidies. Subsidies help well-paid professionals fulfill their dream of a middle-class lifestyle, and may encourage them to stay in Shanghai in the medium term. However, subsidized housing hardly benefits the majority of the population, and it is not clear that the taxes of higher-class workers help fill local government coffers. Unlike young, talented professionals, low-income groups enjoy much less labor mobility and represent a larger segment of the city's population. This segment of workers currently has very few housing alternatives.

Weaknesses in the administrative structures of both EAH and PRH encourage mistargeting of subsidized housing. EAH covenants do not ensure that units remain affordable for extended periods. The shared equity format also reduces the attractiveness of units to consumers who would prefer private ownership, which lowers the resale value of the unit. The lack of any income limit in accessing PRH developments has given an advantage to comparatively better-off households, particularly skilled workers, at whom PRH is targeted. Improving the living conditions of low-income households will need other methods to work together with PRH, such as rent vouchers.¹⁸ Last, but not least, the legislation and management

18. International experience has shown that direct public sector construction is the least-efficient method of housing provision. Instead, rental vouchers can give people more choice and can stimulate the development of a more diverse and therefore responsive rental market. In fact, the interviews with LRH households the existing subsidy level has very limited effects on the improvement of housing; the subsidies need to be increased.

of the private rental market should be reviewed, together with the provision of PRH, with the goal of ensuring equal tenure security. The private market can offer a wider range of affordable housing for the majority of the population at a much lower cost, and in ways that supplement the incomes of housing providers.

Existing housing finance sources such as the HPF are inadequate for EAH consumption and inappropriate for building and managing PRH. Based on the findings of the survey in this study, few consumers of EAH have access to mortgage finance and instead rely on family savings. Recently, Shanghai's HPF has begun to invest in financing rental property, which it has no previous experience doing. If the investments in rental housing construction earn less than market rates of return or if loan terms and amortization rates are poorly applied, then the HPF will lose liquidity. If the real estate market experiences a downturn and if any of the loans on the properties go into default, these would be considered nonperforming loans on the books of the HPF and would ultimately have to be written off. If over time the rental properties financed fall into disrepair, either the city or the HPF might have to provide additional capital. Since HPFs are the major mortgage lenders of affordable housing, including those who may borrow from the HPF to purchase an EAH, any decline in the fund or any reduction in liquidity could cause less capital to become available for mortgage lending, which would further a real estate downturn. Therefore, the structure of HPF financing needs to be changed since the current structure poses too much risk to the fund, to its members, and to the economy.

Chapter 4

Conclusions and Recommendations

Shanghai has made significant strides over the past three decades in improving the functioning of the housing sector and has been at the forefront of innovative interventions that subsequently became national programs. Shanghai was the first municipality in China to introduce the Housing Provident Fund (HPF), the Low-Rent Housing (LRH) program, and the property tax pilot for local revenue generation. It was the first use the HPF to finance Public Rental Housing (PRH), and the first municipality to issue bonds for social housing investment. The LRH has been effective at reaching low-income households and is appropriately targeted. These efforts have enabled Shanghai to improve housing conditions. However, the city continues to face significant challenges in provision of affordable housing, like other global metropolises across the world.

Despite the high level of political attention and significant public financial investment, the housing sector in Shanghai is not functioning well. It is characterized by lack of affordability for the median- and low-income households; an oversupply at the high end of the market, as evidenced by the large number of vacant units, especially in suburban locations; and undersupply for the low-income segments. *The recently introduced PRH option has received growing attention and investment from central and local government. It is seen as a key measure to provide decent and affordable housing for populations in need, and is now a central focus of offi-*

cial housing policy. However, this study has found that the existing policy faces immense constraints to its ability to reach low-income populations. In addition, the public subsidies necessary to build and maintain PRH may be unsustainable over the long term. Poor households, whether or not they possess a *hukou*, are much more constrained in their housing options than the wealthier households and skilled professionals who can afford EAH and PRH units. Therefore, there is a significant risk of generating or increasing existing inequality among different social groups (He 2010).

International experience shows that a key to the provision of affordable housing is an overall well-functioning housing system—a system that is efficient and responsive to the needs of all population segments, including the poor. Housing needs to be understood as an ecosystem composed of consumers of different income segments, the construction industry, financiers, and local and central government bodies. Governments that have successfully made housing affordable have played an enabling role. They intervene to overcome market failures while also ensuring that their actions do not distort housing markets in ways that disadvantage vulnerable groups. Successful governments have systematically and simultaneously addressed the causes of market failures by (i) focusing on demand and supply side constraints and (ii) enacting policies that improve the regulation and management of the housing sector as a whole.

Box 4.1: Unintended Effects of a Housing Subsidy Policy in South Africa

With the advent of democracy in 1994, many households in South Africa were without adequate shelter and most could not afford to own housing. The government's response was set out in the 1994 Housing White Paper, which essentially focused on provision of as much shelter as quickly as possible. However, this approach brought with it new challenges. Many of the houses were poorly located on cheap land and shoddily constructed. And while the houses were used as a place of shelter, the market in trade was virtually nonexistent. Poor people rarely used their housing assets to "trade up" the housing ladder, to make capital gains, or to leverage their housing asset to create wealth.

In 2004, a revised housing policy entitled "Breaking New Ground: A Comprehensive Plan for the Development of Sustainable Human Settlements (BNG)" was launched.^a BNG proposed to move away from the delivery of poorly located, sometimes low-value houses, to the creation of better-designed, better-integrated, and better-valued "sustainable human settlements." In these settlements, subsidy housing might be used as the first rung of the private housing ladder. In addition, the subsidy program was extended to moderate-income households earning between R 3,501 (US\$437) and R 7,000 (US\$875) a month through a new subsidy strand, the Finance-Linked Subsidy Programme (FLISP).

However, according to research carried out in 2010, the subsidy is not adequately targeting or helping the intended population. In fact, it is worsening the conditions for other low-income families who fall outside the subsidy market through distortive pricing, as evident from the following:

- No houses have been built by the private sector for those earning between R 3,500 and R 7,000 (US\$437–US\$875) per month. Those households are "too poor" to purchase a market-based housing unit and "too rich" to qualify for a free house under the subsidy scheme.
- Households in the R 7,000–R 10,000 range (US\$875–US\$12,500)—also "low income"—are effectively paying for the subsidy through higher prices for their own units, which look just the same as the free houses.
- There has been a reduction in the upward mobility of households from the poorer quarters, since there is nothing priced between the "free" house and the one just above it at R 240,000 (US\$30,000).
- There is "leakage" of the subsidy, with beneficiaries selling off their "free" homes without realizing the full financial potential of the transaction.

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On the demand side, international experience shows that governments have an important role in ensuring that effective demand-side instruments are used to promote affordable housing. The following three policies are key:

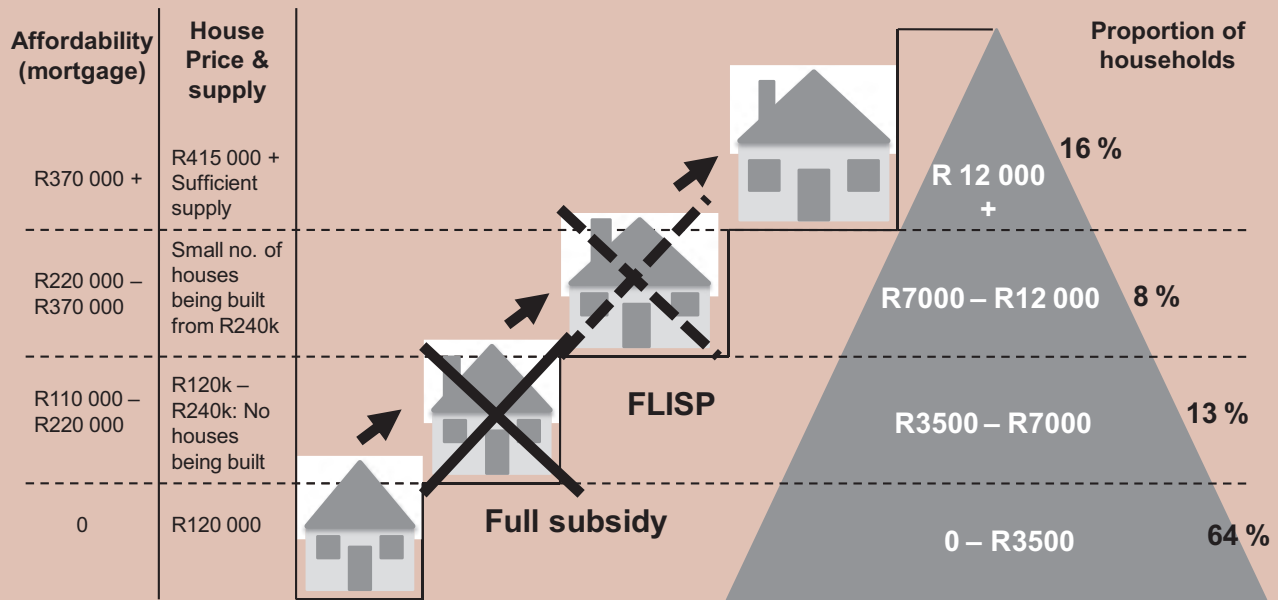
- *Developing property rights for a range of tenure options, including rental housing*, by improving systems for market-based land transactions, improving land registration, and regularizing insecure tenure. Around the world, poorly functioning land markets constitute the biggest constraint to the affordability of housing, especially in urban envi-

ronments. Removing barriers to open and transparent land transactions significantly contributes to well-functioning housing markets.

- *Developing housing finance* by creating healthy and competitive lending institutions to provide loans for homeownership and home improvements. Housing finance products that are designed to reach the poor, such as housing microfinance instruments, are equally important.
- *Developing subsidies that are affordable, well-targeted, measurable, transparent, and minimize market distortion*, such as improved infrastructure.

Box 4.1 (continued)

Figure B4.1.1: South Africa's Housing Ladder



Source: Mathema and Hobden 2010.

Note: Mortgage affordability is calculated at a prime rate of 10 percent, repayment over 20 years, a 30 percent repayment-to-income ratio, and a loan-to-value (LTV) ration of 90 percent.

Source: Adapted from Mathema and Hobden 2010.

Note: a. http://www.thehda.co.za/uploads/images/BREAKING_NEW_GROUND_DOC_copy-2_1.pdf.

On the supply side, the following three instruments enable governments to facilitate the supply of housing for different income segments, including low-income households:

- *Providing infrastructure for residential land development* by coordinating entities responsible for roads, drainage, water, sewerage, and electricity. Government servicing of land, especially undeveloped land, allows developers to focus on housing provision and saves them the cost of building infrastructure that would have been transferred to consumers. However, local governments should also ensure consumers and developers contribute to the cost of infrastructure.
- *Regulating land and housing development* to promote fluid and open markets.

- *Facilitating the building industry* by fostering greater competition, removing regulatory and procedural constraints to development, using local building materials, and reducing trade barriers to housing inputs.

A number of policy tools have been used effectively by other countries to provide affordable housing. Shanghai and Changning District can draw on this international experience to systematically address demand and supply side constraints in their affordable housing market. The current patchwork of “affordable housing” programs can only deal with the symptoms of the housing problem rather than its causes. A systematic, integrated intervention is needed to improve the affordable housing situation.

Box 4.2: Rental Subsidies: Section 8 Vouchers

Funding for public housing and for rental assistance constitute the vast majority of the budget of the United States Department of Housing and Urban Development (HUD). HUD provides housing assistance to renters (or tenants) through a program commonly known Section 8, which gives housing vouchers or direct payments to a private landlord (GAO 2007). The Section 8 program authorizes the payment of rental housing assistance to private landlords on behalf of approximately 3.1 million low-income households. The U.S. Census defines a rent burden as when a family must pay more than 35 percent of its gross income on housing. There are about 37 million rental households in the United States, representing approximately 34 percent of the population. In 2011, more than two in five renters (42.3 percent) were considered “rent burdened,” and 26 percent spent more than half of their income on rent.

The Section 8 Program operates through several subprograms. The biggest is the Housing Choice Voucher program, which pays a portion of the rents and utilities of about 2.1 million households.

A housing subsidy is paid to the landlord directly by the local Public Housing Agency (PHA) on behalf of the participating family. The family then pays the difference between the actual rent charged by the landlord and the amount subsidized by the program. Under certain circumstances, if authorized by the PHA, a family may use its voucher to purchase a modest home. Voucher eligibility is determined by the PHA based on gross annual income and family size and is limited to U.S. citizens and specified categories of noncitizens who have eligible immigration status. In general, the family’s income may not exceed 50 percent of the median income for the county or metropolitan area in which the family lives. By law, a local PHA must provide 75 percent of its vouchers to applicants whose incomes do not exceed 30 percent of the area median income. Median income levels are published by HUD and vary by location.^a Under the Section 8 Program, tenants pay about 30 percent of their (adjusted gross) income for rent. The federal government pays the difference between this percentage and what is known as the “fair market rent” (FMR). The FMR represents the rent for an apartment that is at the 40th percentile of the local housing market, based on an analysis of new leases from the prior year.

The program both provides gains for recipient households and represents a cost-effective subsidy for the government. A recent study estimates that after considering the costs of both the subsidy and its administration, the vouchers create an overall benefit of between 10 and 37 percent of the cost per beneficiary per year. This benefit is expressed as both an increased capacity for the household to spend on other goods and services including health and education, as well as improved housing unit and neighborhood quality (Carlson et al. 2010).

Note: a. http://portal.hud.gov/hudportal/HUD?src=/topics/housing_choice_voucher_program_section_8.

Table 4.1: The Way Forward: Promoting Affordable Housing in Shanghai and Changning District

Current government policies and programs that contribute to housing market distortions	The way forward: policy instruments to improve the housing sector
Demand-side constraints	Demand-side solutions
<p>Current affordable housing programs such as EAH and PRH are not well targeted. Eligibility requirements are often broadly defined and hence beneficiaries of the program have tended to be middle- or higher-income households.</p>	<p>Establish clearly defined eligibility criteria on the basis of housing demand analysis using refined socioeconomic and demographic data. Make housing subsidies transparent, publicly available, and clearly focused on low-income households who are not able to access housing without public assistance.</p>
<p>There is lack of understanding of the housing-related needs and priorities of low-income households.</p>	<p>The most effective subsidies are provided directly to households (rather than to developers for housing construction).</p> <p>The main option for improving affordability, especially for low-income households, is to increase supply of the types of housing they need. This may be done with incentives (such as tax rebates) to private land and property owners to provide rental housing; reduced planning and building standards for “starter” housing that can be improved and extended over time; and by introducing requests for proposals (RFPs), by which private developers are awarded contracts according to the proportion of affordable housing they provide as part of commercially based residential developments. Successful examples include a rental assistance program to low-income households under the Section 8 Program in the United States, which provides housing vouchers or direct payments to private landlords. Under Section 8, tenants choose where to live and pay about 30 percent of their gross income for rent, with the remainder of the market rate rent subsidized by the program. But for such a program to work in Shanghai, a well-developed private rental market is required.</p>

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Current government policies and programs that contribute to housing market distortions	The way forward: policy instruments to improve the housing sector
Supply-side constraints	Supply-side solutions
<p>Subsidies are offered to developers (for example, the EAH program) in the form of lower land prices. The current subsidy format induces developers to build where they can obtain land at the lowest price. This encourages fringe development, which carries long-term costs to the local government in terms of (i) cost of infrastructure provision and (ii) loss of tax and economic growth because of traffic and reduced access to employment.</p>	<p>International experience shows that such supply-side subsidies are inefficient and result in leakage and should therefore not be used.</p>
<p>Government has strong regulatory control over land markets by assigning different values for industrial, commercial, and residential use. Use of urban land for residential development is limited and expensive, thus causing housing prices to rise.</p> <p>In addition, each parcel is very large and assigned for single-use purpose. This limits mixed-use and mixed-income development.</p>	<p>Promote a more market-oriented approach to land transactions to reduce current distortions and their contribution to the high cost of housing. The sale of public land should be conducted through a competitive bidding process without regard to intended use for industrial, commercial, or residential purposes. Allow for rural land to enter urban land markets and permit landowners to directly negotiate with developers. Allow the sale of smaller parcels of land for mixed development.</p> <p>Diversify the revenue base of local authorities by considering the application of property taxes based on market values.</p> <p>Improve the inventory of public land; identify underutilized parcels that could be used for affordable housing development. (For example, Germany incentivizes local governments to make land available for housing, contributing to a stable and affordable housing market).</p>
<p>There is limited competition in affordable housing development since much of it is done through state-owned enterprises or their subsidiaries. Given the limited returns, there is limited incentive for these developers to invest in the affordable housing segment.</p>	<p>Encourage entry of firms that can create competition and innovation and serve the low-income segment. Private developers elsewhere have managed to specialize in the affordable sector by bringing down the cost and time of construction through experimenting with new construction techniques and siting new developments near existing employment centers, such as Xrbia in India (http://www.xrbia.com/). Less expensive and time-intensive alternatives to bricks, such as prefabricated panels and injection-molding techniques, can reduce costs and lower the barriers to entry for smaller developers targeting middle- and lower-income groups. Consider requiring developers to allocate a portion of residential units to low-income households in return for planning and development permission, as done in Malaysia and the United Kingdom.</p>

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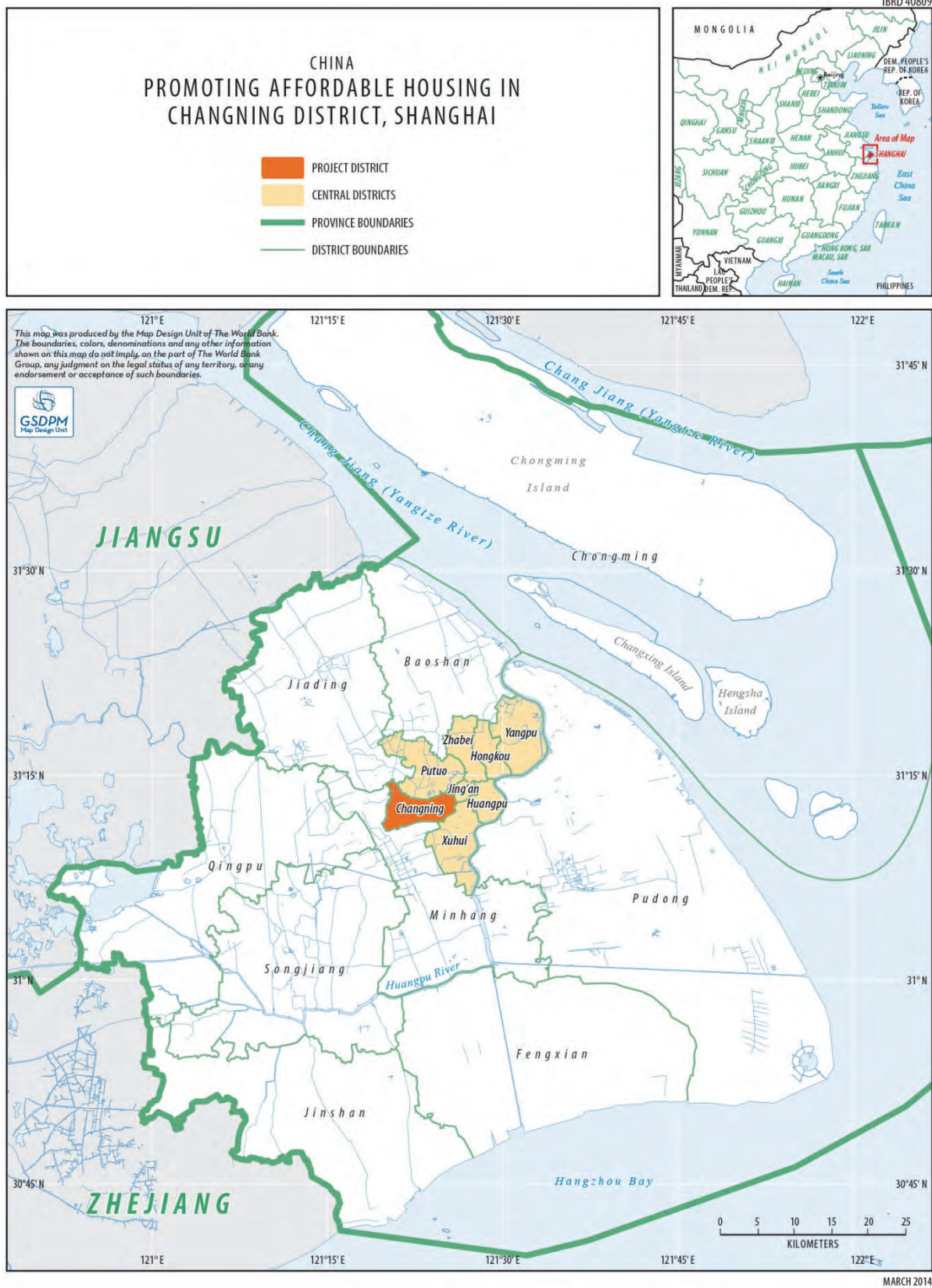
Current government policies and programs that contribute to housing market distortions	The way forward: policy instruments to improve the housing sector
<p>Regulatory requirements impose high standards on housing development (such as underground parking spaces, building set-backs, green areas, minimum apartment sizes, floor area ratios, and access to sunlight). This increases the cost of housing and puts it beyond the reach of lower-income households.</p> <p>Licensing and permitting processes are long and complex, especially for affordable housing developments, thus increasing transactions costs for developers.</p>	<p>Relax regulatory requirements to bring down the cost of housing. Fairly relaxed housing regulations (such as floor-area ratio [FAR] standards and unit sizes) enabled developers to adjust building density levels and unit sizes when Bangkok was undergoing rapid urbanization, making housing relatively affordable even in central locations.</p> <p>Improve business processes such as permits to shorten the time required to complete a building project. For example, Germany's efficient and streamlined permitting process allows developers to build housing fairly quickly. RFPs can also provide for a range of housing provision, particularly on government-owned land. A review or audit of the regulatory framework for housing development can help identify specific blockages needing reform.</p> <p>Create flexibility in development standards and zoning. This could allow for density bonus agreements and affordable housing set-asides, which would enable the government to receive some public benefit (such as park space or affordable housing) and allow private developers to retain their investment gains. Encourage mixed-use land developments throughout Shanghai and Changning. Integration of residential, commercial, and recreational uses can improve access, reduce costs, strengthen economic resilience, and improve the quality of urban life.</p>
<p>The availability of low-rent (informal) housing in large cities is declining with the rapid demolition and redevelopment of urban villages and older inner-city neighborhoods. These had been home to low-income households, especially migrants.</p>	<p>Authorize collectives in urban villages to redevelop their land for housing and allow them to invest in formal rental housing. This could help increase the supply of affordable rental units, improve housing conditions for migrants and low-income households, and also offer collectives new and significant income sources.</p> <p>Bangkok offers a good example of formalizing informal settlements by allowing communities to upgrade their existing housing and gaining security of tenure with the support of the Community Organizations Development Institute.</p>
<p>Public Rental Housing (PRH) is now being implemented in Shanghai, but international experience shows that it is unsustainable over the long term. These investments are too costly; governments are poorly positioned to maintain and manage PRH over the long term.</p>	<p>Incentivize private investors and not-for-profit entities to provide rental housing at affordable rates. One approach is to provide a Low-Income Housing Tax Credit (LIHTC) for such investors. The United States has a successful program where a 10-year tax credit is competitively granted to investors in affordable rental equity. This provides a financial incentive to private investors, be they for-profit or nonprofit entities. Developers sell the tax credits to private investors, who use them to reduce their annual tax liability over a 10-year period. In the United Kingdom, housing associations provide rental housing and shared equity (part rent/part ownership) on a large-scale basis. Cooperatives also have a long history as part of a diverse housing supply system.</p> <p>Encourage the entry of small-scale landlords to diversify the supply of rental housing, including taxing vacant housing units.</p>

(Continued next page)

Current government policies and programs that contribute to housing market distortions	The way forward: policy instruments to improve the housing sector
Constraints to an effective institutional framework for managing the housing sector	Instruments for strengthening the institutional framework for managing the housing sector
Landlord-tenant laws are poorly formulated and tend to favor landlords. Tenants do not have security over tenure, rental price, living conditions, and so forth.	Promote the rental market by improving laws and regulations governing landlord-tenant relations. Facilitate rental market transparency by creating a reliable rental price index at the municipal level. Germany has effective tenant-landlord laws, transparent rental markets, and a large supply of private rental that has resulted in one of the most affordable and secure rental housing markets in the world.
Objectives for affordable housing are determined by the central government without consideration of local factors that influence demand and supply of housing for different segments of the population. This is contributing to a mismatch between local demand and supply and creating unfunded mandates for local governments.	<p>Instead of imposing supply targets, central government should encourage local governments to carry out a careful analysis of housing demand (including demographic and socioeconomic conditions) and supply (such as types of housing available for different income groups, and at what cost). The findings of such analysis can help determine local housing needs. Local governments can then define the nature and scope of policy interventions required to align housing demand and supply. This includes developing a more nuanced understanding of the needs of migrants, whose housing choice might change based on their life stage.</p> <p>Establish a “National Housing Observatory” that systematically collects information on housing supply (profile, condition, location, vacancy rates, and so forth) and demographic and socioeconomic conditions to capture trends in housing affordability and finance. This will facilitate monitoring of the sector’s performance by policy makers. A good example of an institute that independently collects and analyzes such information is the Canadian Housing and Mortgage Corporation.</p>
Affordable housing is being built on low-cost land and without integrated urban plans. Thus, it is promoting low-density development and sprawl and the separation of residential, employment, and recreational uses.	Planning for housing should be a multi-stakeholder exercise that brings together those planning for local economic development, transportation, urban space, and infrastructure services. Housing should be an essential component of <i>integrated</i> urban development plans. When estimating the cost of housing, planners should specifically account for the cost of transportation to employment, commercial, and recreational areas. An illustrative example is the Grand Paris Transport Project, which densifies low-density suburban neighborhoods, develops social housing districts, and revitalizes existing and new business centers and research clusters. Public transport investments can also generate private sector development, revenues from which can help meet infrastructure costs, creating a virtuous cycle for sustainable urban development.

Appendix A

Map of the Municipality of Shanghai



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