

*Housing Improvement and Distribution in Urban China: Initial Evidence from China's 2000 Census**

Wang Feng

Abstract

China's 2000 census contains many innovative new components that can be used for examining recent social changes in China. Of particular importance are items related to housing, which represented no fewer than fifteen questions in the census questionnaires. In a sharp contrast to China's planned economy era, when the government was virtually the sole source of urban housing and when housing shortage prevailed, changing housing conditions in the 1990s illustrate important

WANG Feng is Associate Professor of Sociology at the University of California, Irvine. His research areas include social demographic studies of Chinese society, comparative historical demography, and social inequality. He is a co-author of *One Quarter of Humanity, Malthusian Mythology and Chinese Realities, 1700–2000* (Harvard University Press 1999; Chinese edition, Beijing: Sanlian shudian, 2000), and a co-editor of *Asian Population History* (Oxford University Press, 2001).

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improvement in the standard of living. Moreover, changing sources of housing and housing distribution reveal important features of a post-socialist social stratification regime, in terms of welfare redistribution and wealth accumulation. Relying on official Chinese statistics, this paper reports improvements in housing conditions and changes in housing-related expenditure for urban Chinese in the closing decades of the twentieth century. Relying on initial tabulations of the 2000 census, this paper also examines in a preliminary way the emerging pattern of urban economic inequality as seen in the distributions of housing conditions and housing ownership following recent reforms in public housing.

Introduction: Housing and the Study of Social Inequality

Over the past two decades, sweeping social changes have redefined the Chinese social landscape. With the abolition of the People's Commune system in rural China in the early 1980s and of job allocation in urban China in the late 1980s, reforms in China have fundamentally changed the structural basis that governed individual lives under the planned economy system. At the same time that millions of rural labourers started to move into urban centres to seek better economic opportunities and enhanced social status, urban residents have been moving away from a work organization-based employment and welfare provision system. All these structural changes have had profound impacts on the lives of Chinese citizens. Among the most profound social consequences of these structural changes is a rapid increase in social and economic inequality. In only a decade, from the mid-1980s to the mid-1990s, China moved from being one of the most egalitarian to one of the most unequal societies in the world in terms of income.¹

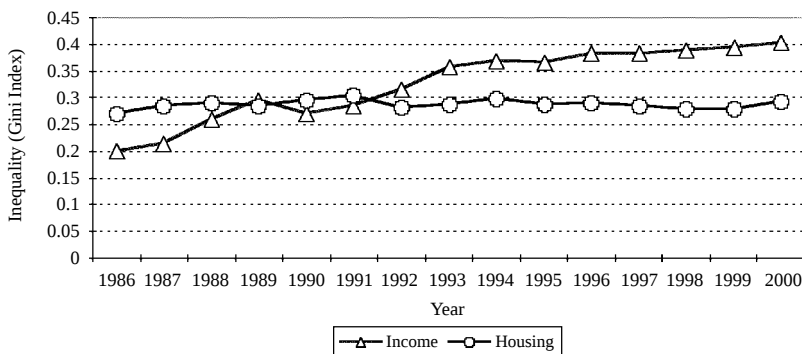
Perhaps even more than income, for Chinese residents in urban areas, changes in housing conditions and in the degree of housing inequality tell a vivid story of social change. This is the case because housing inequality to a certain extent was a more important form of economic inequality than income inequality in pre-reform urban China. Under the socialist planned economy, urban housing was not only an indicator of the standard of living (shelter), but also the most important social welfare item. Although monetary income is often the most common measure used in the examination of social and economic inequality, under a socialist redistributive system where a "low wage, but high welfare" policy was pursued, welfare provision, especially housing, was at least an equally important area in

which to examine the level and pattern of inequality.² Welfare provision constituted a major portion of the total economic compensation package both before and during the recent reforms. As recently as 1995, the National Bureau of Statistics of China estimated that the average welfare benefits received per urban employee was RMB3,304, equivalent to 70% of the average nominal annual income. Housing benefit was calculated at RMB1,960 per urban employee, accounting for 60% of the total welfare benefits, by far the most important item among all welfare provisions.³

Indeed, for urban Chinese residents, inequality in per capita housing space, measured by the standard Gini index of inequality, exceeded that in per capita income during the years of the socialist practice. As shown in Figure 1, which is based on data from the urban sectors of three provinces, it was not until the early 1990s, more than a decade into the Chinese economic reforms, that income inequality became higher than housing inequality. Both the discrepancies before and after 1990 defy common sense in economics, which would predict parallel trends between the two. The pre-1990 discrepancy between income and housing inequalities displays vividly a central feature of the socialist redistributive system of greater inequality in welfare provision than in nominal income, just as the slower pace of housing reform, coupled with the rapidly increasing income inequality, has resulted in the unexpected pattern of income inequality outpacing housing inequality in the 1990s.

It is therefore in housing that economic inequality generated by the

Figure 1: Divergent Paths in Housing and Income Inequality, Urban China, 1986–2000



Sources: Urban Household Income and Expenditure Survey data for the provinces of Guangdong, Sichuan, and Liaoning.

redistributive system can be most clearly seen. Studies of Eastern European cities under socialism revealed ample evidence of social stratification in housing allocation and occupancy.⁴ For China, the link between the redistributive economic regime and social inequality has been demonstrated not only by the fact that individuals with Communist Party membership, administrative positions, and better occupations received better housing provision,⁵ but also that employees of work organizations deemed more central to the economic system (higher rank, larger size, more important sector) enjoyed better housing.⁶

The importance of housing in a reforming socialist economy is further evidenced by the fact that the gap in the monetary value of housing benefit was greater than that in nominal income between officials and ordinary workers. As recently as the mid-1990s, a large-scale survey in China revealed that the average wage income for heads of public organizations was estimated to be 29% higher than that of the average technical worker, but the monetary value of housing benefits received by these heads of public organizations was 44% greater than that of the technical workers.⁷ Housing benefits received by those in the position of head of an organization would also make private entrepreneurs envious: their advantage was 57% higher.⁸ More tellingly, among the four ranks of officials and technical professionals stipulated by the state, government officials enjoyed more generous housing benefits than non-official professionals in every rank. The estimated housing benefit difference between high-level cadres (department or *si/ju* level) and senior professionals and scientists (who belong to the same government-stipulated rank) was 44%, between middle-level cadres (division chief or *chu* level) and middle-level professional and technical personnel it was 11%, and between low-level officials (branch or *ke* level) and low-level technical personnel, 5%.⁹

What is new and interesting in using housing to study social inequality in recent years also has to do with the emerging ownership regime of urban housing. Following urban housing reforms that are designed gradually to replace public housing provided by work organizations with privately owned housing, housing ownership is becoming the most important new form of private property for urban Chinese.¹⁰ For nearly three decades, from the 1950s to the 1980s, not only was there an acute housing shortage in urban China, private ownership also became a rarity.¹¹ When made possible by the ongoing housing reforms, the fever of private housing ownership among urban residents, like the thirst for land for Chinese peasants before the land reform in the 1940s and before de-collectivization

in the 1970s, has been revived with unprecedented intensity. Examinations of housing ownership can inform the progress of housing reforms in China by revealing differential ownership by geographic location as well as by the social positions of the household members.

There is a third reason to study housing as a source of social change in contemporary China. In urban China, a process of property redistribution has accompanied the process of replacing public housing with private housing.¹² Given the high value of housing relative to incomes in urban China, getting an apartment in a Chinese city is no doubt the single most important starting point for urban Chinese to start accumulating private property in post-reform China. Yet not all urban residents have received the same share, at least not the same share with the same cost.¹³ Existing studies have suggested that housing reform is also a partial reform in which the government and work organizations continue to play a major role.¹⁴ Housing reform, in other words, may well be one of the last acts of the socialist re-distributive regime. Who gets what at what price now not only tells much about the structure of economic and social inequality and the process of social transformation in China, but is also a starting point for future social and economic stratification.

China's 2000 census supplies timely data for examining this important aspect of social change in contemporary China.¹⁵ Among the many innovative new components of this census is the addition of housing-related items.¹⁶ Housing questions figured prominently in both the short and the long census forms. In the short form that was filled out by every household, every family household reported the number of rooms and the total (construction) area of its housing unit. In the long form, which was completed by 10% of the population, a large number of questions — fifteen — were devoted to housing. Housing questions included not only the simple ones which appeared in the short form, but also detailed questions on the use of the housing unit, the year built, the type, building materials, kitchen, toilet and water supply facilities, sources of housing, and cost. Together, these questions provide extremely rich information on a most important measure of the standard of living for contemporary Chinese and on the progress of housing reforms in China by the year 2000. Housing information contained in the 2000 census therefore is not only useful for commercial purposes of housing development, but also extremely valuable for studying social changes in contemporary China.

This paper is a preliminary attempt to use the rich census data to study housing as an outcome of social inequality. Relying on the Chinese 2000

census tabulations recently made available, I examine three indicators associated with housing inequality in urban China: housing occupancy distribution, housing ownership, and cost of attaining private housing ownership. Before such an examination, as a general background, I shall review briefly the changes in overall housing conditions in urban China in recent years, relying on published Chinese statistics. I will conclude this paper by proposing a number of future research possibilities when further census data are released.

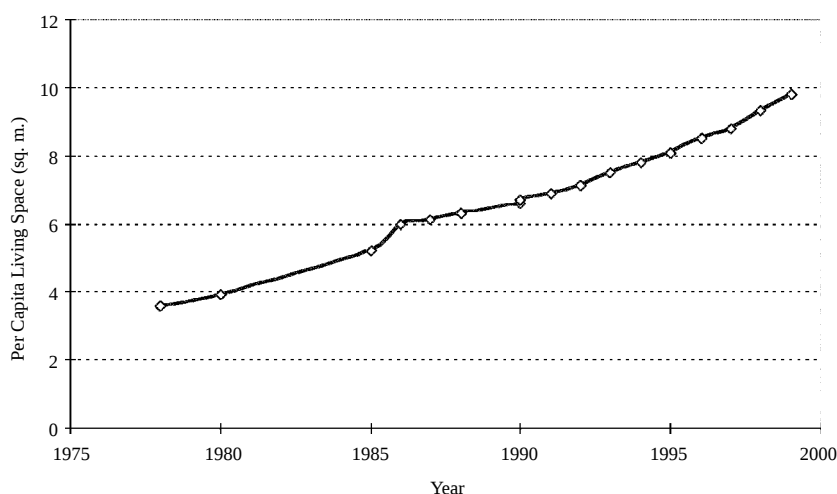
Changing Housing Conditions and Ownership

Prior to China's economic reforms starting in the late 1970s, for over two decades, the socialist industrialization drive under the planned economy system heavily favoured capital accumulation and neglected the consumption needs of the population, including housing construction. The state's developmental strategy allocated on average only 6.2% of total construction funds to urban housing prior to the end of the 1970s.¹⁷ Between 1949 and 1978, housing investment amounted to only 1.5% of Gross National Product (GNP) annually.¹⁸ As a result of such a developmental strategy, and following a population growth and urbanization process that more than doubled the size of China's urban population in less than 30 years, housing shortage became one of the most glaring problems associated with the planned economy model and also one of the most pressing concerns for urban residents.

Housing improvement represents one of the most important indicators of a higher living standard for urban Chinese in the past two decades. In 1978, most urban Chinese were living under extremely crowded conditions. Per capita living space in most Chinese cities was less than 5 square metres. Nationally, as shown in Figure 2, urban per capita living space was less than 4 square metres in 1978. In fact, between 1952 and 1978, per capita floor space in urban China declined, from 4.5 to 3.6 square metres.¹⁹ The shortage was especially acute in large cities such as Shanghai and Beijing.

A change in developmental policy in the 1980s led to a drastic increase in state-allocated funds for housing construction and an improvement in urban residents' housing conditions. Throughout the 1980s, housing construction funds made up around a quarter of total investment funds (gross fixed asset formation, GFAF), and reached 7% of GNP. On an annual basis, newly completed housing construction in the late 1980s was more

Figure 2: Per Capita Housing Space, Urban China, 1978–1999

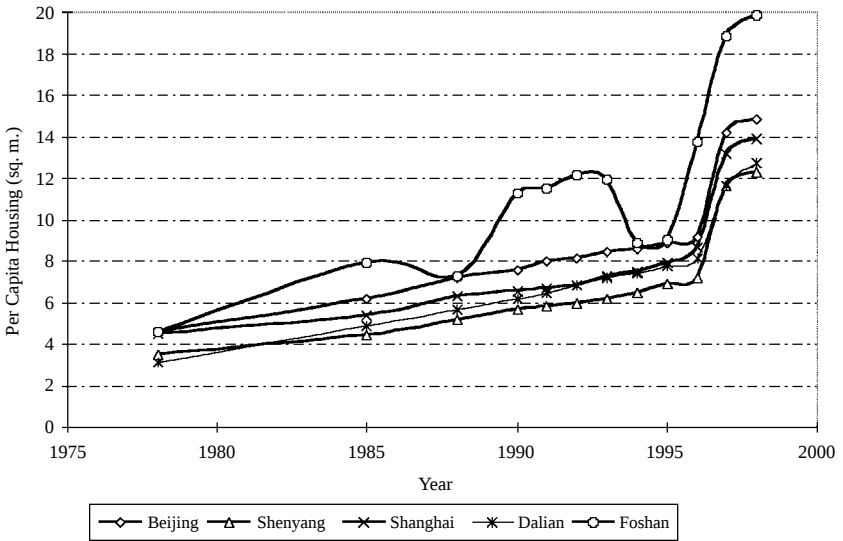


Source: *China's Statistical Yearbook 2000* (Beijing: China Statistics Press, 2000), p. 342.

than ten times that over the preceding decades.²⁰ By the end of the 1990s, following two decades of rapid economic growth and housing construction, per capita living space in urban China more than doubled, to almost 10 square metres per person.

Note that there are three different housing space measures used in Chinese statistics: living (*juzhu*) space, usable (*shiyong*) space, and construction (*jianzhu*) space. Living space refers to the space one sleeps in, the bedrooms. Usable space includes not only bedrooms but other usable space within a housing unit as well, such as living room, corridor, bathroom, and kitchen. Construction space includes common areas outside a housing unit (such as an apartment) but shared by residents in a complex (e.g., stairs, common corridors). Over time, the most common measure for housing has shifted from relying on living space to construction space. There are no published standards for conversion among the three, but the rule of thumb used by many is that living space is 75% of the usable space, and usable space is 75% of construction space. In other words, construction space is twice the living space.

The trend towards housing improvement shown above is also accompanied by local variations. Figure 3 gives a few examples to illustrate such variations. Cities that have experienced faster economic growth or greater

Figure 3: Trends in Housing Space, Selected Chinese Cities, 1978–1998

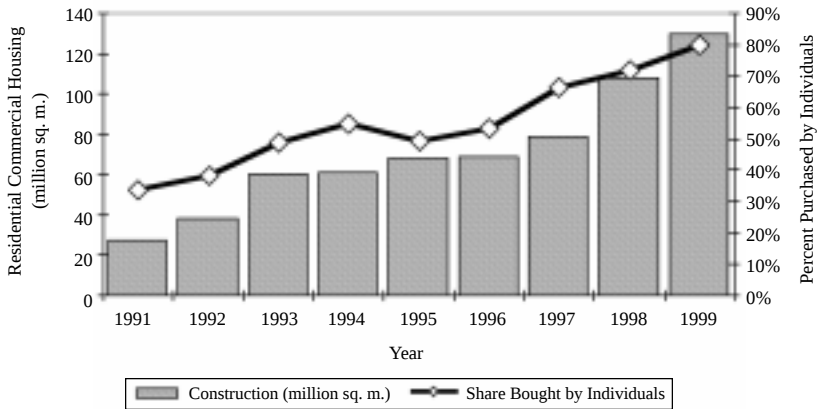
Source: National Bureau of Statistics of China, *Xin Zhongguo chengshi wushinian* (Cities during Five Decades of New China) (Beijing: Xinhua chubanshe, 1999), pp. 461–65.

government subsidies, such as Beijing and Shanghai, have also shown faster improvement in housing conditions, compared with those that have experienced slower economic growth (such as Shenyang). Smaller cities with fewer land shortages and land use restrictions, such as Foshan, also now have a larger per capita space. The sharp increase in 1997, however, largely reflected a change in the measure used for housing space. Before 1997, the measure used was living space (*juzhu mianji*), including only bedrooms. Starting from 1997, the official measure used was changed to usable space (*shiyong mianji*), including living room, kitchen, and bathroom space.

Along with the rapid expansion in living space, urban Chinese have also increasingly spent more of their increased incomes on housing-related items. In fact, housing expenditure is among the fastest growing expenditure items. Between 1985 and 1999, while the average overall urban household's expenditure (adjusted for inflation) doubled, expenditures on transportation and communication, out-of-pocket medical care, housing, and education/recreation saw a much more rapid three- or four-fold increase.²¹

As a result of these shifting spending priorities among urban Chinese households, while in 1985 housing represented only 5% of an urban

Figure 4: Growth of Commercial Housing Construction and Ownership, Urban China, 1991–1999



Source: China's Statistical Yearbook 2000, p. 342 (Beijing: China Statistics Press 2000)

household's expenditure, in 1999, it rose to 10% of the total household expenditure. In 1985, combined with household facilities, total expenditure on housing was 14%, ranking it after food and clothing. In 1999, combined with household facilities, housing represented 18% of total household expenditure, ranked second only to food. Real expenditure on housing should be much greater, as most of the savings of urban Chinese also went into purchasing housing units in recent years.

Important changes have also taken place in the sources of housing supply and housing ownership. In contrast to the planned economy era, when the government was virtually the sole investor who supplied most new housing in urban China, in the 1990s, commercial construction of residential units started an unprecedented boom. Between 1991 and 1999, annual construction of this type showed a nearly five-fold increase, from 27.45 million to 129.98 million square metres. Urban residents bought an increasingly large share of these new residential units built by commercial developers. As shown in Figure 4, which depicts trends in both commercial housing construction and private ownership of new housing units, the proportion purchased by individuals rose from about a third in 1991 to about half in 1995, and to 80% in 1999.²² Clearly, both non-government housing construction and private housing ownership have become the most prominent features of urban housing in China.

Distribution of Housing Conditions and Ownership: Evidence from the 2000 Census

Whereas the figures above, based on published statistics, help to give a general picture of housing improvement and changes in housing ownership, they are unable to address issues related to housing distribution, ownership, and cost, all of which are important for examining social and economic inequality. With the newly available 2000 census data, we can go beyond the overall housing improvement and examine housing as an outcome of social stratification. While more in-depth analysis requires the release of micro or household level data, available census tabulations already allow the investigation of several interesting issues. I will focus on three of them: first, after two decades of economic growth and housing improvement, what is the distribution of housing occupancy across different social strata in urban China? Second, how successful has the housing reform been? In other words, what is the composition of different sources of housing? Third, what has happened in the process of privatizing housing? Specifically, who has purchased housing units and at what cost?

Housing Conditions by Occupation

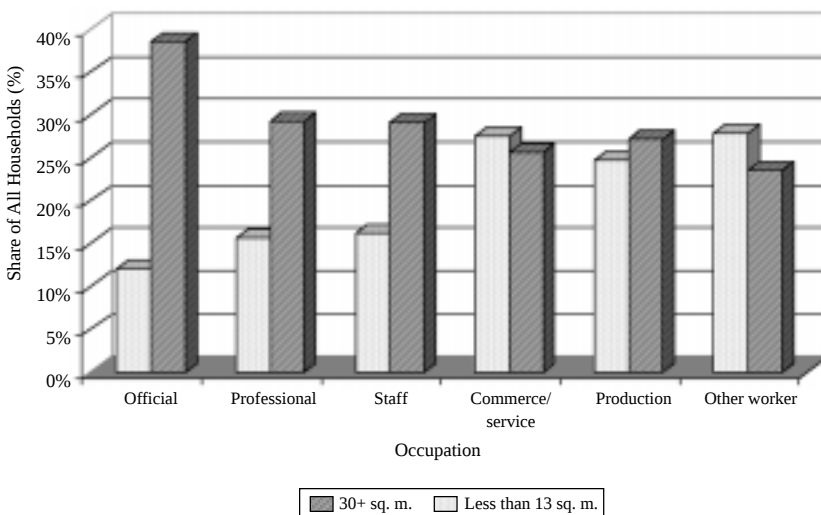
After decades of improvement, to what extent has the population benefited, and what differences in benefits have members of society experienced according to their social positions? The 2000 census report a per capita housing space in urban China, measured by construction space (not living space as used in Figure 2 or usable space, as in part of Figure 3), of 22.99 square metres,²³ a further increase of nearly 20% from 1995 when the per capita housing (construction) space was 19.19 square metres.²⁴ Translated into living space, in 2000, per capita living space in urban China exceeded 11 square metres, nearly tripling that in 1980.

There is a considerable variation in per capita housing space by occupation of the household head. For households headed by workers, per capita housing space was in the low twenties: 22.2 square metres for service workers, 21.6 for production and transportation workers, and 20.7 for workers not included in the above two categories. Households headed by government staff members, professionals, and officials all enjoyed more generous housing conditions: 26.7, 27.8 and 29.9, respectively.²⁵ Between the two extremes of the occupational ladder, per capita housing space differed by nearly 50%.

Another way to look at housing distribution by occupation is to compare the two extremes of housing conditions: the percentage of households with a per capita housing space of less than 13 square metres, and of more than 30 square metres (per person). The published census tabulation includes all households, not just urban households. To extract an approximate estimate of urban housing distribution, I have excluded agriculture-related occupations from the calculations. The comparison is shown in Figure 5.

There is a clear difference in these extreme housing conditions by occupational category. Among households with the head's occupation reported as a leader in the government, in the Communist Party, or of an enterprise, nearly 40% lived in relatively spacious housing units. Conversely, the proportion of households with relatively limited housing space is also the lowest among this group. In contrast to a relatively small occupational difference in having large per capita housing space, there is a more pronounced difference among those who fall into the cramped category, between households of ordinary urban employees and of high occupational categories. Compared with the category of government officials, of whom only about 10% were in the cramped housing category

Figure 5: Housing Space by Occupation of Household Head, Urban China, 2000



Source: Tabulation based on one-per-thousand sample of 2000 census data.

(of having per capita housing space of less than 13 square metres), between 25 and 30% of the service, production, and other workers lived in units that had less than 13 square metres per person. With an average household size of about three members, such a number implies that more than a quarter of workers' families were still crammed in apartments no larger than 40 square metres (construction space).

Housing Ownership by Education and Occupation of the Household Head

The ultimate goal of urban housing reform since the late 1970s is to transfer housing responsibilities as well as rights, in the form of ownership, from the hands of the government to individual households. Reaching such a goal has been a lengthy process. The urban public housing system that lasted for only about two decades before the reform took an almost equal length of time to dismantle. Beginning with experiments in building and selling newly constructed housing units to overseas Chinese in the early 1980s, the government gradually increased rents for publicly owned and managed housing, encouraged and facilitated private ownership, and most importantly, gradually phased out government-provided housing through work organizations. In 1998, not long before the 2000 census was taken, the government finally put an end to government allocated housing.²⁶

How successful has the housing reform been? By 2000, what proportion of urban households had left the public housing system and owned their housing units? Through what means have they done so? Who have been the first to own? Among the categories given in the 2000 census, there are two sources that are particularly relevant for urban China: housing purchased from previously occupied units belonging to work organizations, and housing purchased from commercial sources.

Results from the 2000 census reveal a rapid transition towards private housing. Table 1 gives the distribution of housing sources for urban Chinese households as reported in the 2000 census. Nearly three-quarters of all urban Chinese households now own their housing units. Of all urban households, 27% reported their housing units as self-built, and 46% had purchased their housing units. The remaining 28% mostly still rented, with the majority renting from public sources. The largest share of purchases comes from work organizations. Purchasing from work organizations constitutes 30% of all sources of housing, and 64% of all purchased housing.

Housing ownership and purchase also vary clearly along the lines of

Table 1: Source of Housing in Urban China, by Education of Household Head, 2000

Education of household head	Housing Source							N
	Self-built	Purchase-commercial	Purchase-economical	Purchase-work organization	Rent-public	Rent-commercial	Other	
Primary	46%	4%	4%	19%	14%	7%	5%	19833
Junior high school	31%	8%	6%	24%	17%	10%	5%	29700
Senior high/ Technical	15%	12%	8%	36%	19%	6%	4%	19823
University and above	4%	15%	10%	50%	15%	3%	4%	12195
Total	27%	9%	7%	30%	16%	7%	5%	81551

Source: Tabulation based on one-per-thousand sample of 2000 census data.

educational attainment and occupation of the household heads. Also shown in Table 1 is the distribution of housing sources by education of the household head. The most educated urban households are not only the most likely to own their housing, but also the most likely to have purchased their housing units from their work organizations. Among those with a university education, 75% had already purchased their housing units, with 50% bought from work organizations. In comparison, less than 40% of those with junior high school or lower education had purchased, with less than 25% bought from work organizations. Such a disparity in housing ownership and purchase is not simply because more educated urban residents are more willing and able to buy, but also because of their access to work organization housing, a fact that can be further examined with occupation data.

There is a clear demarcation in purchasing housing units from work organizations between those who work for government and public organizations and those whose occupations are workers or service personnel. Table 2 presents distribution of sources of housing by occupation of the household head. For government officials, professionals, and staff members of government organizations, between 40% and 50% now own their housing units because they have bought from their work organizations. The comparison for workers is less than half of this level. Also noticeable is the difference by occupation in purchasing commercial housing. Households with heads of higher occupational status are also more likely to buy from commercial sources than ordinary urban workers. Economic disparity between those associated with government organizations and ordinary

Table 2: Source of Housing in Urban China, by Occupation of Household Head, 2000

Occupation of household head	Housing Source							N
	Self-built	Purchase-commercial	Purchase-economical	Purchase-work organization	Rent-public	Rent-commercial	Other	
Official	15%	18%	9%	39%	11%	4%	3%	3865
Professional	8%	14%	11%	43%	16%	3%	4%	7320
Staff members	9%	15%	12%	48%	18%	4%	5%	6521
Commerce/service	20%	11%	6%	19%	18%	19%	7%	11057
Production worker	25%	8%	7%	26%	18%	11%	6%	18150
Other worker	29%	6%	7%	16%	19%	13%	10%	69
Total	19%	11%	8%	30%	17%	10%	5%	46982

Source: Tabulation based on one-per-thousand sample of 2000 census data.

workers is also shown in the distribution of rental sources. Not only are workers more likely to rent than government officials and staff members, they are also more than twice as likely to rent from commercial, rather than public, sources. Since commercial rental sources generally charge a higher rent than public sources, non-owner workers are also trapped into relatively high-rent housing.

Housing Cost by Education and Occupation of Household Head

How did the more educated and those with higher occupational status obtain not only more spacious housing, but more importantly, a higher percentage of ownership? Did they have to pay a high price? Census data allow us to have a preliminary look into this question as well. Table 3 provides some information on the price paid by urban households for their purchased housing units, by educational attainment of the household head. The cost of purchasing is broken down into categories ranging from under RMB10,000 to over half a million.

Overall, for those urban households who had purchased their housing units by the year 2000, most obtained them without paying a large sum of money: nearly 50% spent less than RMB20,000, and 70% less than RMB50,000. With the median annual income for urban employees standing at around RMB8,000 in 2000, such a price paid for housing ownership was only three to five times an employee's annual income.

Table 3: Price Paid for Purchasing Housing in Urban China, by Education of Household Head, 2000 (in 1,000 RMB)

Education of household head	Under 10	10 to 20	20 to 30	30 to 50	50 to 100	100 to 200	200 to 300	300 to 500	Over 500	N	"Average"
Primary	37.69%	23.08%	13.18%	11.62%	9.91%	3.50%	0.64%	0.29%	0.09%	14626	29.42
Junior high school	27.09%	25.21%	15.17%	14.49%	11.80%	4.62%	1.03%	0.40%	0.19%	20422	36.10
Senior high/Technical	19.82%	24.70%	15.76%	16.93%	14.88%	5.56%	1.40%	0.66%	0.29%	14149	43.20
University and above	10.94%	22.30%	16.83%	20.84%	18.04%	6.62%	2.30%	1.39%	0.74%	9601	56.74
Total	25.34%	24.08%	15.09%	15.40%	13.09%	4.89%	1.23%	0.60%	0.28%	58798	39.52

Source: Tabulation based on one-per-thousand sample of 2000 census data.

A small proportion of all urban households who purchased their housing units did pay more: about 7% paid more than RMB100,000. Many of these households who paid more were headed by more educated adults. If RMB50,000 is used as a demarcation mark, less than 15% of the households headed by primary school graduates paid that much or more. In comparison, among the highest educated households, twice as many, close to 30%, paid RMB50,000 or more. To make the comparison in terms of the price paid to achieve housing ownership easier, in Table 3 I also provide a column of numbers labelled the "average." These numbers are calculated by using the mid-point of each price category as the price, and the number of households in each category as a weight. The value used for the last category, over RMB500,000, is RMB750,000. These averages, in other words, are weighted averages based on grouped data. For all urban households included in the sample census data, the average price paid was close to RMB40,000. The difference between the least educated group and the most educated group was almost 1 to 2. Households headed by more educated adults paid more for their units, partly because their units are larger than those headed by less educated adults (the difference in space is roughly 50% between the two extremes), and partly because of the quality and location of the housing units they purchased, an important factor for housing price that needs to be analysed when more suitable (disaggregated) data are made available.

Similar to differences in the price paid for obtaining housing ownership

Table 4: Housing Purchase in Urban China, by Occupation of Household Head, 2000

Occupation of household head	Per cent purchased	Housing space (sq. m./person)	"Average cost" (in RMB1,000)	N
Official	66.6%	29.9	69.32	3155
Professional	67.7%	27.8	51.02	5568
Staff member	76.0%	26.7	50.95	4999
Commerce/Service	36.1%	22.2	50.89	6243
Production worker	40.4%	21.6	35.02	11880
Total	42.6%	24.7	42.18	31845

Source: Tabulation based on one-per-thousand sample of 2000 census data.

by education, the household head's occupation also makes a difference in terms of the cost of housing purchase. Such a difference, again, is due to both quantity, such as per capita living space, and more importantly quality of the housing unit, such as the quality of the building, facilities, and location. While comparisons taking quality into consideration still need to wait for more detailed census data and further in-depth analysis, we can now compare prices paid in relation to housing quantity, namely housing space per person. Table 4 shows such comparisons. In addition to the average cost, estimated in a similar way to that for results in Table 3, Table 4 also gives the share of ownership and quantity of housing by occupational status of the household heads.

Results in Table 4 suggest two types of urban household in terms of housing ownership and living conditions. By 2000, urban households more closely related to the government, namely those headed by government officials, professionals (many employed in public organizations), and staff members, clearly outpaced ordinary workers and service personnel in attaining housing ownership. While the first group had retained between 67% and 76% ownership, the second group had only about 40% or less. There is also a clear separation in the average per capita housing space, with the former at about 27 square metres or more, and the latter around 22.

The advantage in housing ownership enjoyed by urban Chinese households more closely associated with the government is best illustrated by a comparison between staff members and commerce/service workers. Among the former, who are more likely to be employed by the government and have access to government- or work organization-provided housing, the rate of housing ownership is more than twice that of the latter, who are less likely to have access to government-supplied housing. There is at the

same time a sharp difference between the two groups in terms of housing conditions, with the former not that much different from officials and professionals but substantially more than the workers. Yet, in terms of the price paid to establish private housing ownership, there is only a minute difference between households headed by staff members and those headed by commerce/service workers. These results not only confirm the expected occupational difference in housing conditions and housing ownership, but also reveal an important legacy of the socialist redistributive regime. Not only do households who are more closely related to the redistributive power under the socialist system continue to enjoy better housing, they have also benefited in the process of reforms by obtaining private ownership at a higher level, with better housing units, and often without paying a high price.

Conclusion: What More Can We Learn From the Census Data?

For urban Chinese, one of the most significant changes in their standard of living in the closing decades of the twentieth century was a drastic improvement in housing conditions. The socialist planned economy system in the decades preceding the Chinese economic reforms provided guarantees of basic livelihood necessities, such as employment, food, shelter, and basic medical care, but the system failed quite miserably in generating more output to support a sustained increase in the standard of living, such as in housing conditions. Crammed housing conditions for most urban Chinese, along with overt inequality in housing distribution, were among the most important sources of social dissatisfaction among the population at the time. Following the shift in the economic system and spectacular economic growth in the last two decades of the twentieth century, one of the first fruits enjoyed by urban Chinese was a drastic improvement in housing conditions. According to China's 2000 census, housing space for urban Chinese households reached 25 square metres per person by the year 2000. Such a number suggests a close to three-fold increase in housing space in two decades.²⁷

Not surprisingly, urban Chinese households are still differentiated in housing conditions by their social and economic status. Households headed by individuals with higher educational attainment and higher occupational status continue to enjoy better housing, both in terms of quantity and quality. In 2000, urban Chinese living in households headed

by government or Party officials enjoyed nearly 50% more living space per person compared with those living in households headed by ordinary workers. There are about three times as many worker-headed households as cadre-headed households remaining in cramped housing units.

What is more interesting is that, assisted by the 2000 census data, we can begin to learn about one of the most important social changes affecting urban Chinese, namely the beginning of private housing ownership. After decades of virtually universal public housing, and nearly two decades of often-painful housing reforms, by 2000, nearly three-quarters of urban Chinese households owned their housing units. Nearly half of all urban Chinese households obtained private ownership of their housing units by purchasing either from their work organizations or from commercial sources.

The process of housing privatization in China so far, as seen from the 2000 census data, also provides a few interesting glimpses into the nature of transitional Chinese society. Households headed by more educated individuals and in particular by individuals who are more closely related to the redistributive power, such as government officials and staff members, are also among the first to attain private ownership. They are able to achieve this largely because they have easier access to previously publicly-owned housing units. Moreover, such easy access also meant that, compared to ordinary workers, government officials and staff members did not need to pay very high prices to obtain their larger and better housing units. The transition towards private housing in urban China, therefore, clearly bears the imprint of the socialist redistributive system.

The persistent pattern of inequality in housing occupancy and an emerging pattern of housing ownership inequality at the end of the two-decade long urban housing reform in China reinforce our impressions and understanding of the socialist system that has been fading. At the same time, they also serve as important starting points for observing new levels as well as patterns of housing inequality in post-socialist urban China. With the end of public allocated housing and with the beginning of private housing ownership, housing inequality will soon follow the trend in income inequality. Housing inequality in capitalist market economies has been shown to be not only an important component of overall social and economic inequality, but also an important source for generating and reproducing urban poverty and crime. Two overt forms of extreme housing inequality can be seen in the presence of urban slums and homelessness around the world.²⁸ Will China be able to avoid these and other forms of rising housing inequality, and the consequences of such inequalities?

The findings summarized above are merely a beginning to what can be a much more fruitful and thorough exploration of a highly interesting and important subject. Housing occupancy and ownership differentials across different social strata shown in this paper are still only suggestive and crude. For instance, without controlling for educational differences, the occupational difference in housing shown in this paper actually contains both occupational and educational effects, because more educated individuals are also more likely to have higher-status occupations. With the availability of micro, or household level, data, models can be used to separate the effects of education and occupation, to answer questions such as what is the net advantage of occupation (e.g., housing, for instance, is also related to the life course of a household — with single or young couples starting with a smaller unit).

With newly collected census data on housing, a number of other important issues related to the topic of this paper can also be investigated. First of all, calculations of more direct measures of inequality will be made possible. In studies of income inequality, measures such as the Gini index are often calculated. Similar measures can be calculated for housing, such as concentration or inequality of per capita housing space. Unlike income that measures economic power directly, housing space is only one aspect of the overall housing condition (it does not measure location, quality of construction, or interior improvement). Measures can, however, be constructed to estimate the value of housing space, by utilizing relevant information for commercial housing value in the neighbourhood, for example. Information on the housing unit (year built, material, and facilities) can also be used to examine differences in quality of housing. Moreover, together with such information, more can be learned about the housing privatization process.

A salient feature of the rise in income inequality in urban China over the past decade and a half has been the rising importance of location. Decomposition of income inequality between 1986 and 1995 reveals that the share of inequality accounted for by inter-city inequality (vis-à-vis intra-city inequality) rose from 10% in 1986 to nearly 50% in 1993 and 1994.²⁹ Housing inequality across cities may not follow the same path, as housing costs tend to be much higher in larger cities, where income has risen more rapidly than in smaller cities but housing is also less affordable; however, it is nevertheless worthwhile to investigate whether regional disparities in housing have been emerging as well.

Another important dimension of social inequality in urban China is the

economic and social status of millions of rural migrants in Chinese cities. These migrants' housing conditions and ownership pattern not only reveal their economic status but also the likelihood of their integration into urban Chinese society.³⁰ Given that the census data contain information on both migration status and housing conditions, they can be used to analyse differences in housing between migrants and urban residents in different cities across China. In addition to the overall social patterns of inequality in income and housing, an interesting and important dimension of social inequality in China is an emerging pattern of residential segregation in urban China.³¹ With the assistance of GIS (geographic information systems) methodology, census data on housing (space, facilities, price, ownership, along with address information) can also be used to map out the new urban ecology in Chinese cities.

Notes

1. In the 1980s, around the time when China started to abandon its socialist planned economy system in its cities, China ranked near the bottom of the inequality scale among major regions of the world. China's Gini index, a commonly used measure of inequality (with 1 meaning highest inequality and 0 meaning total equality), was less than 0.3. It was lower than developing countries in other parts of the world, and it was also lower than developed countries combined as one group. By the mid-1990s, the Gini index of income inequality for China was estimated at 0.39 or higher, which ranks China third, after only Latin America/the Caribbean and Sub-Saharan Africa, in the worldwide ranking of income inequality (World Bank, *Sharing Rising Incomes: Disparities in China*. Washington, D.C.: The World Bank, 1997).
2. Ivan Szelényi, "Social Inequalities in State Socialist Redistributive Economies," *International Journal of Comparative Sociology*, Vol. 19 (1978), pp. 63–87; *Urban Inequalities under State Socialism* (Oxford: Oxford University Press, 1983). Yanjie Bian, *Work and Inequality in Urban China* (Albany: State University of New York Press, 1994).
3. Wang Lina and Wei Zhong, "Chengshi zhuzai fuli guimo yu shouru fenpei" (Size of Urban Housing Welfare and Income Distribution), in *Zhongguo jumin shouru fenpei zaiyanjiu* (Re-analysis of China's Income Distribution), edited by Zhao Renwei, Li Shi, and Carl Riskin (Li Siqin) (Beijing: Zhongguo caizheng jingji chubanshe, 1999), pp. 534–55, fn. 1.
4. Szelényi, "Social Inequalities ..."; *Urban Inequalities ...* (Note 2).
5. Andrew G. Walder, "Economic Reform and Income Distribution in Tianjin, 1976–1986," in *Chinese Society on the Eve of Tiananmen: The Impact of Reform*, edited by Deborah Davis and Ezra Vogel (Cambridge: Harvard

- University Press, 1990), pp. 133–54. Deborah Davis, “Urban Households: Supplicants to a Socialist State,” in *Chinese Families in the Post-Mao Era*, edited by Deborah Davis and Stevan Harrell (Berkeley: University of California Press, 1993).
6. John R. Logan and Yanjie Bian, “Inequalities in Access to Community Resources in a Chinese City,” *Social Forces*, Vol. 72, No. 2 (1993), pp. 555–76. John R. Logan, Yanjie Bian, and Fuqin Bian, “Housing Inequality in Urban China in the 1990s,” *International Journal of Urban and Regional Research*, Vol. 23, No. 1 (1999), pp. 7–25.
 7. The monetary value of housing benefits was calculated as the sum of housing subsidy in monetary form and/or estimated rental income of privately owned housing. Wang and Wei (Note 3), p. 544.
 8. Calculated from Table 17-5 on page 544 of Wang and Wei (Note 3). The data came from a survey conducted by the authors and their colleagues at the Chinese Academy of Social Sciences. The survey included 607 individuals classified as the head of a public enterprise or a non-production (*shiyue*) organization, 3,166 individuals classified as technical workers, and 30 individuals classified as owners of private enterprises.
 9. Calculated from Table 17-6 on page 546 of Wang and Wei (Note 3). Within the administrative ranks, housing differential was also much greater than the nominal wage differential. The wage differential between high-level cadres and low-level cadres was merely 28% (RMB6,624 versus RMB5,158 in 1995), housing benefits however differed by 67% (RMB3,413 versus RMB2,041).
 10. See Deborah Davis and Hanlong Lu, “Property in Transition: Conflicts over Ownership in Post-socialist Shanghai,” in *AES/European Journal of Sociology*, Vol. 44, No. 1 (2003), pp. 77–99 for a fascinating account and analysis of the complexity and contentions in housing property transfers.
 11. In Shanghai, China’s largest city, the share of private housing dropped from 71% in 1950 to 32% in 1958 and further to 21% in 1990. In Tianjin, another large Chinese city, private housing was only 14% in 1990. For all large Chinese cities, the share of private housing circa 1990 was 24% (Logan, Bian, and Bian [Note 6], p. 11).
 12. See Wang Yaping and Alan Murie, *Housing Policy and Practice in China* (New York: Macmillan, 1999) and Deborah Davis, “From Welfare Benefit to Capitalized Asset: The Re-commodification of Residential Space in Urban China,” forthcoming in *Chinese Urban Housing Reform*, edited by Ray Forrest and James Lees (London: Routledge), for reviews and assessment of housing reforms.
 13. Davis (Note 12).
 14. Up to the mid-1990s, the most important change in housing was not privatization, but public housing expansion, with two-thirds of the urban population having moved into new public housing units (Davis [Note 12]). A

- study of housing development and distribution in the early 1990s by Min Zhou and John Logan of Zhongshan city, Guangdong province, led the authors to conclude that a disproportionate amount of housing remained redistributive goods, and that the housing market was controlled by local government and the work unit. Min Zhou and John Logan, "Market Transition and the Commodification of Housing in Urban China," *International Journal of Urban and Regional Research*, Vol. 20, (1996), pp. 400–21. Condensed version reprinted in *The New Chinese City: Globalization and Market Reform*, edited by John R. Logan (Oxford: Blackwell Publishers, 2002), pp. 137–52.
15. For a general introduction to China's 2000 census in English, including its many innovations compared with earlier censuses, see William R. Lively, "First Impressions from the 2000 Census of China," *Population and Development Review*, Vol. 27, No. 4 (2002), pp. 755–69.
 16. Questions on housing first appeared in the 1995 1% Population Sample Survey (National Population Sample Survey Office: *1995 Quanguo 1% renkou chouyang diaocha ziliao* [Data from the 1995 National 1% Population Sample Survey] [Beijing: Zhongguo tongji chubanshe, 1997]). Questions related to housing contained in that survey included construction space, number of bedrooms, kitchen and toilet facilities, fuel and water sources, type of housing, and year of construction. I am indebted to Dr. Yat-ming Siu for pointing out this source to me.
 17. Yok-Shiu F. Lee, "The Urban Housing Problem in China," *The China Quarterly*, Vol. 115, No. 3 (1988), pp. 387–407.
 18. World Bank, *China: Implementation Options for Urban Housing Reform* (Washington, D.C.: World Bank, 1992), p. 1.
 19. National Bureau of Statistics of China (NBS, formerly State Statistical Bureau), *Statistical Yearbook of China 2000* (Beijing: China Statistics Press, 2000), p. 342.
 20. World Bank (Note 18), pp. 2–3.
 21. Average yearly urban household expenditure, unadjusted for inflation, increased from RMB673 in 1985 to RMB4,544 in 1999, a nearly six-fold increase. Adjusted for inflation, which often ran at double-digits before the mid-1990s, real expenditure increased from RMB673 to 1,298 (expenditure data are drawn from NBS [Note 19], p. 313, and inflation data drawn from NBS [Note 19], p. 290).
 22. Source: NBS [Note 19], p. 225.
 23. Table 1-14c in *Tabulation on the 2000 Population Census of the People's Republic of China* (Beijing: China Statistics Press, 2002).
 24. 1995 1% Population Sample Survey [Note 16], p. 620.
 25. These and the numbers below on housing distribution and ownership are based on tabulations of a one-per-thousand sample of the 2000 Chinese census data.
 26. See literature cited in Note 12 for reviews of Chinese urban housing reforms.

27. This is to use 4.5 square metres per person in 1978 and to inflate this number by a factor of 2 (assuming 50% of construction space is living space, which gives a per capita housing space (not living space) in 1978 of about 9 square metres per person.
28. The literature on urban housing inequality, including homelessness, in capitalized market economies is enormous and diverse, and a review of it would exceed the scope of this paper. Two works, by no means representative of this large literature, can serve as examples here. See *Critical Perspectives on Housing*, edited by Rachel G. Grant, Chester Hartman, and Ann Meyerson (Philadelphia: Temple University Press, 1986) for a collection of essays on the workings of the private housing market, the role of government intervention, and strategies for change, mostly in the US, *Making Room, The Economics of Homelessness*, by Brendan O'Flaherty (Cambridge, MA: Harvard University Press 1996), for an analysis of the homelessness phenomenon. I am indebted to David Snow for suggesting these books to me.
29. Wang Feng and Wang Tianfu, "Boundaries and Categories: Urban Income Inequality in China, 1986–1995," paper presented at the American Sociological Association Annual Meeting, Anaheim 2001.
30. Two studies of Shanghai are Wang Feng, Zuo Xuejin, and Danching Ruan, "Rural Migrants in Shanghai: Living under the Shadow of Socialism," *International Migration Review*, Vol. 36, No. 2 (2002), pp. 520–45, and Weiping Wu, "Temporary Migrants in Shanghai: Housing and Settlement Patterns," in Logan (ed.) (Note 14), pp. 212–26.
31. Migrant enclaves have already become part of the city scene in China. Migrant "villages" in large cities, consisting of migrants from Zhejiang, Henan, Anhui, and Fujian, are widely known and have been the locations for many studies. In Beijing there are said to be over 100 migrant enclaves and in Shanghai, no fewer than a dozen migrant enclaves have been identified. See, for example, Fan Jie and Wolfgang Taubmann, "Migrant Enclaves in Large Chinese Cities," and Chaolin Gu and Haiyong Liu, "Social Polarization and Segregation in Beijing," both in Logan (ed.) (Note 14), pp. 183–97 and pp. 198–211.