COMMERCIAL HOUSING AFFORDABILITY IN BEIJING, 1992- 2001*

By
Ka Man LAU and Si-ming Li
Centre for China Urban and Regional Studies and Department of Geography
Hong Kong Baptist University

ABSTRACT

Beijing's residents, government officers and academics alike are very much concerned about the high price of commercial housing in the city, which is considered beyond reach of the average citizen. The paper analyses to what the extent the high housing price had led to low levels of housing affordability in the period 1992-2001. The housing price-to-income ratio is used to measure housing affordability. The reasons for the high housing price in Beijing are also examined.

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1. INTRODUCTION

Since the early 1990s, the housing affordability issue has aroused intensive discussion in China. The urban Chinese traditionally benefited from the welfare housing system and paid only nominal rents. They are unaccustomed to home purchase. But now, owing to the housing reform, the urban Chinese need to decide whether they have the ability to pay for the shelter. There are concerns that commercial housing prices in urban China are too high and beyond the means of the average urban household. This paper examines the issue of housing affordability in Beijing, the capital of China. The changing price-to-income ratio in the period 1992 to 2001 is used to analyse the changing financial ability of Beijing households in the purchase of commercial homes.

As Beijing is the capital, the termination of traditional welfare housing allocation system in 1998 has become a shock to many urban dwellers. It is valuable to research whether the citizens in the capital have the ability to buy their own home or not. Besides, the municipal government has put much effort to promote home purchases and construct new commercial housing to reach the target of increasing home ownership. In addition, many publications, for example, newspapers always show that the price-to-income is very high in Beijing (Business Daily Update, 24 December 2002; Asiainfo Daily China News, 7 January 2002). Therefore, Beijing has been chosen to study the housing affordability through the ratio.

Below we first provide the theoretical bases for using the price-to-income ratio. Next we discuss the procedures employed in computing the ratio for the case of Beijing. Then we present the computation results, and assess these ratios by reference to international standards and to price-to-income ratios for other major Chinese cities.

2. HOUSING AFFORDABILITY AND THE PRICE-TO-INCOME RATIO

The term housing affordability has been used as to summarize housing difficulties facing individual households (Hulchanski, 1995: 471). The United Kingdom and the United States have employed this concept since the 1960s and 1980s, respectively, with different policy targets (Hui, 2001: 35). The United Kingdom applies the notion with the view to helping people who are in great need while moving towards a market-oriented system of housing provision. By contrast, the United States employs the concept for measuring how much subsidies is needed for low income and medium income households in an existing market-based system. In

Hong Kong, the concept was introduced by the Hong Kong Housing Authority (HA) in 1987 to lay down the guidelines for providing subsidized housing to people in need (Hui, 2001: 35).

One can trace the roots of academic studies on housing affordability to the nineteenth century's studies of the household budget which generally argued for "one week's pay for one month's rent" (Feins and Lane, 1981: 11; Hulchanski, 1995: 471). That is, it is envisaged that families can and should spend about one-fourth of their income for shelter (Feins and Land, 1981: 11). Households are said to have housing affordability problem when they pay more than a certain proportion of their income to consume suitable levels of housing (Hulchanski, 1995: 471).

Two types of housing affordability can be identified. First, according to Bramley, Maclennan and Williams:

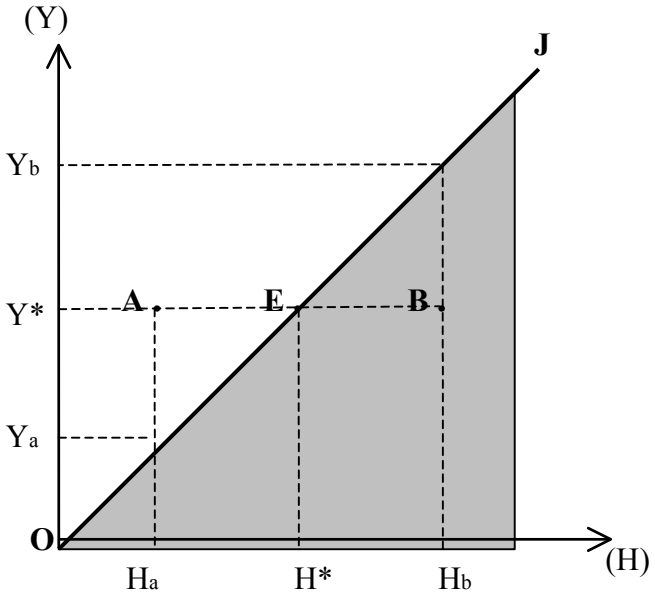
> "*Affordability is concerned with securing some given standard of housing (or different standards) at a price or a rent which does not impose, in the eyes of some third party (usually government), an unreasonable burden on household incomes."* (Hancock, 1993: 129)

More specifically,

> *"…households should be able to occupy housing that meets well-established (social sector) norms of adequacy (given household type and size) at a net rent which leaves them enough income to live on without falling below some poverty standard."* (Hancock, 1993: 129)

The phrases "an unreasonable burden" and "some poverty standard" illustrate that certain amount of non-housing consumption, such as food, clothing and so on, is considered to be the minimum standard in society. They highlight the opportunity cost of housing (Hancock, 1993: 129), that is, people must forego some quantity of non-housing consumption in order to obtain housing consumption. Under this definition, housing affordability can be assessed by the ratio of income to the quantity of housing consumed multiplied by the relative price of housing. This may be termed the *ratio approach* to housing affordability. It measures the proportion of income spent on housing.

Figure 1: Ratio approach of housing affordability.



Source: Hui, E.C.M. (2001), Measuring Affordability In Public Housing From Economic Principles: Case Study Of Hong Kong, *Journal Of Urban Planning And Development*, 127(1), p 37.

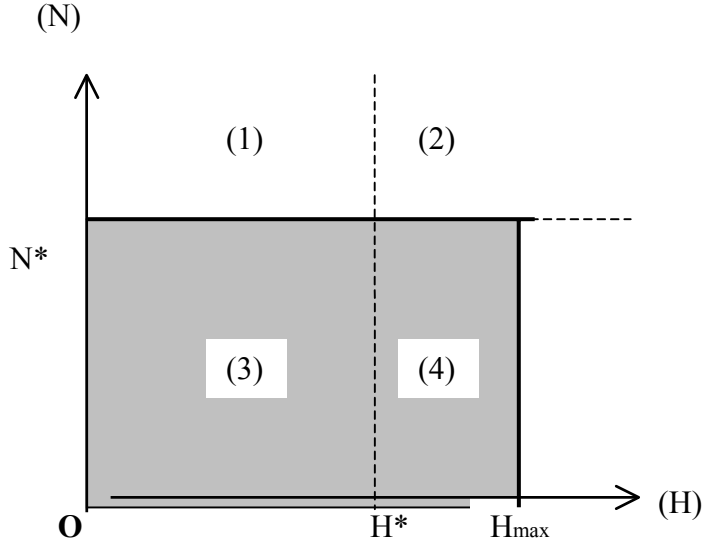
In Figure 1, X-axis (H) denotes the housing quantity, while Y-axis (Y) refers to income or house price. OJ is a line the slope of which gives a pre-specified ratio of housing expenditure to income. It is upward sloping, reflecting the general increase in housing consumption with income. OJ divides the graph into two zones, white and grey. Any point lying on OJ (e.g. Point E) or above OJ (white area, e.g. Point A) represents that housing is affordable. By contrast, any point in the grey area (e.g. Point B) indicates lack of affordability.

At Point A, a given household is expected to spend Y* to consume Ha. As the cost for Ha (Ya) is lower than Y*, the household would have enough money to obtain Ha. Using Hancock's words, there is no "excessive burden" on income (1993: 132). At Point B, the cost of housing is Yb, which is higher than Y*, the amount expected to be used to consume Hb. It implies that "excessive burden" exists. The household is said to lack housing affordability. The ratio definition can be subdivided into rent-to-income ratio (RIR) and price-to-income ratio (PIR). The obvious difference is that the RIR deals with renters, while the PIR concerns owners.

The second type defines housing affordability by the amount of *residual income* remained for other household needs after deducting housing expenditures. It focuses on the adequacy of non-housing goods for households' consumption at certain

minimum level (Hui, 2001:38; Bourassa, 1996: 1869). It is a reverse approach that shifts the affordability issue from housing to non-housing consumption (Aboutorabi and Abdelhalim, 2000: 2).

Figure 2: Residual income approach of housing affordability.



Source: Hui, E.C.M. (2001), Measuring Affordability In Public Housing From Economic Principles: Case Study Of Hong Kong, *Journal Of Urban Planning And Development*, 127(1), p 38.

In Figure 2, X-axis (H) is housing consumption and Y-axis (N) is non-housing consumption. The minimum consumption of housing is H* while that of non-housing goods is N*. H_{max} the maximum amount of housing provided by the relevant authority; the designation of H_{max} is to restrict excessive consumption on housing. Over-consumption results in wasting resources, which means high costs per unit of housing service consumed (Hui, 2001: 38, Hancock, 1993: 133-134). Any point in region (3) indicates inadequate consumption of both housing and non-housing goods. In region (4), housing consumption is adequate while non-housing consumption is not. Any point in region (1) or (2) means that non-housing goods are adequate, while housing may or may not be adequate. In short, in the residual income approach housing is considered affordable when people can adequately consume both housing and non-housing goods. In order to enhance the ability of non-housing consumption, it is suggested that low income households could be benefited by housing subsidies, rent reduction and prices negotiation (Hui, 2001: 88).

Table 1: Purposes of Housing Affordability Measures

Purpose	Contents
(1) Description	Describe a typical household's housing expenditure
(2) Analysis	Analyse trends, compare different household types
(3) Administration	Administer rules defining who can access housing subsidies
(4) Definition	Define housing need for public policy purposes
(5) Prediction	Predict ability of a household to pay rent or mortgage
(6) Selection	Select households for housing units of pre-specified rent or mortgage

Source: Hulchanski, J.D. (1995), The Concept of Housing Affordability: Six Contemporary Uses of the Housing Expenditure-to-income Ratio, *Housing Studies*, 10(4), p 476.

Housing affordability measures are used for a variety of purposes (Hulchanski, 1995; see Table 1). Both approaches have been subject to a number of criticisms; notably neither of them takes into account individuals' and households' preference structures (Hui, 2001) and locational variations in housing costs (Chaplin and Freeman, 1999). They are nonetheless the most commonly used yardsticks of housing affordability. Between the two the ratio approach is more frequently employed. For example, Hui (2001) has used it to analyse housing affordability in Hong Kong; Aboutorabi and Abdelhalim (2000) have employed it for the case of Khayelitsha Township, South Africa; Liu has made use of it to study urban housing in China; and Chaplin and Freeman have applied the measure to examine housing in England. In fact, the price-to-income ratio is one of ten key housing indicators[1] approved by the United Nations Commission on Human Settlements (UNCHS)[2] (Malpezzi & Mayo, 1997: 3-4). According to World Bank standard, in market economies an affordable housing price should be no more than three to six times a family's annual income, i.e., the PIR should be no more than 3:1 to 6:1 (China Real Estate News, 30 October 2002; China Daily Hong Kong Edition, 1 August 2001), The *Final Report* published by The Chinese Academy of Social Sciences Institute of Finance and Trade Economics (IFTE) and The Institute of Public Administration (IPA) (1996: 144) gives the ratio of 2:1 to 7:1 as being desirable, while Yuan (1998: 5) suggests a ratio between 2:1 and 6:1, depending on the city and location involved, as being appropriate.

[1] The other nine housing indicators are rent-to-income ratio, floor space per person, permanent dwellings, housing in compliance, land development multiplier, infrastructure expenditures, mortgage-to-credit ratio, housing production and housing investment.

[2] This indicator has been collected in 53 major cities of different countries across the world by the

3. APPLYING THE PRICE-TO-INCOME RATIO IN BEIJING

Operationally, for an individual household the price-to-income ratio (PIR) may be defined as the ratio of the current market value of the housing unit that the household occupies to the total annual income of the household (Renaud, 1989: 1, 1991: 2). For a group it may be defined as the ratio of the median free-market price of dwelling unit to the median annual household income (Renaud, 1989: 1, 1991: 2; Malpezzi & Mayo, 1997:4):

$$PIR = HP / Y \qquad (1)$$

where

HP = current market value of a single housing unit;

Y = the total annual income of the family.

In the present study the bulk of data are from the *Beijing Statistical Yearbooks* and the *China Statistical Yearbooks*. The period covered is 1992 to 2001. The year 1992 was chosen as the beginning of the study because China's marketization drive in general and the housing reform in particular was re-invigorated after the temporary set back associated with the Tiananmen incident in 1989 with Deng Xiaoping's famous southern visit at the end of 1992. Because of data availability, we use the mean selling price (per m^2 of gross floor space) and the mean per capita annual household income as the bases in our computation of the PIR in Beijing. More specifically,

$$PIR = AP*FA / AY*nP \qquad (2)$$

where

AP = mean selling price of residential building (yuan/ m^2)[3];

FA = pre-specified gross floor area per housing unit (m^2);

AY = mean per capita annual income per urban household (yuan);

nP = average number of persons per urban household.

According to "*Shangpinfang xiaoshou mianji jixuan ji gongyong jianzu mianji fentan guize*" (*The Regulations Governing the Calculation of Commodity Housing Floor Area And Dividing Public Floor Area*) issued by the Ministry of Construction on 8 September 1995 (*Beijing Zhuzhai Nianjian*, 1999: 64-66, 99-100; Zhongguo Fangdichen Tongij Nianjian Bianweihui, 1999: 147-148), the price of residential building reported should be based on the gross floor area of a housing unit ("FA" in Table 2). FA is the summation of the usable floor area of the housing unit (UFA) and

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Shelter Sector Performance Indicators Programme in 1992 (United Nations).

the amount of public floor area (PFA)[4] shared by all housing units in the whole building. UFA refers to the area of within the unit and areas occupied by separating walls in the unit and the balcony. PFA means the total floor area (TFA) of the whole building subtracting total UFA, sale or hired independent basements, car shelters and constructions of civil air defence[5]. The coefficient of PFA shared by all households is the division of PFA over the summation of the total UFA of the whole building. In most of the cases, the coefficient of PFA is roughly 0.4. Therefore, FA is equal to UFA times this coefficient and then plus UFA (FA = UFA*0.4 + UFA) (*Beijing Zhuzhai Nianjian 1999*: 64-66).

Table 2: Computing the price-to-income ratio in Beijing, 1992 to 2001

Year	AY	nP	AY*nP	AP[6]	AP*FA Selling Price of a 60 Square Metres House (yuan)	PIR
2001	11,659.00	3.00	34,977.00	4,716	282,960	8.09
2000	10,416.40	3.10	32,290.84	4,557	273,420	8.47
1999	9,238.80	3.10	28,640.28	4,787	287,220	10.03
1998	8,520.60	3.00	25,561.80	4,769	286,140	11.19
1997	7,861.70	3.06	24,056.80	5,337	320,220	13.31
1996	7,338.80	3.06	22,456.73	4,057	243,420	10.84
1995	6,237.90	3.13	19,524.63	3,227	193,620	9.92
1994	5,086.00	3.17	16,122.62	2,740	164,400	10.20
1993	3,547.80	3.21	11,388.44	2,255	135,300	11.88
1992	2,556.50	3.25	8,308.63	1,613	96,780	11.65

Source: Beijing Municipal Statistics Bureau, ed., *Beijing Statistical Yearbook 1993-2002*, Beijing: China Statistics Press.
Zhongguo Fangdichen Tongji Nianjian Bianweihui, ed., *China Real Estate Statistic*

[3] Yuan is the unit of the Chinese currency. At current rate of exchange, US$1=8.3 yuan approximately.
[4] The UFA include foyer, lobby, footpath, corridor, public toilet, elevator or stair hall, staircase, elevator shaft, elevator machine room, garbage chute, piping shaft, fire control room, water pump house, water tank room, refrigerator room, fire fighting access, switch room or substation, gas pressure regulating room, satellite television receiving room, air conditioner room, water boiler room, swing room for liftman, on-duty guardroom, room for real estate administrator, and all of the rooms for serving the households in the building. Besides, outside walls (include gable) and walls separating UFA and PFA are also counted, which measured by half of their floor area (Beijing zhuzhai nianjian, 1999). The reference is in Chinese version. Most of the translations come from "*China English Dictionary Of Architecture and Construction*", Beijing Institute Of Architectural Design And Research, Zhongguo jianzhu gongye, 1992.
[5] Civil air defence is an under-earth construction for protecting people, goods and materials during wartime. It includes rooms for giving orders and communication, air-raid shelter, rooms for giving medical care, warehouse, garage and so forth (*Shenmo shi renfang gongcheng* (*What Is Civil Air Defence*), 8 August 2001).
[6] "AP" from 1992 to 1997 and 1999 were come from the *China Real Estate Statistic Yearbook 1999 and 2000*. The others were calculated according to the data in Table 3.

Yearbooks 1999 and 2000, Beijing: Zhongguo chengshi chubenshe.

In Table 2, AY (average per capita annual household income) includes both regular or fixed income and occasional income. nP is the average size of urban households in the city. AP (average selling price of the residential buildings) is obtained by dividing the total sales of commodity residential buildings by the total floor area of residential buildings sold (see Table 3). In computing the PIR we use a floor area of 60 m^2 as the standard for dwelling size. This is because the majority of residential buildings in Beijing are between 50 to 70 m^2 in size (Beijing Youth Daily, 28 March 2002). Secondly, in the "Ninth Five-year Plan" the State Council recommended flat size of 60 m^2, which is considered appropriate for families with three members (Wong et al, 1998).

Table 3: Total sales of and floor space of residential building actually sold[7].

Year	Total Sales of Residential Building (10,000 yuan)	Floor Space of Residential Building Actually Sold (10,000 sq. m)
2001	5,317,140	1,127.50
2000	4,093,363	898.22
1999	2,320,259	484.71
1998	1,797,999	376.99
1997	1,295,918	241.91
1996	763,191	188.13
1995	601,103	186.28
1994	408,387	149.03
1993	410,490	172.94
1992	- -[8]	153.02

Source: Beijing Municipal Statistics Bureau, ed., *Beijing Statistical Yearbooks 1993-2002*, Beijing: China Statistics Press.
Zhongguo Fangdichen Tongji Nianjian Bianweihui, ed., *China Real Estate Statistic Yearbooks 1999 and 2000*, Beijing: Zhongguo Chengshi Chubenshe.

[7] The data from 1992 to 1997 and 1999 were come from the *China Real Estate Statistic Yearbook 1999 and 2000*. The others were quoted from the *Beijing Statistical Yearbooks*.
[8] Total sale of resident building in 1992 was missing in the Yearbooks.

4. RESULTS

The results of PIR computation are given in the last column of Table 2. The PIR slightly rose in the beginning of the period and then fell from 11.88 to 9.92 between 1993 and 1995, mainly as a result of rapidly rising incomes. Even though the average annual per capita income continued to experience quite substantial increases in both 1996 and 1997, the price of residential buildings rose even faster. As a result, the PIR increased again and reached a peak of 13.31 in 1997. It then exhibited a decreasing trend. In 2001, it dropped to 8.09, the lowest for the ten-year period under study. Note that the Asian Financial Crisis struck in 1997. Although the Chinese economy managed to remain more or less intact, residential prices in Beijing nonetheless fell by more than 10% between 1997 and 1998. Also, in 1998 Zhu Rongji, then Premier of China, announced to end welfare allocation of housing. *Danwei* or work units have since stopped purchasing commercial housing for allocation to their workers. The bulk of commercial housing is now sold directly to the end users, i.e., the individual households. Although most *danwei* would provide cash subsidies to their employees to assist home purchase, their withdrawal from the market has effectively dampened the demand. As a result, residential prices stayed at relatively low levels between 1999 and 2001, despite continual rapid income increases. Hence we witnessed the rather sharp fall in the PIR in the latter part of the study period.

The PIRs obtained in this study were lower than those reported by a number of previous studies. For instance, IFTE and IPA (1996: 148) give a PIR of over 10 for the year 1994. Hou reports that the PIR of Beijing in the same year was 13.42 (1996: 19). The *Asiainfo Daily China News* (7 January 2002), using statistics provided by the State Statistics Bureau, reports a PIR of 11 for the year 2001. Because of the high PIR, the Beijing Political Committee called for measures to slow down the rise in housing price in the city. But other authors have reported lower PIRs. Liu's (1998: 135) study gives a PIR of 9.16 for the year 1995. The *Beijing Youth Daily* (11 April 2002) reports a ratio of 7:1 in 2000 for newly built residential buildings and 6:1 if the second hand housing market is included in the calculation. The great variations in the PIR reported are largely due to the different standards adopted for "FA". Hou used 63.92 m^2; Liu 56 m^2; the *China Youth Daily* 50 m^2. But the *Asiainfo Daily China News* used a much higher standard, 80 m^2.

The PIR in Beijing might have dropped significantly in recent years, and it might be lower than those reported earlier. Yet the PIR in recent years remained well above the guidelines given by international organizations. From Table 4, it may be seen that, in comparison with the PIR of Shanghai and Guangzhou, using identical FA in the computation, the Beijing ratio is higher in both instances. In the case of Shanghai, the average price of housing is lower than that in Beijing, yet the average per capita income is higher. The average housing price in Guangzhou and Beijing are among the highest in the country, although the former is slightly higher than the latter. In terms of average per capita income, Guangzhou exceeds Beijing by quite a wide margin.

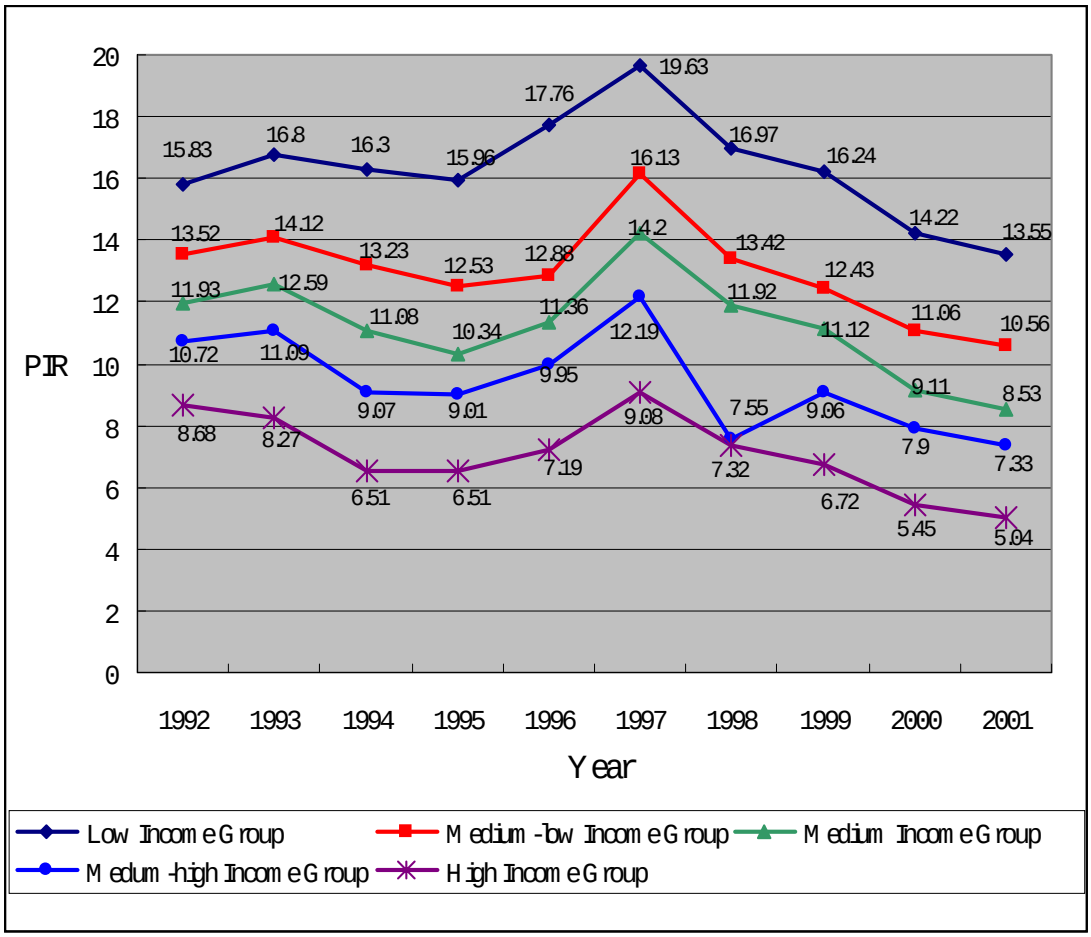
Table 4. Comparing the PIR of Beijing, Shanghai and Guangzhou, 2001

City	Household Income			Average Market Price		PIR
	Income Per Capita (yuan)	Average Number of Persons	Household Income (yuan)	Average Price (yuan / m^2)	Selling Price (60 m^2) (yuan)	
Shanghai	12,982	3.12	40,504	3,659	219,540	5.42
Guangzhou	14,965	3.29	49,235	4,837	290,220	5.89
Beijing	11,659	3.00	34,977	4,716	282,960	8.09

Source: Shanghai Municipal Statistic Bureau, ed. (2002), *Statistical Yearbook of Shanghai 2002*, Shanghai: China Statistics Press.
Guangzhou Municipal Statistic Bureau, ed. (2002), *Statistical Yearbook of Guangzhou 2002*, Beijing: China Statistic Press.
Beijing Municipal Statistics Bureau, ed. (2002), *Beijing Statistical Yearbook 2002*, Beijing: China Statistics Press.

The above discussion refers to the average PIR. Different income groups by definition have different PIRs. Table 5 shows that for the low and medium-low income groups in Beijing, the PIR in 2001 was 13.55 and 10.56 respectively. Although they are very high by any standards, these ratios were nevertheless the lowest for the period under study. In comparison, for the high income group, the PIR in 2001 was a more affordable ratio of 5.04.

Figure 3: PIR of urban households in Beijing by different income groups.



Source: Beijing municipal Statistics Bureau, ed., *Beijing Statistical Yearbooks 1993-2002*, Beijing: China Statistics Press.

The high housing price in Beijing and hence high PIR has to do with the price setting mechanism (IFTE and IPA, 1996: 149; Lin and Jiang, 1992: 617). In Beijing, housing price is composed of thirteen categories (see Table 5), which can be summarized into four major types. Type 1 includes land acquisition cost, resettlement, site development, construction, taxes, management fee and profits. Type 2 is expenses for auxiliary facilities. Type 3 covers all public infrastructures, such as green space, on-site infrastructure, kindergartens, schools, sub-district offices and so forth. Besides, other unspecified items of "large public infrastructure projects" are also covered. Type 4 consists of commercial facilities and "four utilities" (gas, water, heating and sewage) (Yuan, 1998: 7; IFTE and IPA, 1996: 149-150).

Table 5. Price Composition of Commercial Housing in Beijing.

Cost Items	Types Of Cost	Proportion of House Price (%)
1. Land acquisition	1	4.7
2. Resettlement	1	24.5
3. Land development	1	4.4
4. Construction	1	25.6
5. Auxiliary facilities	2	3.7
6. Outdoor projects	4	3.0
7. Public infrastructures	3	7.2
8. Environment and green space	3	0.6
9. Facilities for gas, water, heating and sewage	4	5.6
10. Large project public infrastructure	3	10.6
11. Business tax and local construction tax	1	2.4
12. Management fee	1	1.8
13. Profits	1	6.1

Source: Liu Q. (1992), Housing Economics in Modern China, *China Construction Industry Press*. Cited in *China's Urban Housing Reform*, IFTE and IPA, 1996, p 152.

Only the first type is directly related to housing construction. It accounts for 69.5% of housing price. These amounts are relatively difficult to be trimmed. In particular, land transfer is a key source of local government revenue, and it is difficult to envisage major reductions in land transfer costs. So far, the reduction of government-related taxes and fees had not led to a significant fall in housing price either (*China Daily*, 5 October 1998). However, it is debatable whether the rest 30.5% should be included as a part of housing price. These costs could be paid by the government through taxes or through fee collection. If they are excluded, housing price can be reduced by one third. Hence the PIR can be lowered to more acceptable levels accordingly (Yuan, 1998: 7; IFTE and IPA, 1996: 150).

Another reason for the high price of commodity housing is the demand for high profits by developers. In 1995, China introduced the "*Anju* Project" (subsequently renamed the Comfortable Housing 2000 Project). The State required the developers to contribute 20 percent of their annual housing construction to the "*Anju* Project" (IFTE

and IPA, 1996: 148). The sales price of *Anju* Housing was at set to recover only basic costs. The developers could only received 3% to 15% profits, depending on the project (Rosen and Ross, 2000: 81). As a result, the Anju Housing price was only 1,300 yuan/m^2 in Beijing in 1996 (Rosen and Ross, 2000: 82); in comparison, commercial housing price averaged 4,057 yuan/ m^2 in the same year. It may very well be the case that developers, as profit-seekers, would try to raise the commercial housing price in order to cover the losses associated with the construction of Anju Housing.

In the early and mid 1990s, some 90% of the commercial housing built was sold to the state-owned enterprises and other *danwei*. Under soft budget constraint, the *danwei* had almost insatiable demands for housing, which was bought for speculative purposes as well as for providing shelters to their workers. The large volume of housing transaction during this time did not reflect high housing affordability; rather it merely indicated a high degree of market distortion. Yet *danweis'* demand helped push up the price of housing to unreasonable levels. Worst still, most developers were also state-owned enterprises, and the soft budget constraint also applied. In 1999, 58% of the newly completed commercial housing floor area in the city was vacant (Zhongguo Fangdichen Tongji Nianjian Bianweihui, 2000). Despite the astronomically high vacancy rate, housing price failed to come down by any substantial margins.

5. CONCLUSIONS

During much of the period under study, in Beijing the traditional system of housing allocation still prevailed. Workers in *danwei* were either provided with housing charging nominal rents, or given the option to buy at highly subsidized prices. In a sense, then, the PIR computation reported, which was based on commercial housing price, was just an academic exercise, as it did not in any material way affect the majority of households in the city. However, the very high PIR obtained did suggest that home purchase in the market was not an option to most households and that their welfare was still very much tied to the *danwei* to which they belonged. With the reform measures introduced in 1998, in particular, with cessation of welfare allocation of housing, the majority of households now have to rely on the market to satisfy their housing needs. Yet the PIR obtained for recent years, even using a modest FA (gross floor area) standard of $60m^2$, remained high by international standards and

in comparison with other cities in the country.

In addition to finding ways to ease the rising price trend, perhaps the Beijing municipal government should reconsider the appropriateness of promoting homeownership as its policy priority. It is likely that large proportions of the households cannot enter homeownership without substantial assistance. Many have to be satisfied with rental occupancy. More thoughts should therefore be given to the development of a viable rental market. These include enacting laws to properly delineate property rights so as to protect the rights of both the owner and the renters. Active promotion of the second hand market or market for old housing is another way to lower the PIR, as prices in the second hand market are lower than those in the primary or new housing market. The purchase and sales registration procedures for second hand housing should be simplified. In other words, the Beijing municipal authority should give due recognition of housing filtering as a way to satisfy the housing needs and homeownership desires of the low and middle income households. The proper functioning of a secondary market is also crucial for the development of a viable mortgage market.

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