

In Search of An Affordable Housing System for Shanghai, China

by

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**Submitted to the Program in Real Estate Development in Conjunction with the
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Abstract

In 1998, the Chinese government abandoned the *danwei* (“work-unit”) housing allocation system and fully privatized the housing market. Since then, the residential price has never stopped increasing despite the past financial crisis worldwide. In April 2011, statistics show that the average sales price of new residential apartments in 10 major metropolitan cities of China has reached RMB 15,802 per square meter (approximately USD 226 per square feet). In Shanghai, the price is about RMB 26,356 per square meter (above USD 376 per square feet), much higher than that in many big cities in developed countries. More and more Chinese urban dwellers, especially those who earn low salaries and live in metropolitan areas such as Shanghai are challenged by escalating housing prices.

Each year the central government introduced several housing policies in order to solve the nationwide housing affordability problem. Recently, Chinese Premier announced that China aims to build 36 million affordable housing units by 2015. Despite severe housing affordability problems in Shanghai, the municipality has been lagging behind many other cities or provinces in terms of affordable housing programs. Last year, the municipal government finally started to experiment with affordable housing programs in selected districts. This thesis serves as a starting point to discuss the effectiveness of affordable housing programs in Shanghai by using five major criteria,

- provide and expand the supply of good-quality housing units;
- make housing more affordable and readily available;
- promote economic diversity in residential neighborhood;
- help households build wealth; and
- promote balanced metropolitan growth.

According to the preliminary observation and assessment, the newly released affordable housing programs in Shanghai has been effective by incorporating both supply and demand approaches and successfully targeting at extremely low income

group. Despite the achievements, there is still some room for further improvement. Hopefully, by introducing more varieties of housing programs such as inclusionary housing, the Shanghai Affordable Housing Programs will benefit more households in the coming years.

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Chapter 1. Introduction

It was until 1998 that China finally opened up its housing market and commercialized residential units. For many decades, housing was a public good in China. The purpose of the reform was to increase the effective supply of housing available to the people. As a result, both homeownership and average floor area per capita did dramatically increase. In the mean time, China's booming real estate market has also captured enormous attention from investors and entrepreneurs in the past decade. Sales prices of new residential apartments rose by 10.6 percent on a yearly basis¹, while investment in real estate rose by 31.4 percent year-on-year, with residential development investment accounting for more than 70 percent of the total². Although these figures fuel investment, they also signal an overheated industry and an affordable housing crisis in China's cities.

Being the biggest city in China, Shanghai's housing affordability attracts far more concern than any other cities or provinces. With a population of 13 million, the market value of new residential housing outputs in Shanghai accounted for 22 percent of the country's gross value of total housing stock in 2005³. Indeed, Shanghai has always been the most expensive housing market in China. In 2010, the average residential price in the city reached RMB 20,995 per square meter (approx. USD 300 PSF) and average housing unit price was RMB 2.6 million (approx. USD 400,000)⁴. In contrast, the average household disposable income per annum was only RMB 79,277 (approx. USD 12,196)⁵. Given the 90-square-meter unit size⁶, many typical households in Shanghai have to save all of their annual family incomes without any consumption for 11 successive years before being able to make a down

¹ Hu, 2007.

² China Property Index Hits New High in October 2007.

³ Hu, 2007.

⁴ www.shanghai.gov.cn

⁵ Assuming the average household size is 2.49; www.stats.gov.cn

⁶ In China, housing unit size uses gross floor are (GFA) rather than net usable area or net rental area as seen in the US. 1 square meter in China (GFA) usually equals to 0.7~ 0.8 square meter net usable area or net rental area, depending on the overall efficiency of the building or unit.

payment for a market-rate housing unit.

Despite the imminent affordable housing crisis, Shanghai Municipal Government postponed the announcement and implementation of its affordable housing policies till the mid-2010. Besides, little literature has discussed this issue. This thesis examines Shanghai's newly released affordable housing programs in details and projects their effectiveness. The projections will help local policymakers to better tackle the housing issues in the near future.

This research paper will adopt a case study of recently released affordable housing policy in Shanghai and use all the criteria generated from the earlier literature review of housing policy in the global context to evaluate the effectiveness of the case. Prior to that, the paper will first elaborate on the evolution of housing policies in China as whole, which serves as a background overview of affordable housing policy development in this country.

Chapter Two introduces current conditions of housing affordability in China and identifies the targeted income group for affordable housing programs in this country. Chapter Three explores the evolution of housing programs or policies in China and the recent development in the area of affordable housing. Prior to evaluating the ongoing Shanghai's affordable housing programs, Chapter Four discusses the five criteria for measuring effectiveness of affordable housing programs in the global context. Based on these criteria, Chapter Five evaluates tentatively the effectiveness of the affordable housing programs in Shanghai.

Chapter 2. Housing Affordability in Urban China

a. Overview

China's housing market has experienced dramatic changes since its 1978 economic reform. The entire housing sector was not fully privatized until 1998 when the Central Government decided to terminate the public housing provision system. Since then, Chinese real estate market has been booming. Such a trend does not seem to end any time soon despite the recent Global Financial Crisis.

According to Goldman Sachs estimates, investments in residential properties as a percentage of China's GDP stood at less than 1 percent before the 1990s, but climbed to about 6 percent of GDP by 2003 and remained at the same level till today. Statistics also show that the home ownership rate in China at the end of 2010 was 84.3 percent⁷, exceeding the rate in many developed countries in the world, such as 68.2 percent in the United States and 69.8 percent in the UK. However, the number could vary from 34.8 percent to 97.8 percent across the country.⁸ For example, for a big city like Shanghai, in 1997, 36 percent of the city population owned the homes they lived in, but today this number has risen to 82 percent.⁹ With the increasing ownership rate, the floor area of housing construction has also been increased, which in turn eased the chronic problem of overcrowding and poor living condition of many urban residents.¹⁰ By 1978, the average floor area per capita in China was only 3.6 square meters (approx. 38.75 square feet) and in 1998, it reached 9.3 square meters (approx. 100.10 square feet). This number has continued to increase. Today, the average floor area per capita in China is nearly 31.7 square meters (approx. 341.22 square feet)¹¹, as illustrated in Figure 1.1.

⁷ National Bureau of Statistics of China in 2007

⁸ Cited in Zheng, Man & Ren, 2009

⁹ Arora, R. 2011

¹⁰ Cited in Man, Zheng & Ren, 2011

¹¹ Ministry of Housing and Urban-Rural Development, China

**Avg. Floor Area
per capita**

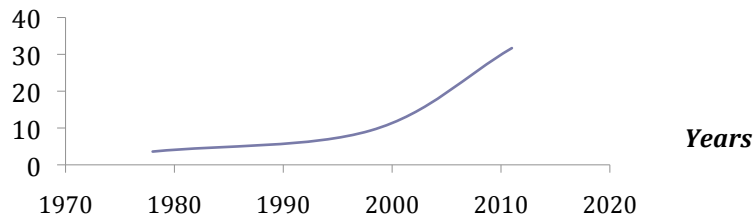


Figure 1.1: Average floor area per capita in the past thirty years in China

The rapid development of China's housing market and drastically increased housing supply have not kept up with the housing demand, particularly in big cities and east coastal areas¹². Housing prices grew even faster than real disposal income. Between 1997 and 2007, housing prices nearly doubled. Since 2004, the annual growth rate of the housing price has skyrocketed to double digit. In 2009, the average housing price was increased to RMB 4,600 per square meter from RMB 3,625 per square meter in 2007, with an annual increase of 13 ~ 14 percent¹³. Out of the total residential housing stock, the market-rate commercial housing accounts for 40.1 percent and another 34.2 percent are former "work-unit¹⁴" housing. Subsidized housing and public rental housing only accounts for 3.9 percent and 7.0 percent, respectively.¹⁵

b. Urbanization and Urban Renewal: Problem or Opportunity?

The scale and speed of migration into Chinese cities is unprecedented in modern times. Accompanied with a range of economic reforms since 1978, urbanization in China has increased at an astonishing rate. As shown in Figure 1.2, China's level of urbanization rose from 18 percent in 1978, to 30 percent in 1995, and then to 46.6

¹² Cited in Man, Zheng & Ren, 2011

¹³ National Bureau of Statistics in China, 2010

¹⁴ Prior to 1998, houses were mostly state-owned and redistributed to each household by the state-owned companies or government agencies, which in Chinese were called "work-unit"

¹⁵ Cited in Zheng, Man & Ren, 2009

percent in 2009¹⁶. One can almost feel the pace of urbanization when wandering around a bustling Chinese city. New residential and business high-rise buildings, giant industrial parks, urban infrastructure projects and urban renewal developments are taking place at an unprecedented pace and scale, drastically reshaping China's urban landscape.

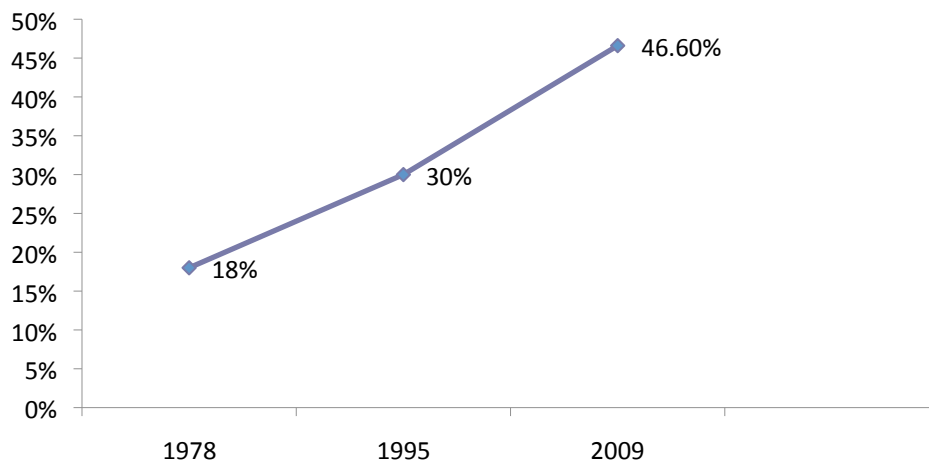


Figure 1.2: Level of urbanization in China

In 2000, the urban population of China was 454 million and comprised 36 percent of the population of the country¹⁷. By 2030, this population is expected to rise to 1 billion, with more than two-thirds of China's population residing in urban areas¹⁸. According to recent UN estimate, China's urban population is now growing by 15 million people every year, and its urban area is growing by some 43,200 square kilometers each year.¹⁹ Using built-up area density calculations from a sample of nine Chinese cities, it is estimated that by 2020 the land area of China's cities can be expected to reach 15,013,000 square kilometers, which is some 107.7 percent of the arable land in the country²⁰.

¹⁶ <http://www.cssn.cn>

¹⁷ United Nation, 2007

¹⁸ United Nation, 2009

¹⁹ Ibid

²⁰ Angel et al., 2005

Since China has one of the lowest ratios of arable land per person in the world, the central government mandated strict quotas on the conversion of arable land to urban land in the name of protecting its food security and independence²¹, using a quota system. However, the quotas have limited land supply for urban expansion, resulting in inadequate supply of affordable housing in some urban areas²². Without enough land quotas for the new development, many local governments turned to urban renewal projects. For example, in Beijing, between 1999 and 2000, 168 housing renewal projects were launched. Almost five million square meters of old housing spaces were replaced by 14,500,000 square meters of new construction. About 184,000 households were relocated. The total investment reached RMB 46.9 billion²³. In Shanghai, between 2000 and 2005, 700 million square meters of house were replaced and 280,000 households were relocated²⁴. However, most of the conventional urban renewal projects neglected housing affordability. Developers acquired the land or projects at the market rate and local government generally did not provide developers any financial assistance or incentive to encourage them to include affordable housing in the new projects.

Today, almost all the new housing developments are sold at market rate. Moreover, the booming real estate market increases the cost of relocating owners who live in old housing units and in turn the overall capital requirement for urban renewal, which makes including affordable housing into the urban renewal process less financially possible. As a matter of fact, in many cases, none of the original residents could afford to return to where they used to live prior to the renewal projects in spite of the substantial relocation compensation that they received.

²¹ Lichtenberg and Ding, 2007

²² Bertaud 2007a

²³ Zhou, 2002

²⁴ Yuan, 2008

c. Housing Affordability in China

Despite the rapidly increasing real estate prices, the Chinese authority has never been able to develop its own affordability indicators to measure how affordable houses are in this country. In many developed countries, two key indicators are often employed to evaluate the housing affordability. They are the Housing Price-to-Income ratio (PIR) and the Housing Affordability Index (HAI).

Housing Price-to-Income Ratio (PIR)

The PIR ratio refers to the ratio of the median house price to the median family income. Table 1.1 presents the four categories of affordability based on the values of PIR.

PIR	Category
Equal to or Greater than 5.1	Severely Unaffordable
Between 4.1 and 5.0	Seriously Unaffordable
Between 3.1 and 4.0	Moderately Unaffordable
Equal to or below 3.0	Affordable.

Table 1.1: PIR indicator and category of affordability

Housing Affordability Index (HAI)

Since 1981, the National Association of Realtors (NAR) publishes Housing Affordability Index (HAI) monthly in the United States. The HAI assumes that borrowers make a 20 percent down payment and the maximum mortgage payment is 25 percent of the gross monthly income of the household²⁵. An HAI index of 100 means that median-income household can afford to purchase a median-priced

²⁵ www.frbsf.org

home²⁶. The higher the index number is, the more households can afford to buy a home.

In the absence of appropriate affordability indicators in China, scholars often borrow the indicators of PIR and HAI to explain Chinese situation. Based on the 2010 Large-Sample Urban Household Survey, Man and her team calculated PIR for China as a whole and for each of 265 prefecture-level cities. The results indicate that the median price-to-income ratio (PIR) nationwide in 2010 was 7.07 and the mean PIR for all cities in China was 8.79²⁷. Both figures fall in the category of Severely Unaffordable.

Similarly, according to the 2010 Large-Sample Urban Household Survey, Man and her team calculated the HAI for Chinese cities with the assumptions that: (1) the down payment is 30 percent; (2) the maximum mortgage payment is 25 percent of gross monthly income for the household; (3) the lending rate is 6.84 percent; and (4) the length of maturity is 30 years. The HAI for 265 prefecture-level cities in 2010 was 70.7, much lower than 100, which indicated severe unaffordable for the households living in those cities²⁸.

Perhaps both conclusions from these two indicators are true, but the central assumption to these two approaches is to use median housing price and median income. In China, almost all the public statistics adopt average housing price and average disposable income. There should be no exception for the 2010 Large-Sample Urban Household Survey. It is likely that the actual results are even worse than what Man and her team anticipated as in most cases average housing price and income tend to be higher than the median figures. Therefore, despite the result, Man and her team may still underestimate the actual housing affordability situation.

²⁶ www.frbsf.org

²⁷ Man, Zheng and Ren, 2011

²⁸ Man, Zheng and Ren, 2011.

However, without better alternative, these two indicators do show us at least partial picture if not all of the housing affordability in China.

d. Income Level and Eligibility

In terms of income level, many developed countries have widely accepted definition, as a standard for assessing housing affordability. Conversely, China only has very vague descriptions of “low-income, moderate-income, and high-income”. Different provinces or cities often come up with different standards or definitions. Therefore, a brief examination of the conventional definitions of income groups is necessary. Let’s take the US system as an example.

The US System

In the United State, the three commonly used affordability measures express the cost of a housing unit relative to: (1) the cost of safe, sound, and adequate housing; (2) portion of the family earning of a typical median income household that could be used toward housing; or (3) portion of the family earning of a poor household that could be used toward housing. Specifically, three standards are provided for assessing the affordability of housing units: (1) area median income (AMI); (2) fair market rent (FMR); and (3) poverty-level income, as explained below.

i, AMI

Housing cost relative to AMI is perhaps the most common affordability standard. There are five income benchmarks: 30 percent AMI, 50 percent AMI, 80 percent AMI, 100 percent AMI and 120 percent AMI, which divide the population into 6 income groups²⁹.

²⁹ <http://www.hud.gov>

Income Group	AMI (%)
Extremely Low-Income	Below 30%
Very Low-Income	30% ~ 50%
Low-Income	50% ~ 80%
Median-Income	80% ~ 100%
Moderate-Income	100% ~ 120%
High-Income	Above 120%

Table 1.2: Income Group and percent of AMI

AMI is used for two purposes: (1) To classify households on the basis of income received, and (2) to classify housing units on the basis of the income needed to afford them (“affordability”).

Unit affordability relative to AMI is the percentage of area median income needed to afford the monthly housing cost associated with that unit. A unit is affordable if the household spends no more than 30 percent of its income on housing. Thus, the basic relationship is:

$$Affordability = \frac{MonthlyHousingCost \times 12}{AMI \times 0.3} \times 100^{30}$$

ii. *FMR*

The FMR is the payment standard for housing assistance programs and is often used as a proxy for the cost of an “affordable” unit in housing literature. Unit affordability relative to FMR is simply a matter of expressing the monthly housing cost as a percentage of the FMR. Household income is calculated in relative to FMR to

³⁰ Vandenbroucke, 2011

determine the maximum amount the household could afford to spend on housing (30 percent of monthly income).³¹

iii. Poverty Income

Poverty income is another widely recognized threshold, and is often used in the general press. Poverty income is based on official poverty thresholds, given year, number of persons, number of children, and whether the householder is above age 65. Household income is calculated in relative to poverty income as a multiple of the poverty threshold.

Unit affordability relative to poverty income is the income a household would need in order to afford the monthly housing cost, expressed as a multiple of the poverty income threshold³².

The Chinese System

How does the Chinese System fit into the global picture? As mentioned earlier, the definition of income level in China is very vague—“low-income, moderate-income, and high-income”. Most developed countries use median income as the key standard for categorizing income levels and assessing the affordability of housing units. In China, the government usually looks at the annual disposable income both at the individual level and at the household level. Without any median data available, the following sector will use the existing average data instead for the purpose of analysis.

Figure 1.3 shows the five cities that have the highest residential real estate prices in China. As of 2010 , the average annual per capita disposable income in Beijing is

³¹ <http://www.hud.gov>

³² Ibid.

RMB 29,073 and the urban poverty line is RMB 5,160 per person per year, which is about 17.75 percent of the annual per capita disposable income. In Shanghai, the urban poverty line is RMB 5,400 per person per year, about 17 percent of the annual per capita disposable income. In Guangzhou, the urban poverty line is RMB 4,920 per person per year, about 16 percent of the annual per capita disposable income. In Shenzhen, the urban poverty line is the same as that in Shanghai, however 16.72 percent of the annual per capita disposable income. Last but not least, in Hangzhou, the urban poverty line is RMB 5,280 per person per year, about 17.58 percent of the annual per capita disposable income.

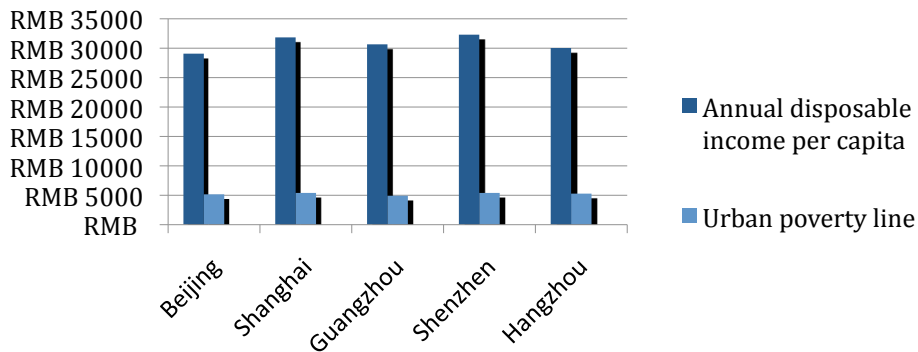


Figure 1.3: Annual disposable income per capita vs. urban poverty line (Five Major Cities in China)

City	Annual disposable income per capita ³³	Average household size ³⁴	Annual household disposable income	Urban poverty line
Beijing	RMB 29,073 (approx. USD 4,473)	2.45	RMB 71,229 (approx. USD 10,958)	RMB 5,160 per person per year (approx. USD 794 per person per year)
Shanghai	RMB 31,838 (approx. USD 4,898)	2.49	RMB 79,277 (approx. USD 12,196)	RMB 5,400 per person per year (approx. USD 831 per person per year)
Guangzhou	RMB 30,658 (approx. USD 4,717)	2.73	RMB 83,696 (approx. USD 12,876)	RMB 4,920 per person per year (approx. USD 757 per person per year)
Shenzhen	RMB 32,300 (approx. USD 4,969)	2.11	RMB 68,153 (approx. USD 10,485)	RMB 5,400 per person per year (approx. USD 831 per person per year)
Hangzhou	RMB 30,035 (approx. USD 4,620)	2.59	RMB 77,791 (approx. USD 11,968)	RMB 5,280 per person per year (approx. USD 812 per person per year)

Table 1.3: Five Major Cities in China—Income Level

In China, local government has the authority to design its own affordable housing program under the general guidance of the central government. As a result, affordable housing program varies across the country. Some cities include both ownership housing called Economical and Comfortable Housing (*ECH, Jingji Shiyong Fang*) and Public Rental Housing (*Gongzu Fang*), while others only start to

³³ Annual disposable income per capita=Income – Annual Income Tax – Social Security Payment – Accounting Adjustment

³⁴ 2010 China Census

experiment with the ownership program. The following table will only focus on the ownership program by comparing the income requirement of applying for the program between five different cities³⁵.

As illustrated in Table 1.4, in terms of the eligibility for the affordable housing program, cities have their own standards. Different cities in China often choose different percentage of annual housing disposable income as the benchmarks for affordable housing program, but in general, residents could be eligible for the affordable housing program if their annual household disposable income is about 50 ~ 87 percent of the annual average household disposable income in their city. In accordance with the AMI qualification, such an income group should fall in the low-income category.

City	Annual Household Income should be below (Ownership Program)	Percent of Annual household disposable income
Beijing	RMB 45,300	51.94
Shanghai	RMB 82,800	86.69
Guangzhou	RMB 55,184	60
Shenzhen	RMB 79,587	82.13
Hangzhou	RMB 72,084	80

Table 1.4: Eligibility for the Affordable Housing Program in five major cities

e. Affordability of the Market Rate Housing

Perhaps all the affordable housing programs in China target for low-income group. What about median-income group, moderate-income group, or even high-income group? Can they afford the market-rate housing? Since there is no official data of market rents, the following analysis will be only limited to ownership housing.

³⁵ Assume that the household size is 3.

According to the People's Bank of China, as of April 1, 2011, the market home mortgage rate was 7.48 percent (for maturity longer than 5 years). The down payment is 30 percent and the mortgage maturity is 30 years with equal monthly payment³⁶.

	Beijing	Shanghai	Guangzhou	Shenzhen	Hangzhou
Average Housing Price per square meter³⁷	RMB 19,994	RMB 20,995	RMB 11,873	RMB 18,908	RMB 19,928
Unit Size (Square meter)	90	90	90	90	90
Average Unit Price	RMB 1,799,460	RMB 1,889,550	RMB 1,068,570	RMB 1,701,720	RMB 1,793,520
Mortgage Principal (30% down pmt)	RMB 1,259,622	RMB 1,322,685	RMB 747,999	RMB 1,191,204	RMB 1,255,464
Average Monthly Household Income	RMB 5,936	RMB 6,606	RMB 6,975	RMB 5,679	RMB 6,483
Monthly Mortgage Payment	RMB 8,212	RMB 8,623	RMB 4,876	RMB 7,766	RMB 8,185
Mortgage Payment as % of Income	138%	131%	70%	137%	126%
FMR Standard in the United States	30%				

³⁶ Based on the new property transaction of the Central Government, the down payment and mortgage rate requirements are applicable for 1st time homebuyer, a criteria adopted in the following table.

³⁷ <http://news365.com.cn>

Monthly Mortgage Payment	RMB 1,781	RMB 1,982	RMB 2,093	RMB 1,704	RMB 1,945
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Table 1.5: Five Major Cities—Affordability of the Market Rate Housing

According to the table above, for moderate size of unit (90 square meters, approx. 969 square feet), none of the median-income group or moderate-income group, or even high-income group could afford³⁸. According to the FMR standard, the monthly maximum that the household spends on housing should not exceed 30 percent of the household monthly income. If that is the case in those five cities, homebuyers could buy no larger than a kitchen in those five cities.

f. Possible Causes for the Unaffordability

In China, the market-rate housing is unaffordable even for high-income residents, not to mention mid- and low-income groups. What are the possible causes for the unaffordability of the market rate housing?

Imbalance between Supply and Demand

Prior to 1998, housing distribution by “work-unit” or employers was the only chance for Chinese households to improve their living condition. Across the country people lived in the same housing development—“work-unit” apartment. Upon 1998 when the central government finally terminated the social housing distribution system, more and more families were desperate to improve their living condition by selling the old “work-unit” apartment and buying newly developed market rate units. Over night, the Chinese real estate industry faced an unprecedented development opportunity, which developers would be able to build a market with endless demand. Though the floor area of new constructions grew by over 300 percent

³⁸ Using AMI standard

during the period from 1999 to 2010, the housing demand still supersedes the supply today.

Rapid Urbanization

The large-scale urbanization process since 1978 generated many social problems. Housing affordability was one of them. On one hand, many rural residents gave up their farmland and migrated to the urban areas, looking for “better life”. These rural migrants have become the key engine of economic development in China in the past thirty years³⁹. With the influx of these migrants, cities continuously expanded their boundaries to accommodate the increasing housing demand. On the other hand, Chinese government had to issue farmland protection policies in light of its food security goals. With the growing city boundary, China kept losing food production capacity.⁴⁰ Given the farmland protection policies, land supply became increasingly constraint, which in turn pushed up housing prices.

Speculative Investment in Housing

Between 1997 and 2007, housing prices in China nearly doubled. In some big cities, for example, Beijing and Shanghai, the average housing price in 2007 was almost 10 times higher than that in 1997. No investments other than housing in China could lead to such a huge profit margin within such a short period. Many high-income residents, private investors as well as overseas institutional investors invested in real estates. Despite the high transaction volume on the record, many residential buildings were purchased for investment purposes and left vacant. This type of housing investment might have driven up housing demand and in turn prices.

Lack of Other Investment Vehicles

³⁹ Bertaud, 2007

⁴⁰ United Nation, 2007

For average Chinese residents, there are only a few investment options available in the market. If not saving the money in the bank or investing in the stock market , residents could only turn to the real estate market for investment opportunity. Unlike speculator, these buyers were mostly looking for effective protection of the value of their assets from inflation.

g. Affordability of the Affordable Housing

Affordable Housing program is still new to the Chinese society. Even for the five biggest cities in the country, not all of them have a fully operating program in place. Besides, actual sale prices of affordable housing vary from projects to projects within one city. To simplify the analysis, the following table uses the average sales price of affordable housing for the three cities: Beijing, Guangzhou and Shenzhen. According to the People’s Bank of China, as of April 1, 2011, the market home mortgage rate was 7.48 percent (for maturity longer than 5 years). The down payment is 30 percent and the mortgage maturity is 30 years with equal monthly payment⁴¹. Based on the assumption above, eligible household should have a monthly mortgage payment of RMB 1,458 (approx. USD 224) in Beijing, RMB 1,278 (approx. USD 197) in Guangzhou and RMB 1,597 (approx. USD 246) in Shenzhen, which is about 25 percent, 18 percent and 28 percent of the average monthly household income respectively in these three cities. The result is consistent with the program’s initial target income group. These affordable housing in general is affordable for low-income group.

	Beijing	Shanghai	Guangzhou	Shenzhen	Hangzhou
Average Monthly Household Income	RMB 5,936	RMB 6,606	RMB 6,975	RMB 5,679	RMB 6,483

⁴¹ Based on the new property transaction of the Central Government, the down payment and mortgage rate requirements are applicable for 1st time homebuyer, a criteria adopted in the following table.

Monthly Mortgage Payment	RMB 1,458	--	RMB 1,278	RMB 1,597	--
Average Housing Price per square meter	RMB 4,500 ⁴²	--	RMB 4,000 ⁴³	RMB 5,000 ⁴⁴	--
Unit Size (Square meter)	70	--	70	70	--
Average Unit Price	RMB 315,000	--	RMB 280,000	RMB 350,000	--
Mortgage Principal	RMB 220,500	--	RMB 196,000	RMB 245,000	--
Mortgage Payment as percent of Income	25%	--	18%	28%	--

Table 1.6: Five Major Cities—Affordability of the Affordable Housing

For public rentals, though they are part of the affordable housing program, there are even fewer cities with the rental housing system in place. Hence, it is not significant.

h. Filling the Gap

With the assistance of the data analysis above, it is not difficult to find there is a special income group who is not eligible for the current affordable housing program, and can not afford the market rate housing. They are the median-income group and the moderate-income group, which are often called the “*sandwich class*”, a group even larger than the low-income and very-low income groups.

⁴² <http://sqjt.beijing.cn>

⁴³ <http://gz.focus.cn>

⁴⁴ <http://sz.focus.cn>

Most of the current affordable housing programs only target at the low-income group and very-low income group. What about the “*sandwich class*”? Perhaps the definition of income level above mentioned is not applicable to the Chinese case. After all, we use the average disposable income rather than median income to begin with. No matter what definition or assessment is adopted, the truth is that the “*sandwich class*” that is not qualified for the current Affordable Housing Program in China, also desperately needs housing assistance.

Chapter 3. Housing Affordability in Urban China

a. Evolution of the Chinese Housing System

In the past 60 years, China has announced and implemented many different housing policies, ensuring that every one in this country with the world's largest population could have a decent place to live. Table 3.1 summarizes most of the key policies, successful or not.

Years	Main Policy Document	Policies and Orientation
<i>Socialist Welfare Housing Provision: 1949 ~ 1977</i>		
1949~1957	Various	Regulation of the private rental market, rent control and confiscation of properties owned by warlords
1958 ~1977	Various	Nationalization of properties owned by large landlords; development and distribution of public housing by the government through work units as a welfare service.
<i>Reform Experiments with Commercialization: 1978 ~1993</i>		
1978~1987	Various	Major period of expansion of public housing, particularly work-unit housing. Pilot urban housing experiments in selected cities, aimed to diversify the welfare housing provision by restoring private property rights and encouraging individuals to share housing costs
1988	State Council Document No. 11	1988 Turning point of housing reform from pilot experiments to comprehensive implementation in all urban areas, aimed to realize housing commercialization according to the principles of a socialist planned market economy. Reform policies included rent increases in the public sector coupled with housing subsidies and the sale of public housing.
1991	State Council Document No. 73	1991, Aimed at increasing the housing investment from different sources, focusing on rent reform in the public

			sector, encouraging sales of public housing, increasing housing construction.
1993	State Council	1993	Modified the 1991 strategy, giving priority to sales of public housing over rent reform. This led to the large-scale sale of existing public housing at very low prices

Move from Welfare Provision to Housing Market: 1994 ~1998

1994	State Council	1994,	For the first time, policy aimed to establish an urban housing market: to change the housing investment, management, and distribution systems and to establish a two-track housing provision system, with social housing for middle- and low- income households and commercial housing for high-income families.
	Document No. 43		

1998	State Council	1998,	Ended direct housing distribution by employers and introduced housing cash subsidies to new and essential employees; created a diversified housing supply system with state-supported affordable housing as the main form
	Document No. 23		

Housing Market Formation: 1999~2006

2003	State Council	2003,	Adjusted the affordable housing approach and promoted an extreme market system based on so-called ordinary commercial housing, in which majority of the urban population would rely on the market
	Document No. 18		

2005~2006	Various		Housing affordability problem emerged, particularly among low-income groups; housing problems began to cause social and economic instability in cities; policies focused mainly on stabilizing urban housing prices through taxation and land and planning policies
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Multiple Housing Provision Systems: Since 2007

2007	State Council	2007,	Adjusted to the extreme market approach and reemphasized the requirement of social housing provision.
	Document No. 24		

Table 3.1: Urban Housing System Changes and Reform Policies

Source: Wang, 2007

Socialist Welfare Housing Provision: 1949 ~ 1977

Immediately after announcing the establishment of the People's Republic of China, the new central government confiscated land and buildings, which were belonged to the Kuomintang government and bureaucratic capitalists. This laid the foundation of state-owned real estates. Most commercial properties of self-employed merchants and residential properties of urban dwellers remained technically privately owned and -used, despite the lack of laws protecting their rights.⁴⁵ These informal rights were legally eliminated during the Cultural Revolution. Today these properties are likely state-owned.

Implementation of socialist policy eliminated the private house-building industry.⁴⁶ The Party saw the provision of urban housing as the responsibility of the socialist system.⁴⁷ Under this system, the government or public entities began to build and hold title to most urban housing.⁴⁸ Housing was distributed primarily to a household head free of cost as welfare from his or her employer according to government standards based on work status. In fact, under this welfare housing policy, most urban Chinese families spent only one to three percent of their total income on rent.⁴⁹ When an employee retired from the post, the employee and immediate family members could still live in the house for life.

To summarize, China's urban housing system before the 1978 reform was a government-invested and -run welfare housing system, in which no interests in land and buildings could be granted or transferred. In other words, there was no

⁴⁵ The discussion in this paragraph relies heavily on: Institute of Finance and Economics of Chinese Academy of Social Sciences, American Institute of Public Management of New York: *Chinese Urban Housing System Reformation*, Economy and Management Press, 1996, p.19.

⁴⁶ Wang and Murie, 1996

⁴⁷ Ibid. See also Bin LI, *Severability of Chinese Housing Reform, Social Study (Vol.2, 2002)*. Chinese Version is available online at http://www.usc.cuhk.edu.hk/wk_wzdetails.asp?id=2502.

⁴⁸ Ibid.

⁴⁹ Wang & Murie 2005. In 1988, the national average annual spending on rent was 7.83 RMB per person, while the average annual living expense was 1103.98 RMB per person. *Chinese Social Statistics Report* (China Statistic Press, 1990).

normal real estate market. The market was suppressed, and government policy was the sole factor in the distribution of housing resources. Overtime, the welfare housing system became more and more a burden on employers rather than an incentive to employees.⁵⁰ Maintenance expenses became increasingly costly. Because employers received so little in return for what they spent under the low-rent system, they had no incentive to invest in housing. Thus, the quality and management of the housing units typically were at a very low standard, which in turn increased maintenance expenses.⁵¹

Reform Experiments with Commercialization: 1978 ~1993

After 1978, the market economy was introduced to China. As soon as the Chinese government launched its economic reform in 1979, housing reform was put on the agenda. Yet, just as it approached reforms in other sectors, China took a gradualist approach to housing reform in the early stages. From 1980 to 1987, several experiments were carried out in selected areas to test the feasibility of various public housing reform measures such as rent adjustment and privatization of the existing stock⁵². In 1988, the Chinese central government issued an important document, *Implementation Plan for a Gradual Housing System Reform in Cities and Towns*, which started a nationwide housing reform. As a result, public housing units throughout the country were sold to their sitting tenants at heavily discounted prices. When units could not be sold, efforts were made to raise the rent; the increase, however, was largely symbolic and fell far short of covering even basic maintenance costs. In the meantime, work units still sold their existing housing stock to employees at a heavily subsidized price; they continued their house-building program or purchased new housing from commercial developers at full prices and then distributed them to employees as rental or homeownership units. Most commercially built housing during the early 1990s actually ended up in the old

⁵⁰ Jian Jin, *Housing Law of China*, p.14.

⁵¹ Wang & Murie, 1999.

⁵² Wang and Murie, 2000.

welfare system⁵³. Housing continued to be allocated as welfare good, rather than a commodity traded in the private market. Meanwhile, public housing stock grew to an unprecedented level.

Move from Welfare Provision to Housing Market: 1994 ~1998

The second milestone came in 1994, when the Chinese central government issued *The Decision on Deepening the Urban Housing Reform*⁵⁴, which established a comprehensive framework for the next stage of the housing reform. Within this framework, both supply- and demand-side programs were created to facilitate the development of a housing market. On the supply side, the central government decided to build a multi-layer housing provision system for different income groups. Middle- and lower-income households, for example, would purchase subsidized affordable housing units produced through a program called *Economical and Comfortable Housing (ECH)*, while high-income families would purchase regular market housing⁵⁵. On the demand side, a dual housing finance system was also established to combine both social saving and private saving.⁵⁶ Potential homebuyers would get subsidized mortgage loans through a compulsory housing saving program called *Housing Provident Fund (HPF)* as well as by applying for commercial mortgage loans offered by financial institutions. While trying to bridge the gap between housing supply and housing demand, the government also continued its efforts to privatize the existing public housing stock, but with more carefully designed pricing mechanisms. For example, households who pay market prices for their units get full property rights, including the right to resell their units on the open market, while households who pay subsidized prices would have partial ownership but face restrictions regarding resale⁵⁷.

⁵³ Wang and Murie, 2000.

⁵⁴ State Council, 1994

⁵⁵ State Council of People's Republic of China, 1998

⁵⁶ Wang and Murie, 2000.

⁵⁷ State Council of People's Republic of China, 1994

Clearly, the overall objective behind all these efforts is to establish a functional housing market so that families could purchase housing directly from the market and work units would be relieved from their housing responsibility. Unfortunately, this did not happen easily. Instead of being sold to individual urban families, most of the housing units were still purchased by work units, which then resold to their employees at deeply discounted prices⁵⁸. Since many of the work units were state owned and were not subject to hard budget constraints, their purchase behaviors have significantly distorted the emerging housing market.

Housing Market Formation: 1999~2006

In early 1999, the national government decided that there should be no more welfare-housing allocation system. From then on, all public-sector employees should purchase their properties from property developers or in the open housing market, rather than from their employers.⁵⁹ Nevertheless, because most people preferred having their employers distribute housing to spending their own money to buy houses in the market, many urban residents were reluctant to participate in the reform. The demand in the housing market plunged sharply after this announcement.⁶⁰

In response to this situation, the Central Bank of China in the same year employed a series of policies to stimulate housing demand, including lowering the interest rate substantially and encouraging all state and commercial banks to provide mortgage loans to individual purchasers.⁶¹ Also, the central government introduced the Housing Provident Fund (HPF) loan. The rate of these loans usually was kept one hundred basis points lower than the interest rate for commercial loans.⁶²

⁵⁸ Wang and Murie, 1996

⁵⁹ Hengshan, F. 1999.

⁶⁰ The Central Bank of the People's Republic of China, 2004 China Real Estate Financial Report (2005).

⁶¹ The Central Bank of the People's Republic of China, 2004 China Real Estate Financial Report (2005). P. 16

⁶² *Ibid.* p. 19

Typology		Target Group	Policy Orientation	Rental Market
Market Housing	Luxury Market Housing	High-Income Groups	Limit the housing supply by land provision, tax and credit policy; regulate the housing consumption by tax and other policies	Market sale or rental
	Villa	Super High-Income Groups	Strictly limit the housing supply by land provision, tax and credit policy; strengthen the regulation of housing consumption by tax and other policies	
	Ordinary Market Housing	Mid-Income Groups	Apply different land provision policies to small and appropriately choose the location of small and medium housing by considering cost of living and job opportunity; strengthen the intervention by differentiated housing credit policies; improve housing tax and different tax rates; ensure a certain proportion of the housing below 90 square meters	
	Limited Price Ordinary Market Housing	Mainly for Below Mid-Income Groups	Mainly 90 square meters housing and each household is limited to buy only one dwelling; supported by land provision	Only for sale
Social Security Housing	Affordable Housing	Low-Income Group with a certain affordability; supplied by	Strictly control housing standard to be mainly below 80 square meters; supported by land provision and tax policies	

Social Security Housing	Affordable Housing	Low-Income Group with a certain affordability; supplied by queuing system	Strictly control housing standard to be mainly below 80 square meters; supported by land provision and tax policies	
	Low-rent Housing	Low Income Groups	Government-invested housing development or family housing aid according to housing affordability; housing aid standard is set by local authority	Only for rental
	Low-rent Housing for Households along Poverty Line	Groups at the Poverty Line	Absolutely housing guarantee; provide full and most of rental subsidy	
Housing for Particular Group	Housing for Farmer Worker	Migrant workers from rural area	Land Provision, tax and long-term financing supports	
	Housing for Civil Servant	Civil Servants	Continue the execution of housing subsidy; as an interim measure, admit the unified development of civil servant housing within a certain period	For rental or for sale

Table 3.2: The Framework of Urban Housing Provision System Adaptable to the Demands of Different Households

Source: Ministry of Housing and Urban-Rural Construction, 2007

The preceding measures successfully attracted numerous purchasers.⁶³ By 2000, about 90 percent of new commercial houses were sold to individuals⁶⁴. The real estate industry today has become one of the pillar industries of the Chinese

⁶³ The Central Bank of the People's Republic of China, 2004 China Real Estate Financial Report (2005). P. 6

⁶⁴ Cheng, 2006

economy.⁶⁵ Soon the scale of personal income growth and the demand for more expensive commercial housing exceeded the expectation of policymakers. The purchasing powers of some residents also increased the demand for commercial housing and began to push up housing prices in large cities⁶⁶.

Multiple Housing Provision Systems: Since 2007

Facing the problems of overheating real estate investment and soaring housing prices, the central government began to carry out a series of interventions to regulate the housing market. The new regulations were heavily relied on administrative means, for example, increasing the deed tax or transaction fees, and often, were inefficient in practice. As a result, housing prices were not stabilized but continuously increased. Housing was recognized as a necessity of human wellbeing. Hence, the central government has emphasized the reestablishment of a “social security housing system” and declared the new policy of “*The Observations of State Council on the Housing Problems of Low-Income Families*” in 2007⁶⁷. The Chinese Ministry of Housing and Urban-Rural Construction clarified this new framework for an urban housing provision system (as seen in Table 3.2), in which the majority of social-oriented housing included limited-price market housing, affordable housing, and low-rent housing.

b. Major Affordable Housing Programs Today

Earlier Affordable Housing Programs

As early as 1998, the central government has already launched affordable housing programs, *Economical and Comfortable Housing (ECH)* in 1998 and *Public Rental Housing* in 1999. By then, both programs were only available to most public-sector

⁶⁵ *Id.*; Comments attributed to Liu Zhifeng, Vice Minister of Construction, in Asia Times (Sept. 20, 2003), at <http://www.atimes.com/atimes/printN.html> (last visited 2/24/2006).

⁶⁶ Wang, 2011.

⁶⁷ State Council, 2007

employees, especially teachers, doctors, nurses, policemen and low-level civil servants⁶⁸. Now, these programs were theoretically open for all Chinese citizens. However, different cities or provinces had different standards in terms of qualifications for both programs. Table 3.3 shows the varied qualifications in Beijing. In principle, they all include the following requirements:

i. Economical and Comfortable Housing (ECH)

- All the household members should be officially registered as local urban residents.
- The household income should not exceed a certain amount.
- The housing floor area per person should not exceed a certain level.
- The household should not own a home and should not be subsidized for housing.
- The total asset of the household should not exceed a certain amount.

Household Size	Annual Household Income (less than RMB)	Housing Floor Area per Person (less than)	Total Asset of household (less than RMB)
1	22,700	10 square meters	240,000
2	36,300		270,000
3	45,300		360,000
4	52,900		450,000
5	60,000		480,000

Table 3.3: Qualifications for Economical and Comfortable Housing Application in Beijing (2007)

Source: Municipal Bureau of Housing and Urban-Rural Development, Beijing

ii. Public Rental Housing

- All the household members should be officially registered as local urban residents.
- The household income should not exceed the local poverty line.
- The housing floor area per person should not exceed a certain level.

⁶⁸ Wang, 2011

- The household should not own a home and should not be subsidized for housing.
- The total asset of the household should not exceed a certain amount.

Table 3.4 illustrates the qualifications for receiving public rental housing subsidies in Beijing.

Household Size	Annual Household Income (less than)	Housing Floor Area per Person (less than)	Total Asset of household (less than)
1	6,900	7.5 square meters	150,000
2	13,920		230,000
3	20,880		300,000
4	27,840		380,000
5	34,800		400,000

Table 3.4: Qualifications for Public Rental Housing Application in Beijing (2007)

Source: Municipal Bureau of Housing and Urban-Rural Development, Beijing

Recent Development

i. The 70/90 Policy

In order to control the unit size and in turn lower the unit price, the central government issued a new regulation in 2006 that for all the newly constructed housing projects, at least 70 percent of the units should be smaller than 90 square meters. However, this new policy has never been fully implemented at the local level. As a matter of fact, this policy was meant to be a failure from the beginning. Many developers acquired the land and financed their projects prior to the new regulation. In order to follow the new regulation, developers had to change their entire underwriting, design, and construction schedule. Without any incentives from the government, many projects would end up not profitable.

ii. *Limit Price Housing*

In early 2008, despite the Global Financial Crisis, there was no sign of slowing housing price increases in China. The central government announced a new policy aiming at “*sandwich class*” who are not qualified for the existing affordable housing programs, and at the same time, cannot afford to buy the market rate housing unit. This program was first introduced to Beijing in mid-2008. The local government designated certain pieces of land for tender at a discounted price and the winning developers would develop the projects at a fixed fee, usually 3 percent profit cap set by the government⁶⁹. In order to lower the sale price, the local government had to locate these projects at some unfavorable sites, distant away from the city. The first Limit Price Housing project (906,000 square meter, approx. 9,752,093 square feet) was listed at the average price of RMB 6,350 per square meter, about half of the market rate⁷⁰. Similar to other affordable housing programs, this program also required local residency of applicants. Due to the unfavorable location and inconvenient commute to work, many local residents did not apply for the program.

iii. *The 900 Billion Social Housing Stimulus Program*

By the end of 2008, the Chinese government announced a RMB 900 billion housing stimulus program, with RMB 215 billion invested in Public Rental Housing, RMB 101.5 billion in slum redevelopment, and RMB 600 billion in Economic Housing⁷¹. According to the Ministry of Housing and Rural-Urban Development, this program should not only attract more housing investments and create more job opportunities, but it should also solve affordable housing issues⁷². However, one cannot help wondering where this huge amount of money comes from and what mechanisms are to ensure the effectiveness of the program. It is still too early to assess the performance of this social housing stimulus program.

⁶⁹ Municipal Bureau of Housing and Rural-Urban Development, Beijing 2008.

⁷⁰ Ibid.

⁷¹ Ministry of Housing and Rural-Urban Development, China 2008

⁷² www.xinhuanet.com

Summary

Most of the affordable housing programs in China were not successful and sufficiently well developed in practice. First, there were strong official objections in some cities to the affordable housing idea, because it reduces municipal income from land and other sources. Local governments in China lack incentives and financial means to provide affordable housing. The fiscal reform in 1994 left municipal governments with the obligation to provide nearly 80 percent of total government expenditures, but received only 47 percent of total government revenues⁷³. Such fiscal imbalances have driven many local governments to rely on land leasing fees for revenue to finance infrastructure investment and economic development. Very few affordable housing developments were built. Shanghai, for example, started an affordable housing program only recently. Guangdong Province, where the urban housing market was well established and very dynamic, built few affordable houses (0.5 percent of 2006 completions)⁷⁴. Despite the fact that there is an enormous and growing demand for affordable housing in China⁷⁵, affordable housing accounts for, on average, only 4 percent of the total housing stock in urban areas⁷⁶ (see also Figure 3.1). In contrast, the two most prevalent types of housing are commercial housing (32 percent) and privatized public housing (34.2 percent).

⁷³ Man, 2010

⁷⁴ Municipal Bureau of Housing and Rural-Urban Development, Guangdong

⁷⁵ Lin, 2009: “by the end of 2008, there were about 7.4 million low-income urban households in need of government support for housing”

⁷⁶ Lin, 2009.

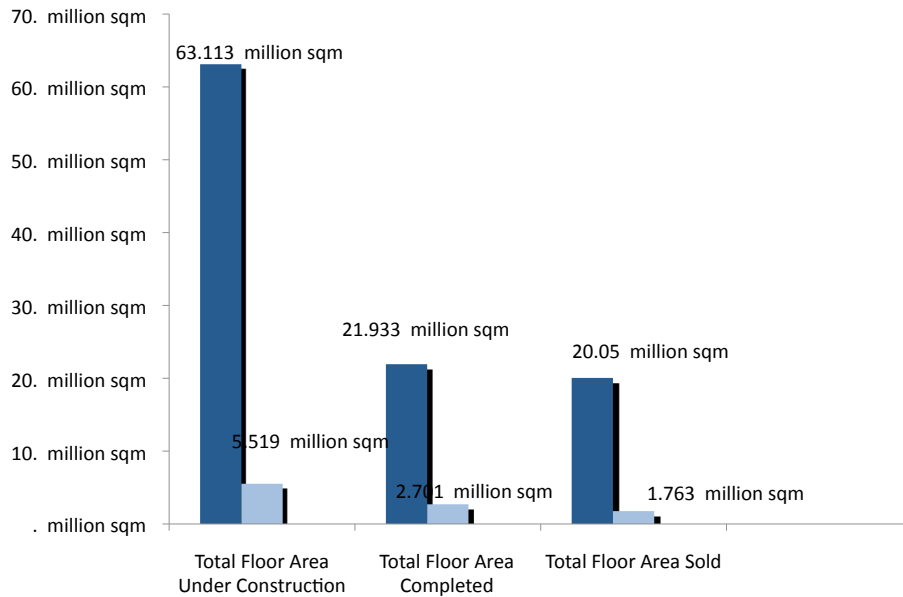


Figure 3.1: Market Housing vs. Affordable Housing in Beijing (2006)

Second, although the development of affordable housing programs was reemphasized in 2008, without a clear definition at the central government level, different cities steered the programs to different directions. The confused attribution of affordable housing creates the opportunity for speculation. In some cities, as long as the purchasers were not obviously rich, they would be qualified for assistance.

Third, ever since the Global Economic Crisis, the Chinese government relaxed the regulations on bank loans for real estate development and mortgages for second homes. Some local governments also took the opportunity to slow down the development of affordable housing. These measures to revitalize the economy caused a new round of housing price escalation in 2009.

Fourth, since 2003, many different housing policies have been released in China, at least one policy per year. From 2008, almost every quarter the central government would announce a new government intervention policy in order to suppress the unstoppable increasing housing prices and promote affordable housing. However,

real estate development is a long-term investment. It usually takes 18 ~ 24 months to complete a building project. The frequent announcement of new housing policies slows down the development of affordable housing initiatives.

Last, but not least, the current affordable housing system in China is targeted only at urban residents who have city certificate of residence as part of its household registration system (commonly known as the *hukou* system). Migrant workers, floating populations, and others without urban residence permits are not covered. These people have to find shelter in the informal housing market, such as urban villages with substandard living and sanitation conditions.

Chapter 4. Effectiveness of Affordable Housing Programs in the Global Context

a. Overview

China is not the only country that is struggling with the lack of affordable housing for the poor. Many developed countries have already had a long history of implementing various affordable housing policies. Reviewing the affordable housing programs in those countries would help to find possible solutions to today's affordable housing challenges in China.

Different countries have different affordable housing programs tailored to their unique demographic and economic situations. These programs often take different approaches: supply-side, demand-side, or a mix of two.

On the supply side, eligible households apply to occupy rent-subsidized or price-subsidized dwelling units built normally by the government. For rentals, once admitted, a tenant's benefits typically conditioned on continued residence in the assigned dwelling. A tenant who leaves a dwelling usually forfeits the subsidy benefits attached to it, and these benefits are transferred to a replacement tenant admitted from a waiting list. For homeownership, once admitted, an applicant purchases the specific dwelling units at reduced price. Usually, homeownership of these subsidized units could not be transferred freely to another party. Eligible households often have to wait for certain periods before disposing the units in the market.

On the demand-side, governments grant rent credit or mortgage credit for eligible households. For example, the US voucher program offers housing vouchers, with which recipients could rent any reasonable dwelling units from private landlords who are willing to participate in the program. Under such a program, tenants pay 30 percent of the household's monthly cash income toward the monthly rent. The

government pays the balance directly to the landlord⁷⁷. For homeownership, the government may offer assistance by reducing the borrower cost of mortgage loan and/or improving the odds for an individual to obtain mortgage credit⁷⁸. Besides, interest costs paid for mortgage loans are tax deductible for federal income tax.

Often, the extent to which it achieves a narrow set of objectives, such as the number of new units created, determines the success of affordable housing. Today, similar to other good housing policies, affordable housing policies must also help promote healthy families and community goals, or access to employment⁷⁹. Drawing on lessons or experiences from decades of housing policy and practice in the global context, the following sectors focus on the assessment of the effectiveness of both supply-side and demand-side affordable housing programs in addressing the following five goals:

- Provide and expand the supply of good-quality housing units
- Make housing more affordable and readily available
- Promote racial and economic diversity in residential neighborhoods
- Help households build wealth
- Promote balanced metropolitan growth

b. Effectiveness: Supply-side vs. Demand-side Affordable Housing Programs

Provide and expand the supply of good-quality housing units

Despite the fact that affordable housing programs often target low- or moderate-income people, it does not mean that the quality of the housing units should be compromised. On the contrary, the most obvious goal of an effective affordable housing policy is to ensure the availability of decent housing for low- and moderate-

⁷⁷ Ellikson, 2011.

⁷⁸ Munch, et al, 2008

⁷⁹ Katz, et al. 2003

income households. Programs that build new units, improve substandard units, and prevent the deterioration and loss of existing affordable units all serve this objective.

The public housing programs in Singapore set an excellent example. Its program is an inclusionary housing delivery system that recognizes the needs of varying income and family size. The achievement based on the housing policies of Singapore is concentrated on the objective that 'everyone has the right to adequate housing'⁸⁰. Since 1964, the Singapore government has introduced the *Home ownership for the People Scheme* to help low-income people rent or purchase a public house for their family⁸¹. Housing and Development Board (HDB) is the government department formed to implement the public housing scheme including managing the new housing planning and development process and allocating the low-rent housing to needy people. The HDB uses long-term supply contracts and bulk purchase strategies to ensure continuous supply of essential building materials at stable prices⁸².

While these pragmatic interventions may have facilitated the rapid construction of the dwelling units and towns, standardization of building blocks had led to criticisms of cookie-cutter public housing provision⁸³. Shoddy workmanship and building defects were problems in several of the early quickly built projects that attracted many complaints and even debates in Parliament ⁸⁴(e.g. cracks in walls and ceilings, inferior fittings, and frequent lift breakdown). Through learning, modifying, and innovating, the problems were quickly rectified, and reforms were introduced into the next cycle of construction improvement⁸⁵.

More and more people in Singapore had owned their house, since owning a house was not a difficult thing for them. Under these housing development strategies,

⁸⁰ Chen, P.S. J. 1983.

⁸¹ Ibid.

⁸² Motha and Yuen, 1999.

⁸³ Wong and Yeh, 1985

⁸⁴ Yuen et al, 1999

⁸⁵ Ibid

Singapore achieved more than a one-time success but has made the national housing development sustainable in the long run. In fact, more than 85 percent of Singapore's citizens live in public housing and over 850,000 housing units in 23 new towns have been constructed. Even the poorest 20 percent of households in Singapore have equal access to housing resources⁸⁶.

According to recent statistics, there is a consistently high level of resident satisfaction with public housing: 82.5 percent of all households living in public housing have indicated that they would be content to always live in those flats⁸⁷. The success of Singapore public housing system is also due to the country's substantial financial support. Instead of directly subsidizing the eligible households, the government manages to keep the rental and price level at an affordable level despite the changing economic environment. Since housing is regarded as a public duty, one of the government's core policies is to provide homes for the people at rents that they can afford. Any difference between income and rental expenditure is covered by a grant from the state. The annual housing deficits are fully covered by government subsidies, and the HDB starts each financial year with a clean slate⁸⁸.

Admittedly, Singapore's success is context specific and cannot necessarily be replicated in other countries. After all, it is a city-state with a strong government commitment to public housing programs. In other countries, the development of a subsidized project could require extra time and effort from both the developers and public officials, which in turn increases the overall production costs of the housing units. For example, in the United States, in order to seek government subsidies and financial aid, developers must apply to one or more government agencies to get them. Especially since the advent of the Low-Income Housing Tax Credit (LIHTC) in 1986, developers commonly stack different project-based subsidies on top of one

⁸⁶ Global Urban Development Magazine, 2011.

⁸⁷ Housing and Development Board, 2000.

⁸⁸ Ibid.

another, adding more complexity to application process⁸⁹. As a result, only one percent of households live in subsidized public housing in the United States⁹⁰.

Make housing more affordable and readily available

Expanding the number of affordable units is not the only way to address the housing needs of low- and moderate-income people. A complementary goal is to make existing housing more affordable and more readily available. For example, programs that supplement what families can afford to pay for rent, or that provide down payment assistance to first-time homebuyers, help make existing housing stock more affordable. In addition, programs that combat discrimination or help families search for housing in the private market can make the affordable housing that already exists more accessible.

Demand-side housing policies are specifically designed to address this challenge. As some scholar argues, in the United States, the Section 8 rental vouchers seem to be the most effective tool for helping low-income residents pay for rental housing. Federal rental vouchers are reliable, renewable subsidies specifically designed to reduce the cost of housing for low-income households as a voucher can be used in any qualifying units up to a locally defined payment standard⁹¹. In turn, this provides participating households with access to housing beyond the existing low-cost housing stock. Other scholar disagrees that not all voucher receipts are successful in finding housing in the private market. Study shows that the share of voucher recipients who are successful in finding qualifying units in large metropolitan areas is 69.2 percent, which is substantially lower than the national estimate⁹².

Tax preference, another demand-side policy intervention, does not seem to work as

⁸⁹ Ellickson, 2011.

⁹⁰ Ibid.

⁹¹ Herbert, 2001.

⁹² Finkel and Burton, 2001.

well for low-income homeowners as the voucher program. In general, tax preferences and programs have done less to promote homeownership among low-income homeowners⁹³. Several studies indicate that the mortgage interest deduction and non-taxation of imputed rent have done little to improve homeownership rates among lower-income households because these households see few of the intended benefits.⁹⁴ The ability of tax preference to make housing more available and affordable is further limited because the initiatives do nothing to help lower-income applicants overcome the two major barriers they face: their deficits of income and wealth⁹⁵.

Inclusionary programs⁹⁶ generally do not produce housing units that are affordable for the poorest households unless they come with substantial subsidies. Without other set-aside programs or additional subsidies, few inclusionary programs produce rental units⁹⁷. Instead, the main beneficiaries of these programs are moderate-income families. Nonetheless, if inclusionary housing strategies go hand in hand with other set-aside programs, for example, subsidized down payment or monthly mortgage loan, such a package could help reduce production costs and in turn assist the poorest households to pay for housing. The program in Montgomery County explicitly requires that some affordable units be purchased by the local public housing authority and set aside for occupancy by very low-income households⁹⁸.

Promote racial and economic diversity in residential neighborhoods.

⁹³ Green, 1997

⁹⁴ Ibid.

⁹⁵ Collins, Belsky and Retsinas, 1999.

⁹⁶ Inclusionary housing program is an American term which refers to municipal and county planning ordinance that require a given share of new construction to be affordable by people with low to moderate incomes.

⁹⁷ Choppin, 1994.

⁹⁸ Brown and Harrington, 1991.

Housing policy is about more than just affordable shelter; it is also about the health and vitality of neighborhoods and access to neighborhoods of choice for low- and moderate-income households. When low-income households are clustered in poor or distressed neighborhoods, their access to educational, economic, and social opportunities is severely limited. Thus, to be truly effective, affordable housing policies should promote racial and economic diversity in residential neighborhoods so that poor and minority households are not isolated from social, educational, and economic opportunities. Successful programs allow households to make meaningful choices about the kind of neighborhoods in which they want to live.

As a matter of fact, most housing policies in Europe and North America have already taken this aspect into consideration. The European Union (EU) has adopted it as a major policy goal⁹⁹. In Spain, considerable interest is devoted to the connection between urban sustainability, housing and social cohesion, and the role law plays in “promoting social integration and acting as a tool of social change”¹⁰⁰. In Canada, two major mixed-income developments were constructed in both Toronto and Vancouver in the 1970s for the purpose of better social integration within the community¹⁰¹. Despite the strong initiative, it is not clear to what extent the spatial integration of inclusionary developments fosters social inclusion beyond purely spatial regardless of how particular dwellings are configured.

Supply-side affordable housing approach is not the only vehicle that policy makers have pursued as a social inclusion agenda. Often, demand-side subsidies give recipients more choice about where to live. Recipients do not have to live in a particular project to receive assistance, but can use their assistance in any qualifying unit within the designated region. The U.S. Voucher program is an example. Households can keep their vouchers if they need to move to a different unit to be closer to work or for any other reason. In fact, the program is to promote

⁹⁹ Atkinson et al. 2005

¹⁰⁰ Ponce Sole 2010.

¹⁰¹ Calavita and Mallach, 2011.

neighborhood choice in order to deconcentrate poor populations. Several studies demonstrate that Section 8 households are less concentrated in low-income neighborhoods than other low-income participants in other housing programs¹⁰². When subsidized tenants were asked whether their current neighborhood is better or worse than their previous one, 45 percent of voucher holders answered better, and 12 percent answered worse¹⁰³. The relative invisibility of a voucher promises to help normalize a voucher holder's future relationship with neighbors.

Voucher programs are not perfect. To date, vouchers appear to have been less effective in promoting racial and ethnic integration than in helping to deconcentrate poverty. Evidence showed that voucher recipients were simply relocating to neighborhoods with similar racial characteristics¹⁰⁴. Explanations vary. One possibility could be that relatively few voucher recipients would make a significant change in where they live. Another explanation is that minority voucher recipients may prefer to remain in segregated neighborhoods where they have close ties to the community¹⁰⁵.

Help households build wealth.

One of the most significant benefits of housing is its wealth creation potential. Homeownership programs provide the most direct way to help lower-income and minority households build wealth. Consequently, most efforts to promote homeownership among underserved populations are designed not only to expand access to affordable housing but also to help households build wealth through ownership of decent housing in thriving neighborhoods.

Inclusionary housing programs have succeeded in creating considerable opportunities for first-time homebuyers of modest means. For instance, the primary

¹⁰² Turner et al, 2000.

¹⁰³ McGough 1997.

¹⁰⁴ Polikoff, 1995.

¹⁰⁵ Varady and Walker, 2000.

group benefiting from New Jersey's inclusionary requirements is first-time homebuyers. And because these affordable homes are tied to market housing and often located in suburbs or economically healthy neighborhoods, inclusionary housing programs can help lower-income households own homes that may increase or retain market value¹⁰⁶. Certainly, there is a chance that once homeowners sell the units at the market rate, the housing subsidies or affordable units would be lost for future potential recipients.

In addition to the inclusionary housing programs, almost all traditional homeownership assistance programs have the potential to increase household wealth through increased equity, though not all owners will see this benefit. Certainly, wealth building through home equity depends heavily on the location of owned housing as well as the costs of maintenance, utilities, property tax, and the timing of home purchase and sales.

Demand-side housing assistance programs have no track record of helping recipients build wealth. However, by making rents more affordable and increasing housing stability, they may enable some households to accumulate savings.

Promote balanced metropolitan growth.

A final policy goal involves the way in which housing policies affect and take part in the composition and growth of communities and metropolitan areas. Housing policies determine where affordable housing is located, how well it is maintained and preserved, and where new housing (in all price ranges) is built. Housing policy fails if it contributes to the decline of older, inner-city neighborhoods or if it does not create housing opportunities near centers of job growth. Thus, an effective housing policy should promote balanced metropolitan growth that strengthens

¹⁰⁶ Lamar, Mallach and Payne 1989.

existing neighborhoods and ensures that affordable housing is available throughout a metropolitan area.

Unfortunately, most affordable housing opportunities, either rental or homeownership, are often located in central cities and distressed neighborhood, or in faraway communities near suburban fringes. The result is that low- to moderate-income families are either near the core of a metropolitan area or must move to distant communities. Housing choices near job growth centers or other neighborhoods in the metropolitan area are limited.

Perhaps demand-side rental subsidies have the potential to contribute to a balanced metropolitan growth policy. For example, the U.S. voucher program is not place-based. Recipients can move to neighborhoods that best meet their needs, including areas close to job opportunities. Unlike most subsidized housing production that occurs in central cities, vouchers can at least give low-income households better chance to access to suburban job centers¹⁰⁷. However, the effectiveness of vouchers in enabling poor households to move out of low-income and racially segregated neighborhoods depends on how these programs are implemented. Another possibility is the inclusionary housing program. The program could expand the supply of affordable homes in the suburbs and in market-rich neighborhoods, often creating economic diversity.

a. Summary

Table 5.1 summarizes the performance of demand-side and supply-side affordable housing programs.

¹⁰⁷ Olsen, 2003.

	Demand-Side	Supply-Side
<i>Provide and expand the supply of good-quality housing units</i>	Somewhat has an impact, but indirectly	Yes, expand both rental and owner-occupied stock; direct impact
<i>Make housing more affordable and readily available</i>	Yes, success depends on either price of housing stock or household's ability to find units	Yes, success depends on the size and duration of subsidies
<i>Promote racial and economic diversity in residential neighborhoods.</i>	Possibly, as long as recipients can find units in diverse neighborhood	Rarely, success depends on the location of the units
<i>Help households build wealth.</i>	Generally not, though lower rents may lead to increase family assets.	Yes, success depends on housing price appreciation and individual borrower circumstances.
<i>Promote balanced metropolitan growth.</i>	Possibly, success depends on recipients' ability to find units in suburban area or somewhere close to job opportunities.	Rarely, success depends on where the units are built

Table 5.1: Effects of Affordable Housing Programs on Policy Goals

Housing needs and policy priorities differ from place to place, due to differences in demographics, housing market conditions, history, and political realities. For example, the success of Singapore Housing Program is largely due to its substantial financial support and a strong government management system. However, it probably does not make sense to implement the same strategy everywhere. After all, Singapore is a city-state, and it is relatively easy to tailor the housing policy towards the local conditions. Just as cities and metropolitan areas differ, neighborhoods

within the same jurisdiction often have very different housing circumstances and needs. Although local policymakers need to craft a strategy for the city or region as a whole, this strategy may call for different programmatic approaches in different neighborhoods. For instance, a low-income neighborhood with moderate rents and housing prices and relatively high vacancy rates may not need any new affordable housing constructions. In contrast, it might be possible to boost the supply of affordable housing in a high-cost, high-demand neighborhood through inclusionary housing programs.

The causes of the housing affordability gap are, of course, complex. Most affordable housing strategies try to subsidize the gap between what low-income people can pay and what it costs to produce and maintain decent housing. Demand-side programs such as Voucher program in the United States or tax credits offer direct subsidies to compensate for below-market rent levels. Conversely, supply-side programs usually do not lead to direct solutions to bridging the affordability gap, as the main beneficiaries of these programs are moderate-income families who are able to purchase homes. In contrast, direct provision of rental public housing could help the poor, though international experiences of government-run public rental housing programs have not been positive. Most developed countries have put less emphasis on this approach to solving problems associated with the lack of affordable housing.

In terms of racial and economic diversity promotion, very few countries have the effective solutions. In fact, most of the affordable housing programs, whether on the demand-side or supply-side, were often result in residential segregation, which denied minority families full and free choice about where to live and the services and resources minorities need to thrive and grow. Although many policymakers may hope to design and implement color-blind housing policies, if the realities of segregation and ethnic inequalities are ignored, policies may not work as intended. For example, although the U.S. Voucher program succeeds in deconcentrating poor population, it fails to give low-income families real choices about where to live if the

voucher recipients feel unwelcome to the neighborhood. Special attentions should be paid to promoting racial and economic diversity.

Housing policies are also income policies. Often the lack of income or wealth remains the principal barrier to affordable housing. Increasingly, government leaders are realizing that homeownership programs can increase household wealth, especially for the first-time homebuyers. More housing production can somewhat help achieve that goal.

Most affordable housing both existing and new, whether rental or owned, is often located in city centers or undesirable neighborhoods. As a result, more and more lower-income families tend to concentrate near the core of a metropolitan area or some faraway communities. Today, despite many demand-side programs have the potential to solve the problem, as they are not location-centric, without an effective implementation, few can help accomplish the goal of promoting balanced metropolitan growth. As a matter of fact, affordable housing policies in many countries were well intentioned and carefully designed, but produced harmful outcomes because of poor administration. [Could you provide references here?] For example, some of the local housing authorities responsible for implementing the federal housing voucher program have failed to effectively perform basic administrative functions such as inspecting units promptly when subsidy recipients apply for lease approval, making rental payments to landlords on time, and responding effectively to landlord questions and complaints. As a result, landlords are unwilling to participate in the program, leaving subsidy recipients with limited choices about where to live and contributing to the concentration of poor households in distressed neighborhoods¹⁰⁸.

¹⁰⁸ Turner, Popkin and Cunningham, 2000.

All in all, both demand-side and supply-side affordable housing have their own pros and cons. One could be effective in dealing with one goal, while fails completely in addressing another problem. Neither could work perfectly by itself.

Admittedly, not all the five policy goals or criteria above mentioned are necessarily applicable to a country to evaluate affordable housing programs. However, these five assessment criteria are excellent starting points. In the next chapter, we will revisit these five criteria and use them to speculate the effectiveness of the newly established affordable housing programs in Shanghai—the biggest city in China.

Chapter 5. The Case Study: Recent Shanghai Affordable Housing Programs

The previous chapter addresses the five policy goals, assessing the effectiveness of affordable housing programs in the global context, whether supply-side or demand-side. This chapter will adopt these five criteria to speculate the potential outcome of the newly released affordable housing programs in Shanghai. Being the most populated and prosperous city in China, Shanghai however has been lag behind from other cities or provinces regarding affordable housing development. In addition, there was not much study discussing this critical social and economic issue in the context of Shanghai. The discussion here will bring necessary attention to this topic.

a. Demographic / Economic Background

Shanghai, located on the western coast of the Pacific Ocean, is the largest city in China. The metropolis has served as one of the major trading ports and gateways to inland China since the mid-19th century. In the past 30 years, the city has evolved from an industrial and commercial city into a national economic center. In 2010, its GDP reached USD 256.3 billion, with an annual growth rate of 9.9 percent¹⁰⁹.

By 2010, the city has a registered population¹¹⁰ of over 23 million, 37.5 increase from the population in 2000¹¹¹. In contrast, the city average household size has shrunk from 2.79 in 2000 to 2.49 in 2010.

b. Housing Market and Affordability

Between 1952 and 1978, housing market in Shanghai was highly underdeveloped. Housing investment in average accounted for only 5.8 percent of gross asset

¹⁰⁹ www.shanghai.gov.cn

¹¹⁰ The population registration system in China is called “hukou”. In most cities or provinces, personal welfare and social benefits go with “hukou” registration.

¹¹¹ China Census, 2010

investment in Shanghai¹¹²; the accumulated increase of floor area per capita over 27 years was only 1.2 square meters (3.4 square meters in 1952 and 4.5 square meters in 1978¹¹³. The housing stock in Shanghai did not get much improvement even right after the reform. Between 1979 and 1997, the average annual per capita income in Shanghai achieved a three-fold growth after taking account of inflation¹¹⁴. But the average floor area per capita in Shanghai increased only from 4.5 square meters to 9.3 square meters¹¹⁵, as shown in Figure 5.1.

Square meters

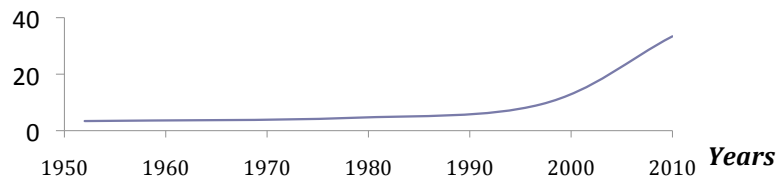


Figure 5.1: Expansion of Average Floor Area per Capita in Shanghai

The 1998 reform lifted the welfare housing system and paved the largest obstacle for the development of a private housing market. However, the Shanghai housing market did not respond swiftly and a housing boom did not arrive as expected¹¹⁶. Instead, the market slumped into stagnancy between 1998 and 1999. The Shanghai city government even had to create a variety of methods to stimulate the home purchasing enthusiasm¹¹⁷.

The year of 2000 is the turning point. Since 2000, the Shanghai housing market has shown a strong rebound. Housing prices started to rise. Ever since then, Shanghai has always been the most expensive housing market in the country. From 2005 on,

¹¹² Mostafa, et al. 2005

¹¹³ Chen and Hao, 2006

¹¹⁴ RMB 784 in 1979 vs. RMB 11,425 in 1997

¹¹⁵ Ibid.

¹¹⁶ Chen and Hao, 2006.

¹¹⁷ Ibid.

its housing prices looked to be out of control. In 2010, the average residential price in the city reached RMB 20,995 per square meter (approx. USD 300 per square meter) and average housing unit price was RMB 2.6 million (approx. USD 400,000)¹¹⁸. At the same time, the average floor area per capita in Shanghai also reached 33.4 square meters. In spite of the improvement in the living condition since 1990s, most residents in Shanghai are still struggling with the soaring housing prices, as a large share of housing stock are owned by a small amount of wealthy families in town. Besides, the average household disposable income per annum in 2010 was only about RMB 79,277 (approx. USD 12,197)¹¹⁹. Given the 90 square meter unit size, many Shanghai households have to save all of their yearly family incomes without any other consumption for 11 successive years before being able to purchase a home from the market. For the bottom 20 low-income families, their dream of being a homeowner could only be realized if they could survive after 25 years of life without any consumption¹²⁰.

c. Affordable Housing Programs

In May 2004, Ministry of Land and Resource, Ministry of Housing and Urban-Rural Development, National Development and Reform Committee, and People's Bank of China announced the countrywide affordable housing policy guidance¹²¹. Right after that, many provinces and cities including Beijing released their detailed implementation regulations.

Shanghai was an exception largely due to the misalignment of different interests between the municipal government and central government. Since the year of 2000, Shanghai has been on its fast track of real estate development. Municipal government's interest was closely in line with local developers'. With the affordable housing development, municipal government would have lost a lot of land for

¹¹⁸ www.shanghai.gov.cn

¹¹⁹ Assuming the average household size is 2.49.

¹²⁰ Wang, 2010

¹²¹ www.ndrc.gov.cn

market-rate development as well as a large portion of revenue generated by the market-rate land transaction. Because of this fiscal reason, Shanghai Municipal Government postponed the policy for 6 years. In 2010, the increasingly severe lack of affordable housing in Shanghai and the political pressure from the central government together forced the municipal government to release the affordable housing policy. Eventually in mid-2010, Shanghai Municipal Government released its first set of affordable housing policy.

There are two major programs within the framework of the affordable housing policy, which are *Ownership Program* and *Rental Credit Program*¹²².

i. Ownership Program Overview

The qualified households must meet the following criteria.

- All the household members have to physically live in the Shanghai Municipal Area, and to have registered in the Shanghai Municipal Area (“*hukou*”) for seven years as well as in the applying district for at least 5 years.
- The average floor area per capita of the household should be no more than 15 square meters.
- In the past five years from the date of the application, none of the household members has bought any properties.
- The household income and asset have to be lower than the specifications below.

Household Size	Per Capita Disposable Income	Per Capita Asset
2	<=RMB 38,280(approx. USD 5,889)	<=RMB 99,000 (approx. USD 15,230)
3	<=RMB 34,800 (approx. USD 5,354)	<=RMB 90,000 (approx. USD 13,846)

Table 5.1: Ownership Program qualification

¹²² www.shfg.gov.cn The following sector was heavily drawn upon *Implementation Guidance of Shanghai Affordable Housing Program*.

The affordable housing program offers the applicants three housing choices including one bedroom, two bedrooms and three bedrooms units. Qualified households may choose any type of these units according to their household size. For example, for a household of two, the applicant is only eligible for one bedroom unit. According to the affordable housing program, the qualified applicants are able to dispose these affordable units in five years and retain 70 percent of the transacting price.

Before applying the affordable housing policy to all districts in Shanghai, the municipal government chose two districts, Minhang and Xuhui, as pilots.

Case A: Minhang District

1. Location

The Minhang District of Shanghai has a land area of 371.57 square kilometers and population of 2,429,000 residents as of 2010¹²³. It is mostly a residential district and residential housing development is the main source of local government revenue. However, it is also home to some of the many factories and production facilities in Shanghai.



¹²³ www.shmh.gov.cn

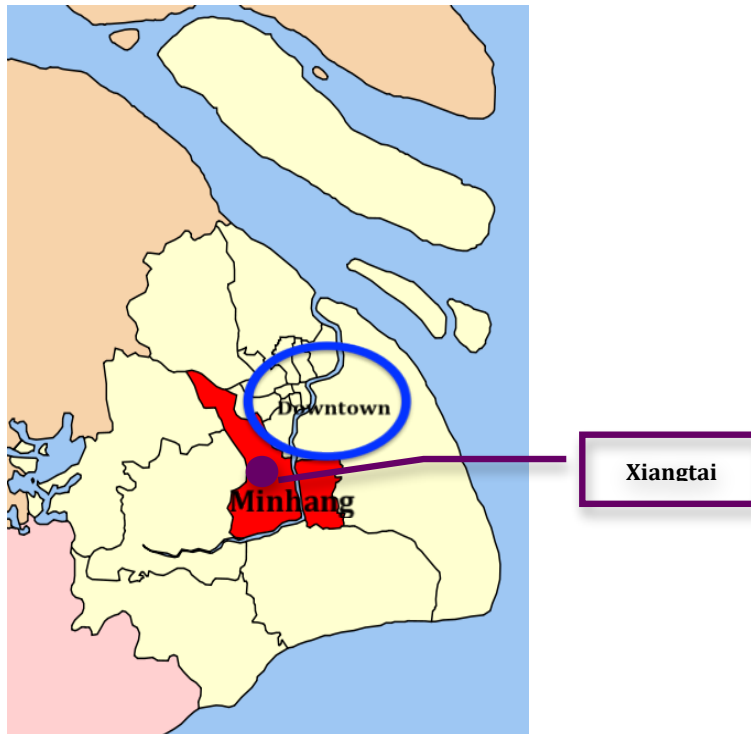


Figure 5.2: Minhang District, Shanghai

2. Designated Development

Xiangtai

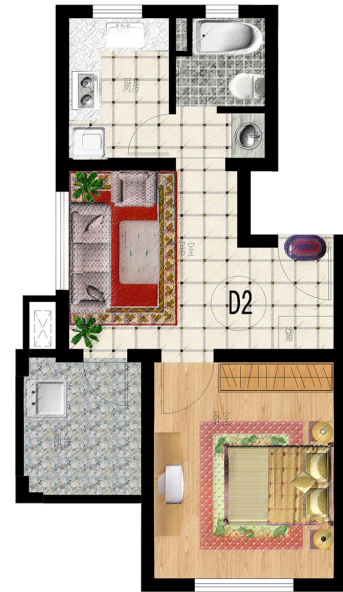
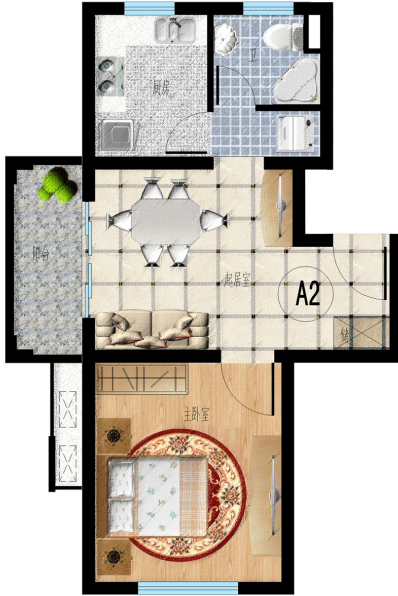
Xiangtai Development, located in the center of *Zhuanqiao Town*¹²⁴ (see Figure 5.2), was acquired by the Minhang District Government in 2008 and designated as the 1st affordable housing community for the district. The newly built community is within walking distance to the station of Metro Line 5 and has easy access to the regional highway. It usually takes residents forty-five minutes to an hour to commute to the city center. Since the development is close to industrial zones, there are few retail stores and amenities surrounding the community.

Most buildings are 6-storey, which is commonly seen among pre-1990s' "work unit" housing. There are 476 units in the community including 156 one-bedroom units, 272 two-bedroom units and 48 three-bedroom units. All the units will be sold to

¹²⁴ Zhuanqiao Town is a residential town surrounded by three national-level industrial zones with a registered population of 58,897.

qualified applicants at the subsidized price of between RMB 4,800 per square meter (approx. USD 68.6 PSF) and RMB 5,200 per square meter (approx. USD 74.3 PSF), about 40 percent ~ 50 percent of the market price of similar units in the nearby location¹²⁵.

One-bedroom Units (52.97 square meters)



Two-bedroom Units (74.94 square meters)



¹²⁵ www.shfg.gov.cn

Three-bedroom Units (98.13 square meters)

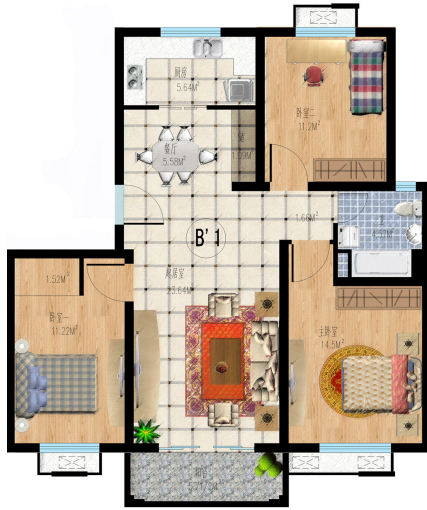


Figure 5.3: Xiangtai Development Selective Floor Plans

Case B: Xuhui District

1. Location

Xuhui District has a land area of 54.76 kilometers and a population of 847,900 as of 2000¹²⁶. Historically being part of French Concession of Shanghai, Xuhui District is now the premier residential district in the city (see Figure 5.4). In the past 20 years, Xujiahui, the center of Xuhui District has also developed itself into a prime retailer center in the city with a proliferation of large-scale shopping centers and department stores. In 2010, the average price of market-rate residential units in the District exceeded RMB 35,000 per square meter (approx. USD 500. 25 PSF)¹²⁷. The soaring housing price was largely due to the scarce land supply and costly redevelopment projects in the area. Conversely, there is a large amount of registered residents crowded in the old “work-unit” housing. Despite the generous

¹²⁶ www.xh.gov.cn

¹²⁷ www.stats.gov.cn

relocation fee, most residents still could not afford to buy back the units in the same neighborhood that they used to live.

In order to tackle the affordable housing problems, the district government had to acquire land/housing units from other surrounding districts. The first two projects for the districts are Xinkai and Boya (see Figure 5.4), one in Songjiang District and the other in Minhang District.



Figure 5.4: Xuhui District, Shanghai

2. Designated Development

Xinkai

Xinkai Development, located in the northeast of Songjiang District, was acquired by the Xuhui District Government and designated as the affordable housing community for registered residents in Xuhui District. The



newly built community is within walking distance to the station of both Metro Line 9 and Metro Line 11, and has easy access to the regional highway. It usually takes residents an hour or so to commute to the city center. Historically, Songjiang District, except for the town center, was full of various sized industrial zones and hence lack of retailer stores or service sectors.

Most buildings are 6-storey, which is commonly seen among pre-1990s' "work unit" housing. Together with Boya, there are 1,681 units available including 571 one-bedroom units, 984 two-bedroom units and 126 three-bedroom units¹²⁸. All the units will be sold to qualified applicants at the subsidized price of between RMB 4,500 per square meter (approx. USD 64.3 PSF) and RMB 5,200 per square meter (approx. USD 74.3 PSF), about 50 of the market price of similar units in the nearby location.¹²⁹

One-Bedroom Units (58 square meters)



¹²⁸ www.shfg.gov.cn

¹²⁹ Ibid.

Two-Bedroom Units (78 square meters)



Three-Bedroom Units (93 Square meters)



Figure 5.5: Xinkai Development Selective Floor Plans

Boya

Boya Development, located in the southeast of Minhang District¹³⁰ was acquired by the Xuhui District Government and designated as the affordable housing community for registered residents in Xuhui District. The newly built community

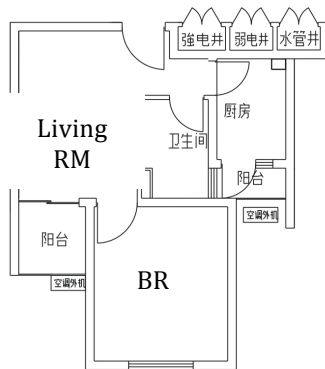


¹³⁰ Minhang District is divided into two parts by the Huangpu River. Boya Development is located in the east part of Minhang District, while Xiangtai Development is in the west part.

is close to the station of both Metro Line 8 and has easy access to the regional highway. It usually takes residents an hour or so to commute to the city center. Historically, there was no residential community living on this side of Minhang District. This large development will certainly change the local demographic character and redefine the area in many ways.

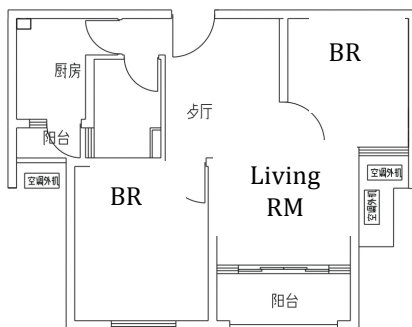
Unlike Xinkai Development, most buildings in the community are 18~20-storey high-rise ones. Together with Xinkai, there are 1,681 units available including 571 one-bedroom units, 984 two-bedroom units and 126 three-bedroom units¹³¹. All the units will be sold to qualified applicants at the subsidized price of between RMB 4,500 per square meter (approx. USD 64.3 PSF) and RMB 5,200 per square meter (approx. USD 74.3 PSF), about 50 of the market price of similar units in the nearby location¹³².

One-Bedroom Units (50 square meters)



博雅苑一居室A型房

Two-Bedroom Units (69 square meters)

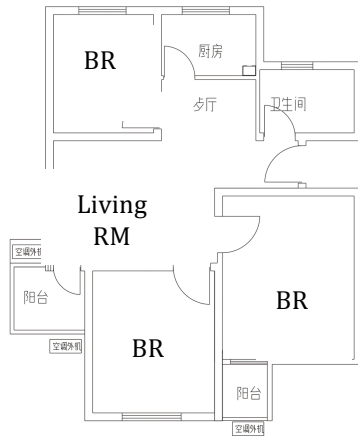


博雅苑二居室B型房

¹³¹ www.shfg.gov.cn

¹³² Ibid.

Three-Bedroom Units (90 Square meters)



博雅苑三居室D1型房

Figure 5.6: Boya Development Selective Floor Plans

具体对应房型详见房源清单

ii. Rental Credit Program Overview

On December 10, 2010, Shanghai Municipal Government announced the rental credit program¹³³. The program is the most recent affordable housing program in Shanghai and its purpose is to provide minimal housing assistance for the lowest-income group in the city. Unlike the ownership program, this program also includes qualified migrant workers¹³⁴.

Similar to the U.S. Voucher program, the rental credit program is designed to offer rental assistance to the qualified applicants. However, the applicants can only rent the designated public housing units rather than any units in any location as seen in the U.S. Voucher program.

1. Eligibility

The qualified household must meet the following criteria.

¹³³ www.shanghai.gov.cn

¹³⁴ www.shfg.gov.cn

- All the household members have to register in the Shanghai Municipal Area (“hukou”) or to hold “Shanghai Residence Permit” for at least three years.
- The average floor area per capita of the household should be no more than 7 square meters (approx. 75.35 sf.).
- In the past five years from the date of application, the household has not bought any properties.
- The monthly per capita disposable income of the household should be no more than RMB 1,100 (approx. USD 169).
- The total asset of the household should be no more than RMB 120,000 (approx. USD 18,462).

2. Implementation

Once qualified for the program, the household only has to pay 5 percent of its monthly disposable income for the public rental units and the balance is covered by the municipal government¹³⁵. Since the program has not been fully implemented, it is not clear how effective the program is. The first public rental community in Shanghai will be open for applications by the end of June 2011 (see Figure 5.7 for public rental housing community). Most of the units in the community have two-bedroom and are about 60 square meters each. Different from the ownership program, the public rental housing community is located within the downtown area.

¹³⁵ www.shfg.gov.cn

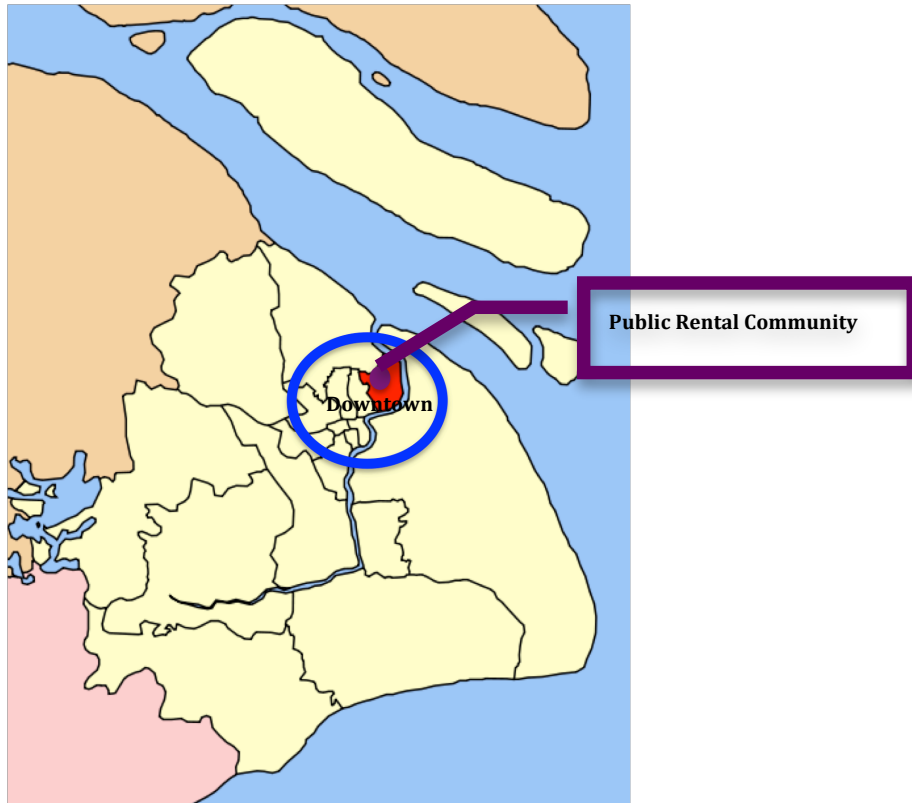


Figure 5.7: the location of public rental community

According to government planning, by the end of 2015, about 10 million square meter public rental units will be built across the city.

d. Effectiveness of affordable housing programs in Shanghai

Provide and expand the supply of good-quality housing units

Programs that build new units, improve substandard units, and prevent the deterioration and loss of existing affordable housing units all serve this goal. Housing production is perhaps the most straightforward answer. For countries like China or Singapore, strong government commitment to certain policies usually can facilitate the rapid implementation of such policies.

In the case of Shanghai, ever since the policy is released in 2010, tremendous amount of efforts have been placed in producing new affordable units. By the end of 2010, there had been 3,851 units open for applications and over 60 percent of them have been occupied. In 2011, Shanghai Municipal Government plans to complete the construction of 80,000 affordable ownership units plus 40,000 public rental units, 25 percent more than the completed units in 2010¹³⁶. In 2012, another 100,000 affordable units are going to be built.¹³⁷

However, large quantity is not necessarily translated into high quality. Previous experiences in other countries or cities often show that rapid development could lead to either cookie-cutter design or building defects. Perhaps it is still too early to question the quality of the buildings at this point as almost all the existing affordable housing units in Shanghai were recently built. Nevertheless, with such an ambitious development pipeline, the municipal government should indeed ensure the overall quality of the project.

Within respect to the current affordable housing programs in Shanghai, it is not clear how these affordable properties are managed in the long term. Especially for public rental units, without appropriate maintenance, those housing units may deteriorate rapidly, and affordable housing community will become undesirable for future applicants of affordable housing programs. Conversely, careful maintenance or property management could help these rental units last longer and hence benefit more low-income households.

Make housing more affordable and readily available

Programs that supplement what families can afford to pay for rent or that provide down payment assistance to first-time homebuyers meet this policy goal.

¹³⁶ www.yicai.com

¹³⁷ Ibid.

All the affordable units of both Xuhui and Minhang Districts in Shanghai are sold between RMB 4,500 and RMB 5,200 per square meters (approximately between USD 64.2 PSF and USD 74.3 PSF). With the average 60 square meters size, most units are sold at the price of between RMB 270,000 and RMB 312,000 (approx. USD 41,538.5 ~ USD 48,000) and the monthly cost for the eligible households is usually about RMB 1,319 to RMB 1,524¹³⁸ (approx. USD 203 to USD 234), less than 30 percent of the average monthly household disposable income in Shanghai. According to the AMI affordability standard, the ownership program is affordable for extremely low-income group. The eligible household income of the ownership program, about RMB 3,705 (approx. USD 570)¹³⁹, is also lower than the average monthly household disposable income in the city. Similarly the monthly mortgage payment is about 36~ 41 percent of eligible household income benchmark (RMB 3,705).

Average Monthly Household Disposable Income	Average Affordable Housing Unit Size	Average Affordable Housing Price (per square meter)	Average Affordable Housing Price (per unit)	Monthly Mortgage Payment (RMB)	Monthly Mortgage Payment as % of income
RMB 6,606 (approx. USD 1,016.4)	60 square meters (approx. 645.8 sf.)	RMB 4,500 ~ RMB 5,200	RMB 270,000 ~ RMB 312,000	RMB 1,319~RMB 1,524	20% ~23%

Table 5.2: Affordability of the ownership program in Shanghai

For rental credit programs, qualified households only have to pay 5 percent of its monthly household disposable income for the public rental units, which is no more than RMB 136¹⁴⁰. Hence the program is affordable for the extremely low-income group. Besides, the program is now open for migrant worker applicants who have residence permit. It is significant because almost all the housing programs in China

¹³⁸ Assuming 30% down payment, 30 years maturity with equal monthly payments and 7.48% APR mortgage interest rate according to the People's Bank of China on April 1st, 2011.

¹³⁹ Based on the income eligibility of the program, RMB 1,500 and average household size of 2.47.

¹⁴⁰ Based on the income eligibility of the program, RMB 1,100.

are only connected with the “*hukou*” system. Without registered resident’s status, no applicants could be qualified. This policy has changed in Shanghai. Migrant workers who have been working in Shanghai for years and have obtained the residence permit can also participate in this rental credit program.

Both affordable housing programs in Shanghai are affordable for the low-income group. Yet they exclude other income groups from government housing assistance. As discussed in Chapter 2, most market-rate housing units are not only unaffordable for the low-income group, but also for the moderate-income and even high-income groups in China. The current affordable housing programs did not address the housing affordability issues for this “*sandwich class*”. Recently, there have been some debates about whether or not the municipal government should lower the income eligibility criteria for both programs so that the programs could benefit more residents and migrant workers (rental credit program). It is said that in August 2011, Shanghai Municipal Government will announce its second set of affordable housing policy including lowering the income eligibility criteria and increasing about 14 percent of the maximum household disposable income per capita from currently RMB 38,280 (approx. USD 5,889) to RMB 43,560 (approx. USD 6,702) for households of two and from currently RMB 34,800 (approx. USD 5,354) to RMB 39,600 (approx. USD 6,092) for households of three.

Promote racial and economic diversity in residential neighborhoods

Successful affordable housing policies should also promote racial and economic diversity in residential neighborhoods so that poor and minority households are not isolated from social, educational, and economics opportunities. In Shanghai, racial diversity is not applicable in terms of the effectiveness of the affordable housing programs, since China is mostly a country with a single race and few immigrants. Instead, the following discussion will be focused on the *economic or income group diversity in residential neighborhoods*.

The existing ownership program in Shanghai is mostly a supply-side program. Similar to other supply-side housing programs in the global context, the ownership program in Shanghai does not often promote economic diversity in the neighborhoods. All three completed developments of the program are situated in dedicated neighborhoods around the outskirts of the city. As a result, eligible low-income households are heavily concentrated in these special communities.

Fortunately, the ownership program does allow households to dispose the units at open market rate in five years after they receive the ownership. This way, these communities will have a chance to revitalize themselves by introducing different income groups into the neighborhood. However, the success of such revitalization will largely depend on the willingness of future market-rate buyers to purchase units in these affordable housing communities.

The rental credit program is theoretically a demand-side program, but in Shanghai eligible low-income households have to move into the designated public rental housing community, rather than any available units in the city as seen in the U.S. Voucher program. Despite the fact that these public housing units are located within the downtown area, these communities are generally isolated from other neighborhoods with market-rate housing. Different from the ownership program, public rental housing community will remain low-income neighborhood in the long term, since only low-income households are qualified to live there. Over time, the real estate price in this area would maintain at a relatively low level and perhaps the surrounding neighborhood of such a community could also turn into an undesirable location for market-rate residential development.

Help households build wealth

One of the significant benefits of housing is to create potential wealth for the households. For low-income groups, it is even more crucial to promote

homeownership as building households' wealth could eventually help these groups move to more decent residential units in thriving neighborhoods.

Supply-side ownership program in Shanghai provides direct solution to this policy goal. The average affordable unit price within the ownership program is about half the average price of similar market-rate units in the surrounding neighborhoods. Once the eligible households are able to resell their units at an open market rate, these households will be able to benefit from the property value increments.

Rental credit program, though not directly help households build wealth, does to some extent reduce housing costs for lower-income groups. With the assistance of subsidized rent, households can accumulate their savings and possibly upgrade themselves from the rental program to homeownership program.

Promote balanced metropolitan growth

An effective housing policy should promote balanced metropolitan growth that strengthens existing neighborhoods and create housing opportunities near centers of employment.

Unfortunately, both ownership and rental credit programs in Shanghai do not particularly address this issue. Given the land scarcity in major cities of China, most affordable housing planning does not take promoting balanced metropolitan growth into consideration. In fact, the site selection of all the existing affordable housing developments in Shanghai is subject to the availability of residential land within the metropolitan area.

To be fair, when locating the affordable housing community, Shanghai Municipal Government does consider the importance of access to job opportunities. All three existing developments are within walking distance to one or two metro lines. Residents will have convenient access to the major office areas in the city.

Summary

In conclusion, both ownership and rental credit programs have their own pros and cons in serving these five goals.

	Ownership Program	Rental Credit Program
<i>Provide and expand the supply of good-quality housing units</i>	Yes with the quantity of production, but success depends on the quality assurance.	Yes with the production of public rental units, but success depends on the maintenance of units in the long term.
<i>Make housing more affordable and readily available</i>	Yes, only cover extremely low-income group and exclude “sandwich class.”	Yes, only cover extremely low-income group and exclude “sandwich class”; Include some migrant workers.
<i>Promote economic diversity in residential neighborhoods</i>	Generally not with designated affordable housing community, but resale mechanism could potentially revitalize the community	Rarely with designated rental community.
<i>Help households build wealth</i>	Yes, with the resale mechanism, households could benefit from the incremental price.	Generally not, but to some extent, lower housing cost and hence accumulate savings.
<i>Promote balanced metropolitan growth.</i>	Generally not with designated community, but have easy access to job opportunities.	Generally not with designated community, but downtown location gives easy access to job opportunities.

Table 5.3: Effectiveness of both Ownership Program and Rental Credit Program

e. Other important issues

Aside from the above five policy goals, Shanghai faces some other challenges, unique in the Chinese context, such as the effectiveness of policy implementation and development funding.

Effectiveness of policy implementation

Many housing policies whether in China or other countries are often designed with good will, but fail at the end due to an ineffective implementation. The affordable

housing program is still new in Shanghai and hence it is too early to say whether the policy is properly implemented as it was originally designed. Nevertheless, Shanghai Municipal Government could learn from other cities' experience, making sure history will not repeat itself in Shanghai.

In many cities, the profit of developers is capped at 3 percent of development cost.¹⁴¹ On one hand, developers tend to construct affordable houses with large areas and high standard in order to get more profit; on the other hand, potential buyers prefer larger affordable houses with heavy subsidies. As a result, affordable housing units are becoming larger and larger, whereas true low-income households who need affordable housing are being priced out because small units at lower prices are unavailable.¹⁴² Despite the fact that the affordable housing policy regulated by the Central Government set the size of affordable houses between 60 and 80 square meters, many regional governments challenged this regulation and increased the size¹⁴³.

Income level review is another problematic aspect. In many cities, only a certificate of income from the applicant's employer is required and sufficient to prove the household eligibility for the program. Often applicants can obtain a certificate of low income from their employer, regardless of their actual income. Besides, many Chinese citizens enjoy a "shadow income" in the country's cash economy. Owing to these loopholes, many affordable housing units are sold or transferred to better-off urban residents, not to the poor. In some cities, affordable housing program has become an investment program for some wealthy families.¹⁴⁴

¹⁴¹ Li, 2005.

¹⁴² Ibid.

¹⁴³ For example, the size of affordable housing in Beijing is now changed to 54—117 square kilometers, as seen in *The Designing Standard of Affordable Housing in Beijing*.

¹⁴⁴ Li & Li, 2005

Development funding

In the next five years, China plans to build 36 million affordable housing units. This year alone the nation needs about RMB 1.3 trillion (approx. USD 198 billion) for the development of affordable homes, excluding land cost, as indicated by Vice Minister of Housing and Urban-Rural Development on March 9, 2011. However, the central and local government will only bear RMB 500 billion¹⁴⁵. What about the rest of the money? Who is going to pay for this huge bill? To some extent, development funding has become the biggest challenge in this affordable housing master plan.

For most developers, business is business. Developers are certainly not proactive in participating in the development of affordable housing unless they do not have any other choices. This is particular true for some giant residential developers as they have been land banking for many years. As long as their pipeline is filled with market-rate projects, these developers will not sacrifice its resources and profits for affordable housing programs. In some countries, government may offer developers incentives such as subsidies, tax breaks, or expedition of the permitting process, to ensure profitability of projects.

¹⁴⁵ www.mohurd.gov.cn

Chapter 6 Conclusion

This thesis projects the effectiveness of the affordable housing programs in Shanghai, which was released in mid-2010. Overall, both ownership and rental credit programs seem to be appropriately designed, incorporating both supply and demand approaches of affordable housing system and addressing most of the five major policy goals discussed in Chapter 5 including:

- provide and expand the supply of good-quality housing units;
- make housing more affordable and readily available;
- promote economic diversity in residential neighborhood;
- help households build wealth; and
- promote balanced metropolitan growth.

In general, both affordable housing programs in Shanghai have the ambitious goal of supplying a large amount of affordable units in the next three to five years. According to the estimate, about 100,000 units are going to be built each year from now¹⁴⁶. As a result, more low-income families will benefit from the housing supply expansion of the programs. Affordable housing units will endure if necessary attention is paid to the maintenance of those units at the early stage—something that needs to be specified explicitly in the programs.

In terms of affordability, both programs are designed to target low-income group. For the ownership program, the monthly housing burden for the eligible households is less than 30 percent of their monthly disposable income. For the rental program, the monthly housing burden is as low as 5 percent of the qualified households' monthly disposable income. Despite this achievement, the programs have not touched upon the housing affordability issues for the “sandwich class” that also desperately need affordable housing.

¹⁴⁶ www.yicai.com

Both ownership program and rental credit programs do not consider economic diversity in the surrounding neighborhood as a determining factor. The ownership program however allows households to resell their units at open market rate in five years. Potentially, future households with varied economic backgrounds could move into these neighborhoods, thus diversifying the fabric of these communities. Conversely, the rental credit program only allows the qualified households live in the designated public rental housing communities. In the long term, these communities will remain low-income neighborhoods.

Last, but not least, the affordable housing programs in Shanghai seem to adjust successfully to the city's situation. The two programs have focused on locating affordable housing units close to the city center in order to help residents access public infrastructure, city lifestyle and amenities, and above all job opportunities.

Being the largest city in China, Shanghai is and will always be a populated and high-cost city; hence it will continuously face challenges from housing affordability in the future. The newly released affordable housing programs in Shanghai have addressed some of imminent issues. However, there is still some room for further improvement. Hopefully, by introducing more varieties of housing programs such as inclusionary housing, the Shanghai Affordable Housing Programs will benefit more households in the coming years.

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