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Housing Reform in Urban China

by

Jeffrey Zax*

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* Professor, Department of Economics, University of Colorado at Boulder
Abstract

Two decades of China's urban housing reform has produced significant quantitative and qualitative improvements. Despite various policies aimed to promote owner-occupied residential housing, the extent of commodification has been limited, and, in particular, most ownership transactions are independent of market considerations. This paper analyzes the reasons why significant commercial owner-occupancy has failed to materialize. On the one hand, the multiplicity of prices fails to reflect real market prices. On the other hand, flawed planning (which led to inappropriate real estate development) and extra charges have pushed most housing costs well beyond the reach of ordinary Chinese people. Although work units have gradually replaced the government as the dominant provider of urban housing, the implicit subsidies to employees of governments, and urban work units further complicate the question of who has actually "paid" for Chinese urban housing. This paper explores the related institutional reforms in the areas of land allocation and pricing, property rights, mortgage financing, informal housing and property taxation, which must accompany successful housing reform. The paper concludes by advocating an alternative agenda of housing commodification.

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I. INTRODUCTION

April 2000 marks the approximate twentieth anniversary of housing reform in China. Twenty years prior, a speech by Deng Xiaoping initiated the discussion of alternative organizational approaches to the socialized provision of urban Chinese housing. The intervening years have seen experimentation in individual urban areas, a substantial expenditure of energy on the part of national policy-making bodies, and remarkable levels of housing production. This paper reviews the history of urban housing policy reform in section II. Section III offers original evidence regarding changes in the quality of the urban Chinese housing stock, and the extent to which that stock has become commodified.

At the same time, the government has remained the owner of most urban housing, government housing expenditures have continued to increase, and unacceptable housing conditions remain unacceptably common. Construction costs have exceeded any conceivable notion of affordability throughout the reform period. Moreover, policy seems to be driven by a mistaken commitment to quantitative housing goals, the false impression that urban housing is “scarce,” and the unsupported belief that “subsidized” occupants should “pay” for ownership rights.

The fourth section of this paper analyzes the reasons why significant commercial owner-occupancy has failed to materialize. Section V considers levels of urban housing investment from an economic perspective. Section VI discusses potential policies for the conversion of the urban housing stock to private ownership.

These issues have been foremost in policy discussions. However, reform will have to confront several others as it evolves. Section VII explores land allocation and pricing, property rights, mortgage financing, informal housing and property taxation, and identifies areas where reforms might be beneficial. Section VIII concludes.

II. THE EVOLUTION OF URBAN HOUSING AND URBAN HOUSING REFORM

Urban Chinese housing reform has already been the subject of a large literature. This section summarizes the experience of the past 20 years, as reflected therein. Most of the material here appears in several or even many of the referenced articles. Many of the citations therefore indicate representative rather than unique discussions.

A. The urban Chinese housing stock

The physical characteristics of the urban Chinese housing stock are, for the most part, undocumented (Hamer and van Steekelemburg, 1999, 97). However, estimates of urban floor areas omitting "corridors,
kitchens, toilets or bathrooms" (Dwyer, 1986, 484) are plentiful. This measure, labeled "living space", yielded approximately 6.25m² per urban resident with the advent of the People's Republic in 1949.

However, it apparently declined to as low as 3m² during the next decade (Dwyer, 1986, 484). It recovered only to 4.2m² per capita by 1978 (Wang, 1991, 104). Moreover, housing conditions varied dramatically despite nominal commitments to equity in allocations (Dwyer, 1986, 484). At this point, "(t)he extreme shortage of residential accommodations in China's cities [had] already reached crisis proportions and [was] widely acknowledged by Chinese citizens to be one of the most explosive social issues facing their society today." (Lalkaka, 1984, 64; see also Taubman, 1984, 188 and Lee, 1988, 387-391).

The perception of shortage was unquestionably fueled by the prevailing regime for urban housing finance. Rents for urban housing were negligible (Lee, 1988, 390-393), both to support the conception of housing as a welfare good (Lalkaka, 1984, 70) and to enable the low wages which formed the foundation of the urban labor-management regime (Chen and Gao, 1993b, 123 and Zhou and Logan, 1996, 418). At these rent levels, excess demand was inevitable.

Regardless, expressions of excess demand were interpreted as indications that the aggregate quantity supplied was actually deficient, rather than that the rationing mechanism had failed. This created enormous pressure for increased government investment in urban housing (Taubman, 1984, 202-3). In consequence, explicit government expenditures implied nominal subsidies of 49.64 yuan per worker in 1978, the equivalent of 6.69% of the value of average total worker compensation (Wang, 1991, 112-3).

Noteworthy increases in housing supply occurred during the ensuing years. As a consequence of massive government expenditures, reported per capita living space attained levels of 5.2m² in 1985, 6.7m² in 1990 and 8.1m² in 1995 (State Statistical Bureau, 1996, Table 9-1).

However, the perception of shortage remained largely unaffected (Gu and Colwell, 1997, 133). Derisory rents continued to encourage exaggerated housing demands. In the mid-1980s, actual rents comprised barely one percent of urban household expenditures (Tong and Hays, 1996, 634-6) and "6.5 per cent of the full-cost rent" (Chiu, 1996b, 562).

Consequently, the role of subsidies in urban housing finance was, if anything, expanded. As recently as 1997, "nearly 80% of the [urban] population was living in state-owned housing" (Hui and Wong, 1999, 141). The attendant annual housing subsidy grew to 428.93 yuan per urban worker in 1988, or 15% of worker compensation (Wang, 1991, 112-3). It rose to 1,960 yuan per urban household, or "59.6% of households' total welfare subsidization" in 1997 (Hui and Wong, 1999, 141).

Nevertheless, inequities apparently became more pronounced. In 1986, 18% of urban residents had fewer than 4m² of living space (Tong and Hays, 1996, 628-9). The World Bank (1992, 12) reported this
proportion to be 30%. "(I)n spite of increasing average space, the number of households facing difficulties increased, from approximately one-fourth in 1985-1986 to one-third of the total in 1991" (Tong and Hays, 1996, 629).¹

B. The evolution of housing reform

Rural housing in China has, for the most part, been financed by individual households. Chinese housing reform is therefore an urban process (Wang, 1991, 103). It was originally motivated by the perception that urban housing was in short supply, and that much of what was available was substandard. It was further encouraged by anticipations that population growth would exacerbate these conditions, and that future government resources would be insufficient to ameliorate them (Fong, 1989a, 33 and Chaichian, 1991, 138).

Reform became a national issue with Deng’s April 1980 address, in which he advocated private ownership through sales of state-owned housing and private housing production, increased rents with compensating wage increases for low-paid workers, and profit-oriented state housing production (Barlow and Renaud, 1989, 82 and Tong and Hays, 1996, 638-9). This address both initiated the reform process and, intentionally or not, identified all of the policy options that have been raised since.

Subsidized housing sales, the first option to be tested, actually began slightly before Deng's speech and remained the principle reform policy through 1985 (Shaw, 1997, 203). A number of experimental subsidy programs arose with variations in payment terms, the extents and sources of subsidies (Zhou and Logan, 1996, 407). The most celebrated of these required equal payments from the buyer, the buyer's work unit and the government (Wang and Murie, 1996, 975). These experiments failed to generate general enthusiasm for housing purchase. Subsidies were huge, subsidized purchase prices remained far in excess of resources for most families, and far in excess of the subsidized rents that characterized the alternative source of housing provision (Barlow and Renaud, 1989, 83 and Tong and Hays, 1996, 640).

Marked by the State Council's creation of the Housing Reform Steering Group in February 1986 (Wang and Murie, 1996, 976), reform emphasis shifted to reductions in rent subsidies with accompanying wage increases (Shaw, 1997, 203).² This emphasis was relatively short-lived. Wage changes mandated by

¹ “Families with housing difficulties” consist of homeless families and those with more than two generations or more than one family in the same dwelling unit. Pudney and Wang (1995, 149) conclude that “public housing is not the powerful egalitarian influence that is often assumed”.

² In practice, these experiments had contradictory equity intentions. According to Barlow and Renaud (1989, 84) “Housing should no longer be allocated according to rank, but rents should be higher for apartments of more space”. At the same time, “(s)ubsidies should reflect the
housing reform conflicted with the wage requirements of the prevailing labor management system.


Subsequent reform initiatives have continued to explore strategies to increase the owner-occupied share of urban housing and to increase rental payments in the remainder. The second national housing reform conference in 1991 "confirmed earlier objectives and policies (Tong and Hays, 1996, 641). However, it also attempted to bring an end to the pattern of sporadic experimentation by issuing a resolution that "required all urban authorities to carry out housing reform" (Wang and Murie, 1996, 980).3

The national scope of urban housing reform was reaffirmed by its inclusion in the Ten-Year Scheme of Economic and Social Development (1991-2000) and the eighth Five-Year Plan (1991-1995) (Shaw, 1997, 206). "The ultimate goal was to ensure that all households have their own housing" (Shaw, 1997, 206, quoting the Leading Group for Housing Reform, 1993). The principal mode of possession was to be ownership (Hui and Wong, 1997, 141). According to the State Council's 'Opinions Concerning an All-Around Promotion of Housing Reforms in Cities and Towns' of 1991, this was to be achieved by encouraging through policy and subsidy the purchase of older publically-owned housing units by their current tenants, and the sale of new units to members of the sponsoring work units (Bian, Logan, Lu, Pan and Guan, 1997, 241).

In 1994, additional policies stipulated three-part pricing for housing based on purchaser incomes. Market prices were to be required for buyers with high incomes or purchasing units above state standards for space. Subsidies were to be targeted toward owner-aspirants with lower incomes (Tong and Hays, 1996, 649-650 and Wang and Murie, 1996, 983-984). At the same time, the central government issued several documents warning against excessive subsidies (Wang and Murie, 1996, 981-2). Moreover, subsidized purchasers were to receive only limited resale rights, in part to prevent arbitrage between the subsidized and unsubsidized markets (Hamer and van Steekelenburg, 1999, 93).

As an additional spur to ownership, the Chinese government introduced forced savings programs for housing purchase in 1991. In general, these savings were to consist of parallel mandatory contributions of wage of the employee; those with higher wages should receive a higher subsidy”.

3 Local governments have had considerable autonomy in the implementation of national reform policies (Dowall, 1993, 182; Tong and Hays, 1996, 653 and Zhou and Logan, 1996, 410).
five percent of wages from both the worker and the work unit (Bian, Logan, Lu, Pan and Guan, 1997, 241). In some work units total contributions amounted to 25% of wages (Cheung and Nadelson, 1991, 42).

The consistent theme in rent reforms has been to reduce the accounting deficit between rents and costs (Wang, 1991, 106). The first step in achieving this was to set rents to cover continuing costs of operating dwelling units (Bian, Logan, Lu, Pan and Guan, 1997, 241 and Shaw, 1997, 205). Subsequent rent increases are to cover financial obligations as well (Bian, Logan, Lu, Pan and Guan, 1997, 241). At this point, originally scheduled to occur in 2000, rents were expected to consume approximately 15% of household income (Wang and Murie, 1996, 986 and Lai, 1998, 237). Eventually, they are to cover all economic costs including profit (Bian, Logan, Lu, Pan and Guan, 1997, 241).

The reforms of 1991 also envisioned the creation of new "economic entities" for the purpose of managing residential real estate (Bian, Logan, Lu, Pan and Guan, 1997, 241). What became "real estate development corporations" were to relieve work units of their responsibilities regarding the management of worker dwelling units (Dowall, 1993, 191; Soileau, 1995, 361 and Chiu, 1996b, 564-5) and to introduce elements of market discipline to the housing sector (Wu, 1996, 1613). Initially, they were merely additional manifestations of the government, but recently their activities have become more commercial (Lai, 1998, 235).

Lastly, reform initiatives have tentatively addressed the question of private housing finance. The People's Construction Bank of China no longer has a monopoly in the mortgage market. Moreover, the possibility of profit has begun to attract commercial financing from other banks, private domestic and foreign investors, and the ubiquitous work units (Lai, 1998, 236).

C. The goals of housing reform
Despite the energies devoted to housing reform, ultimate goals remain somewhat opaque. Clearly, "commoditization" is among them (Dowall, 1993, 182; Tong and Hays, 1996, 641 and Lai, 1998, 233). This implies some movement away from subsidies and towards "economic", and even "market" pricing (Tong and Hays, 1996, 642). Whether this is an ideological imperative in its own right, or simply a tactic designed to relieve the government and work units of what they feel to be onerous housing responsibilities (Tong and Hays, 1996, 642) and transfer these responsibilities to occupants (Cheung and Nadelson, 1991, 40) is an open question.

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4 There is some definitional ambiguity. As examples, maintenance, management and depreciation comprise “standard costs” in Bian, Logan, Lu, Pan and Guan (1997, 241). They define standard costs plus mortgage interest and property tax payments as the “semicommodity” level of rents. However, Shaw (1997, 205) includes all five cost items in “standard rent”. 
Equity is also a concern (Fong, 1989b, 36 and Tong and Hays, 1996, 641). In an ideologically striking reversal, commoditized allocation systems have apparently come to be regarded as better guarantors of equity than those of the work units. The latter have failed even the rudimentary test of horizontal equity, providing roughly similar treatment for similar households. More concretely, subsidies are to be targeted more precisely on the needy (Tong and Hays, 1996, 641-2).

Lastly, the Chinese urban housing system vigorously pursues quantitative targets. Regardless of the commitment to decentralization implicit in the goal of commoditization, the government originally set a goal of approximately 8m² of living space per urban resident by 2000 (Song, 1992, 214). This was accomplished ahead of schedule (Hamer and van Steekelenberg, 1999, 93), tellingly, the only reform goal to achieve that distinction. As of the Ninth Five Year Plan, beginning in 1996, the goal for 2000 was increased to 9m² (Song, Chu and Cao, 1999, 542).

III. SOME EVIDENCE REGARDING RECENT CHANGES

This section draws its analysis from the two urban waves of the China Household Income Project (CHIP) surveys, recording household and housing characteristics in 1988 and 1995. The first covered 8,996 urban households in ten provinces: Anhui, Beijing, Gansu, Guangdong, Henan, Hubei, Jiangsu, Liaoning, Shanxi and Yunnan. The second survey covered 6,080 households located in the same ten provinces of the first survey.

A. Structural housing conditions

As measured in the CHIP data, many structural aspects of urban Chinese housing improved between 1988 and 1995. Consistent with the aggregate evidence of section II, table 1 reports that average total housing area increased by almost 17%. As a consequence of declining household size, square meters per household member increased by even more, 31.2%. Assuming that each square meter of total housing area

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5 This survey is described in Khan, Griffin, Riskin and Zhao (1992). It was funded by the Ford Foundation, and conducted with extraordinary care under difficult circumstances by economists at the Institute of Economics, Chinese Academy of Social Sciences, led by Zhao Renwai and Li Shi. Western economists led by Keith Griffin and Carl Riskin assisted. This survey and the rural companion survey are available from the Inter-University Consortium for Political and Social Research as data set 9836.

6 The second wave of the CHIP surveys also included Sichuan province, omitted from this analysis. It was funded by the Ford Foundation and the Asia Development Bank, and conducted under the primary supervision of Li Shi and Carl Riskin. It has not yet been released to the public.
corresponds to .75m² of living area (Tolley, 1989, 11), living area per person exceeded government standards in both years.

Table 1

Dwelling unit size in 1988 and 1995

<table>
<thead>
<tr>
<th>Households reporting area</th>
<th>1988</th>
<th>1995</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8926</td>
<td>6073</td>
<td></td>
</tr>
<tr>
<td>Average total household area (sq.m.)</td>
<td>41.4</td>
<td>48.5</td>
<td>16.9%</td>
</tr>
<tr>
<td>Standard deviation, total household area (sq.m.)</td>
<td>23.6</td>
<td>28.8</td>
<td>22.0%</td>
</tr>
<tr>
<td>Household area per household member (sq.m.)</td>
<td>12.3</td>
<td>16.2</td>
<td>31.2%</td>
</tr>
<tr>
<td>Standard deviation, household area per household member</td>
<td>7.48</td>
<td>11.3</td>
<td>50.8%</td>
</tr>
</tbody>
</table>

Table 2 demonstrates that Chinese urban dwelling units experienced impressive improvements along many other structural dimensions between 1988 and 1995. The proportions of dwelling units reporting no sanitary facilities or no means of heating both fell by approximately 11 percentage points. The proportion reporting no telephone fell by nearly 40 percentage points. Lastly, the proportion relying on coal for heat fell by almost 30 percentage points, approximately equal to the increase in the proportion relying on some form of gas.7

B. Tenure

Table 3 makes evident that an enormous transformation in tenure occurred between 1988 and 1995.8 In the former year, less than one percent of all dwelling units had been purchased. In the latter, this subsector represented more than a quarter of all urban Chinese housing.

Nearly all of this increase was attributable to a corresponding reduction in the proportion of publicly-owned housing. However, inherited private housing also became less frequent. In addition, the

7 No noteworthy changes occurred in the proportions of dwelling units with kitchen or sanitary facilities. Conditions as revealed in table 2 were somewhat better than described in Tong and Hays (1996, 630).

8 Official sources apparently contain no information on this issue (Hamer and van Steekelenburg, 1999, 97).
private rental sector, already small in 1988, almost vanished by 1995.⁹

Table 2

Other housing characteristics in 1988 and 1995

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households reporting type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>of sanitary facilities</td>
<td>8950</td>
<td>6074</td>
</tr>
<tr>
<td>No sanitary facilities</td>
<td>36.3%</td>
<td>25.1%</td>
</tr>
<tr>
<td>Households reporting type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>of heating equipment</td>
<td>8955</td>
<td>6021</td>
</tr>
<tr>
<td>No means of heating</td>
<td>57.1%</td>
<td>46.5%</td>
</tr>
<tr>
<td>Households reporting type of fuel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>53.9%</td>
<td>24.5%</td>
</tr>
<tr>
<td>Bottled or piped gas</td>
<td>42.2%</td>
<td>69.0%</td>
</tr>
<tr>
<td>Households reporting availability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>of telephones</td>
<td>8849</td>
<td>6053</td>
</tr>
<tr>
<td>No telephone</td>
<td>96.6%</td>
<td>57.4%</td>
</tr>
</tbody>
</table>

Table 3

Tenure type in 1988 and 1995

<table>
<thead>
<tr>
<th>Tenure type</th>
<th>1988</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rental units:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Publicly-owned house</td>
<td>84.5</td>
<td>58.3</td>
</tr>
<tr>
<td>Public housing owned by work unit</td>
<td>-</td>
<td>46.9</td>
</tr>
<tr>
<td>Other public housing</td>
<td>-</td>
<td>11.5</td>
</tr>
<tr>
<td>Rented private house</td>
<td>1.71</td>
<td>.81</td>
</tr>
<tr>
<td>Owner-occupied units:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inherited old private house</td>
<td>6.84</td>
<td>4.34</td>
</tr>
<tr>
<td>Private house built by household</td>
<td>6.52</td>
<td>7.11</td>
</tr>
<tr>
<td>Private house bought since rent reform</td>
<td>.44</td>
<td>28.7</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>.72</td>
</tr>
</tbody>
</table>

⁹ Chen (1996, 1086) agrees that the private rental market is negligible. Table 3 indicates that approximately 40% of urban households were owner occupants of some sort in 1995. This is substantially greater than the estimated private ownership in 1991 of 30.2% in Chen (1996, table 2). Differences in years and geographic coverage may be partially responsible. In addition, Chen's estimate is apparently the ratio of estimated living area in private ownership to and in all urban housing.
Observations 8953 6080

Note: The 1988 survey combined both "public housing owned by work unit" and "other public housing" in the single category "publicly-owned housing". The 1988 survey did not include a category for "other".

In terms of reform, the increase in owner-occupancy is great progress. However, the scarcity of private rental dwellings is not. This subsector is potentially the most flexible source of housing supply. It often contains a broader variety of structure types than does the ownership sector, especially among those offering lower levels of housing services. It usually offers smaller transactions costs, as well. With restricted rental supply, labor market mobility will be substantially impeded.

C. Rental housing and housing reform
Table 4 presents average rent and subsidy measures for 1988 and 1995. Rents in 1988 are consistent with the general discussion of section I. On average, they represented less than one percent of household income. Furthermore, average housing subsidies exceeded average rents.

| Table 4 | Monthly rents and housing subsidies in 1988 and 1995 |
|---|---|---|---|---|---|---|---|
| | Publicly-owned | | Rented privately | | Owned privately | |
| Number | Average | Number | Average | Number | Average |
| Monthly rent Amount (yuan) | 7228 | 3.87 | 129 | 11.9 | 1235 | .268 |
| % of total household income | .807% | 2.55% | .074% |
| Sum of individual monthly housing subsidies (yuan) | 4979 | 6.71 | 93 | 7.58 | 718 | 6.60 |
| 1995: Total household income (yuan) | 2848 | 1230. | 696 | 1140. | 49 | 1113. |
| Monthly rent Amount (yuan) | 2850 | 27.3 | 697 | 25.5 | 49 | 64.2 |
| % of total household income | 2.67% | 2.86% | 7.24% |
| Sum of individual monthly housing subsidies (yuan) | 607 | 19.1 | 166 | 12.5 | 15 | 13.4 |
Consistent with the intent of reform, rents in 1995 were higher than in 1988 in both absolute terms and relative to income. Subsidy levels in 1995 were also greater, reflecting the policy of matching rent increases with wage supplements. The net changes between the two years were small: Households went from a small average surplus of subsidies over rents to a small average deficit.

### Table 5

**Actual and estimated market monthly rents in 1995**

<table>
<thead>
<tr>
<th></th>
<th>Owned by work unit</th>
<th>Other public housing</th>
<th>Rented privately</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual monthly rent:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of households reporting positive monthly rent</td>
<td>2598</td>
<td>652</td>
<td>44</td>
</tr>
<tr>
<td>Average monthly rent (yuan)</td>
<td>29.9</td>
<td>27.3</td>
<td>71.5</td>
</tr>
<tr>
<td>Estimated monthly market rent:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of households reporting positive monthly rent</td>
<td>2140</td>
<td>513</td>
<td>25</td>
</tr>
<tr>
<td>Average monthly rent (yuan)</td>
<td>385.</td>
<td>366.</td>
<td>203.</td>
</tr>
<tr>
<td>Standard deviation of monthly rent (yuan)</td>
<td>513.</td>
<td>445.</td>
<td>305.</td>
</tr>
<tr>
<td>Maximum monthly rent (yuan)</td>
<td>8000.</td>
<td>5000.</td>
<td>1500.</td>
</tr>
</tbody>
</table>

Note: Averages and standard deviations for estimated market rent omit observations reporting zero estimated rent.

Table 5 demonstrates that actual rents in 1995 were still far below estimated market rents. Average estimates of market rents among those renting publicly-owned housing were more than ten times average actual rents. Even in the private rental sector, where market forces might have been expected to be most effective, average expected market rents were nearly triple actual rents.10

10 The similarity of average estimated market rents in dwelling units owned by work units and by other public entities is somewhat surprising, given the presumption that “tenants of municipal housing have inferior conditions to tenants of state work-unit housing” (Wu (1996, 1621)). Average estimated market rents here exceed, by an order of magnitude, the imputations of Pudney and Wang (1995, table 4) for cities in Liaoning and Sichuan provinces. Clearly, the expectations of urban Chinese households in 1995 and the imputations of Pudney and Wang, based on a hedonic regression for housing in Cartgena, Columbia, differ dramatically. According to Wang and Murie (1996), the motivation behind rent reforms was to cover a greater proportion of housing supply costs, rather than necessarily to introduce complete market pricing. The discrepancy between actual rents and estimated market rents of table 5 may therefore not be
Across all three subsectors, 2,526 renters reported both positive current rents and positive expected market rents. This subsample confirms the above comparisons. On average, current rents in this subsample were 30.8 yuan per month. Average expected market rents were 386 yuan per month, or more than twelve times larger than average current rents. Among these households, 2,449, or 97.0% reported that their actual rents were less than expected market rents.

Differences between averages of this magnitude imply that market rates actually obtained in very few instances. Some semblance of market incentives might persist, however, if actual rates were roughly proportional to expected market rates. Table 6 demonstrates that, to the contrary, actual and estimated market rents were essentially unrelated.

**Table 6**

| Correlations between estimated market rents and actual rents in 1995 |
|-----------------|----------------|-----------------|
| Number          | Correlation    | p-value         |
| Public housing: |                |                 |
| Owned by work unit | 2018         | .0610           | .0061          |
| Other public housing | 486          | .0577           | .204           |
| Private rented house | 22           | -.0930          | .681           |

Note: Includes only observations with positive values for actual and expected market rents.

Approximately 80 percent of the 2,504 households in public housing tabulated in table 6 inhabited dwelling units owned by the work unit of some household member. Among them, the correlation between actual and expected market rents was .0610. This correlation is statistically significant because of the large sample, but is substantively negligible.

Among households in other public housing, the correlation between actual and expected market rents was .0577, again negligible and here insignificant. Lastly, 22 households in private rental housing also report actual and expected market rents. Among them, the correlation between the two was -.0930.

In sum, tables 5 and 6 demonstrate that the urban rental sector of 1995 was essentially unreformed. Most of this housing remained in government ownership. While rents had increased since 1988 more quickly than incomes, they barely exceeded subsidies and remained at a fraction of expected market rates. entirely inconsistent with reform objectives. Unfortunately, the surveys examined here do not provide any information about the supply cost of housing.
Furthermore, these expected rates were essentially uncorrelated with actual rent charges.

D. Owner-occupied housing and housing reform

Table 7 describes housing finance for the three subsectors of urban owner-occupants. That of purchased housing is the principal focus of housing reform. The evidence in table 7 suggests that reform has had few effects, apart from changes in nominal tenure status (Zhou and Logan, 1996, 415-6).

The purchased-housing subsector, at the very least, consists of households who have actually engaged in transactions. Of households in this subsector, 97.2% reported purchase prices and 97.5% reported the terms of their purchase. However, only 4.76% of these latter households claim to have paid the market price for their dwelling unit.11

Instead, 91.5% of these households purchased their dwelling units on preferential terms. Table 7 indicates the extent of these preferences. While average purchase prices were 10,556 yuan, average estimated market values were 44,603 yuan.

| Table 7 |
|-----------------|-----------------|-----------------|-----------------|
| **Housing finance for owner-occupied housing in 1995** |
|                  | Inherited private house | Self-built private house | Purchased private house |
| Number           | Number   | Number | Number | Number | Number | Number |
| Average          | Average  | Average | Average | Average | Average | Average |
| Market value (yuan) | 209      | 209    | 209    | 1451    | 1451    | 1451    |
| % of annual total household income | 368.%    | 368.%   | 527.%   | 527.%   | 305.%   | 305.%   |
| Housing debt (yuan) | 11       | 11     | 11     | 244     | 244     | 244     |
| % of annual total household income | 74.3%    | 74.3%   | 95.8%   | 95.8%   | 62.6%   | 62.6%   |
| Purchase price (yuan) | 8        | 8      | 8      | 1695    | 1695    | 1695    |
| % of annual total household income | 89.1%   | 89.1%  | 189.%  | 189.%  | 82.5%  | 82.5%   |
| Terms of house purchase | 30       | 30     | 30     | 1701    | 1701    | 1701    |

11 The 1995 survey contained a question which asked if “(t)he purchase price was: 1) market price, 2) preferential price, 3) other.” This result is consistent with the World Bank (1992, 29-30) and Zhou and Logan (1995, 418).
Note: Averages include only observations with positive values.

Comparisons among only the 1,439 households reporting both positive purchase prices and positive estimated market values for owned dwellings reinforce these inferences. Of them, 1,295, or 90.0% reported purchase prices below market values. On average, purchase prices in this subsample were 10,831 yuan. Average market values were 44,753 yuan, or slightly more than four times larger than average purchase prices.\(^\text{12}\)

Moreover, the correlation between purchase prices and estimated market values in this subsample, while significant at .01%, was only .189. As in the rental sector, estimated market values here were not only much greater than actual purchase prices, but were largely unrelated to them. This suggests that even in the subsector of purchased private housing, very few transactions actually took place under market-like conditions.

The concept of market value itself appears to be unclear to households owning purchased private housing. In principal, a dwelling unit’s estimated market value should be the capitalized value of its expected stream of future housing services. A competitive housing market should equate rents to the instantaneous value of this stream. The value of the capital in the housing unit and the value of the stream of services produced by that unit should therefore be closely related.

### Table 8

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Correlation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased private house</td>
<td>1332</td>
<td>.100</td>
<td>.0002</td>
</tr>
<tr>
<td>Purchased at preferential price</td>
<td>1219</td>
<td>.0802</td>
<td>.00051</td>
</tr>
<tr>
<td>Purchase at unreported terms</td>
<td>10</td>
<td>.567</td>
<td>.0877</td>
</tr>
<tr>
<td>Purchased at market price</td>
<td>64</td>
<td>.784</td>
<td>.0001</td>
</tr>
<tr>
<td>Purchased at other price</td>
<td>39</td>
<td>.553</td>
<td>.0003</td>
</tr>
<tr>
<td>Self-built private house</td>
<td>334</td>
<td>.693</td>
<td>.0001</td>
</tr>
<tr>
<td>Inherited old private house</td>
<td>194</td>
<td>.771</td>
<td>.0001</td>
</tr>
</tbody>
</table>

\(^{12}\) Wang and Murie (1996, 983) state that “(n)ew policies were introduced in 1994 to stop the sale of existing public-sector housing at low prices.” Table 7 demonstrates both that this policy was aimed at the vast majority of housing sales in urban China, and that, if implemented, it had not had time to make any noticeable impact by 1995. The standard sale price set by these policies of 31,752 yuan for an apartment of 56 square meters (Wang and Murie (1996, 984) was well above the average purchase prices in this table, though below estimated market prices.
According to table 8, 1,332 households with purchased private housing reported both an estimate of the capital value of their dwelling unit and an estimate of the market rent that their unit could command. These households represent 76.4% of those in this subsector. Among them, the correlation between these two estimates of market value is only .100, statistically significant but surprisingly low.\textsuperscript{13}

The source of this surprise is, perhaps, not a surprise. Of these 1,332 households, 1,219, or 91.5%, reported that they purchased their dwelling unit on preferential terms. The correlation between their estimates of market value and market rent was only .0802.

In other words, households that bought their dwelling units on preferential terms constituted the vast majority of Chinese urban owner-occupants in 1995. These households did not have any experience with true market conditions in housing transactions. Furthermore, they did not have a consistent understanding of what those conditions might entail. While these households were clearly outside the traditional government-owned housing sector, the preferential nature of their housing purchases implies that they were still within that part of the housing sector where administrative imperatives superceded market forces.\textsuperscript{14} In contrast, the households in every other owner-occupied subsector had expectations of market valuations that revealed much greater internal consistency.

The evidence here implies that the allocation of inherited and self-built homes may take place largely outside of government controls, and with reasonable understanding of how market forces operate. However, these subsectors cannot represent the future of owner-occupied housing reform. Under any effective reform, most ownership changes would take place through housing purchases. As of 1995, only a very small proportion of these transactions had taken place under anything like market conditions. Few participants in the remaining transactions were able to imagine what these conditions might mean.

\textbf{IV. WHY CAN'T CHINA SELL ITS URBAN HOUSING AT "MARKET" PRICES?}

\textsuperscript{13} The average ratio of estimated market value to estimated market monthly rents is 54.8. According to Chen (1996, table 3), if this ratio prevailed, owner-occupancy would be the preferred option for most households.

\textsuperscript{14} Among households that purchased their dwelling, 1,512 reported both purchase prices and estimated market rents. The correlation between these two is only .0563, with a p-value of .0287. Moreover, average purchase prices were only 18.5 times greater than average estimated market rents. Following Chen (1996, table 3), this implies that subsidized purchases would be an overwhelmingly dominant choice, in comparison to renting at market rates.
One of the most compelling results of the previous section is the virtually universal use of preferential prices among home purchasers. Two explanations are possible for the absence of almost any owner-occupancy at "market" prices. First, almost trivially, prices construed as representing "market" values may exceed what nearly all households are willing to pay. Second, subsidized owner-occupancy is so widely available that the unsubsidized alternative may only be attractive to those with housing demands well beyond what subsidized housing can provide.

There is evidence to suggest that both explanations may be valid. This section explores them in order. It concludes with a discussion of current policy initiatives aimed at improving the "affordability" of urban housing.

### A. What are "market" prices?

The comparison between housing prices and willingness-to-pay must first confront a bewildering array of possible "prices" (Zhou and Logan, 1996, 411). Under the prevailing multi-level subsidy scheme, different households can pay different prices for the same unit. The "standard price" is the most heavily-subsidized. It has evolved from "building costs and land compensation costs" (Wang and Murie, 1996, 978) to "three years' total salaries of a couple ... plus 80 per cent of housing savings" (Wang and Murie, 1996, 984). In its later incarnation, it is intended to be available only to the poorest potential purchasers.

Middle-income purchasers have recently become subject to a price that "should cover seven cost elements: the costs of land acquisition and compensation, pre-construction costs (survey, design), building, neighbourhood public facilities, management, interest on loans and tax" (Wang and Murie, 1996, 983).

Market prices apparently now apply to "units exceeding state space standards" which cover "all expenses, taxes, and profits for the transaction and the construction of the unit" (Tong and Hays, 1996, 649). They also appear to apply to "(h)igh-income families ... defined as those who can afford to purchase a two-bedroom apartment from the market on 5-6 times annual family income." (Wang and Murie, 1996, 983).

These definitions demonstrate two important points. First, price concepts have evolved over time. Whether price quotations from different historical times are comparable in any meaningful sense is an open question. Second, even the most recent reforms have left quoted prices partially dependent on purchaser preferences.

---

15 Zhou and Logan (1996, 410-1) describe examples of two additional, and more bizarre, pricing procedures. The first is “arbitrary pricing,” which “depends on policy rather than on the market.” The second is “comparative pricing,” where prices in “other market oriented economies in Chinese-speaking Asia, such as Hong Kong, Taiwan and Singapore, provide pricing standards.”
incomes.

A third point emphasizes, should that be necessary, the limitations of existing price information. As will be discussed in section VII.A, land use rights have often been conveyed at no or discounted prices. As "(s)ite values can average 25 to 50 percent of the cost of housing in cities throughout the world. ... The failure to include site values contributes to a serious mis-estimation of the cost of housing" (Tolley, 1989, 106-7).

In other words, the true economic cost of urban Chinese housing is revealed imperfectly, if at all, by any of the quoted prices. As discussed in section V, this poses a daunting challenge to any attempt to evaluate whether the Chinese economy allocates the appropriate level of resources to urban housing. However, urban Chinese incomes are also distorted, as discussed in sections I.A and VI.A. Therefore, the comparison of quoted prices to observed incomes is a reasonable way to simulate the immediate partial equilibrium problem of an individual household attempting to optimize their housing consumption.

B. Is urban housing affordable?
The existing literature on Chinese urban housing contains many references to housing costs and prices. The interpretations of these references are problematic, as virtually all sources ignore the ambiguities associated with these terms.16 Nevertheless, a review of these references is instructive. Among the earliest, Taubman (1984, 202) asserts that construction costs per square meter nearly trebled between 1957 and 1984, during the first wave of housing reform.

<table>
<thead>
<tr>
<th>Year of Estimate</th>
<th>Source</th>
<th>Estimated cost per square meter (yuan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>Badcock (1986, 167)</td>
<td>89</td>
</tr>
<tr>
<td>1980</td>
<td>Lalkaka (1984, 71)</td>
<td>113</td>
</tr>
<tr>
<td>1981</td>
<td>Lalkaka (1984, 71)</td>
<td>128</td>
</tr>
<tr>
<td>1981</td>
<td>Lalkaka (1984, 71)</td>
<td>100-170</td>
</tr>
<tr>
<td>1981</td>
<td>Song, Chu and Cao (1999, 546)</td>
<td>150</td>
</tr>
<tr>
<td>1984</td>
<td>Badcock (1986, 167)</td>
<td>160</td>
</tr>
<tr>
<td>1985</td>
<td>Tolley (1989, 11)</td>
<td>200</td>
</tr>
<tr>
<td>1987</td>
<td>Kim (1987, 222)</td>
<td>300</td>
</tr>
</tbody>
</table>

---

16 Additionally, few if any references identify whether square meter costs apply to total area, living area or some other definition of dwelling unit space.
Table 9 demonstrates that estimates of construction costs per square meter have increased continually throughout the reform period. They doubled between 1978 and 1989, and perhaps doubled again through 1994.

Table 10 demonstrates that subsidized sales prices have, if anything, increased even more rapidly. However, "market" prices for commodity housing appear to have outstripped both subsidized prices and construction costs. They may have increased by a factor of four during the decade of the 1990s alone.

### Table 10

#### Estimates of subsidized and market housing sale prices

**Prices of subsidized housing:**

<table>
<thead>
<tr>
<th>Approximate Year of Estimate</th>
<th>Source</th>
<th>Estimated cost per square meter (yuan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>Bian, Logan, Lu, Pan and Guan (1997, 240)</td>
<td>250</td>
</tr>
<tr>
<td>1992</td>
<td>World Bank (1992, 73)</td>
<td>521-800</td>
</tr>
<tr>
<td>1998</td>
<td>Hui and Wong (1999, 147)</td>
<td>3000-3500</td>
</tr>
</tbody>
</table>

**Market prices of commodity housing:**

<table>
<thead>
<tr>
<th>Approximate Year of Estimate</th>
<th>Source</th>
<th>Estimated cost per square (yuan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>Chaichian (1991, 134)</td>
<td>1000</td>
</tr>
<tr>
<td>1991</td>
<td>Chen (1996, 1084)</td>
<td>1500</td>
</tr>
<tr>
<td>1991</td>
<td>Tong and Hays (1996, 649)</td>
<td>3000</td>
</tr>
<tr>
<td>1994</td>
<td>Wang and Murie (1996, 984)</td>
<td>3000-6000</td>
</tr>
<tr>
<td>1995</td>
<td>Song, Chu and Cao (1999, 546)</td>
<td>1710</td>
</tr>
<tr>
<td>1995</td>
<td>Leaf (1995, 153)</td>
<td>7000</td>
</tr>
<tr>
<td>1998</td>
<td>Hui and Wong (1999, 147)</td>
<td>4400</td>
</tr>
</tbody>
</table>

These statistics, though alarming, understate the increase in costs and prices per dwelling unit. Minimum standards for dwelling unit sizes have also increased regularly throughout the reform period.
In 1983, a "median quality apartment" consisted of 40 m² (Bian, Logan, Lu, Pan and Guan, 1997, 240). Around 1991, "a modest apartment had about 55-60 sq. m of built area" (Chaichian, 1991, 134). In the early part of the 1990s, apartments of 56 m² were considered typical (World Bank, 1992, 73 and Wang and Murie, 1996, 984).17

The consequence has been that new housing costs have been well beyond any notion of "affordability". Table 11 presents a collection of comparisons between average housing costs or prices and average incomes. These comparisons usually do not specify whether they are comparing construction costs, total costs, subsidized prices or market prices to earnings or income. Despite the ensuing ambiguities, they demonstrate conclusively that new housing has been unaffordable to the vast majority of urban Chinese households by any conventional standard throughout the entire reform period (World Bank, 1992, 121 and Chen and Gao, 1993b, 126).

In only two of the twelve comparisons of table 11 do the estimated ratios of housing costs to incomes fall below ten. In contrast, the World Bank (1992, 13-4) estimates that these ratios range from 1.8 to 5.5 in developed countries, and from 2.5 to six in developing countries. Song, Chu and Cao (1999, 546) attest to "the international norm of a 5:1 ratio". In this context, it can be no surprise that few urban Chinese have purchased commodity housing at market prices.18

<table>
<thead>
<tr>
<th>Approximate</th>
<th>Estimated ratio</th>
</tr>
</thead>
</table>

Shenzhen in the late 1980s defined apartments of less than 70 m² as “small-sized” (Chiu, 1996b, 566). Shaw (1997, 210) points out that “an apartment of 50 m² is far beyond the official standard. The state goal for the year 2000 is that each urban resident have 8 m² of living space. The average size of urban households was 3.43 persons in 1991.” This is an example of the inflation that occurs in quantity-driven objectives when economic considerations are ignored, as discussed in section IV.C.

Ratios of housing costs to household income in urban China would be lower than those in table 11, because most households contain multiple earners. However, estimated ratios in other countries are also unadjusted for multiple earners per household. Therefore, Chinese ratios would surely remain extreme by international standards if this adjustment were applied universally. The ratios of estimated market values to household incomes in table 7 are much lower than those of table 11. The income measure here includes many items of nonpecuniary compensation that are typically omitted from official income statistics. In addition, true economic values are certainly less than replacement values (Tolley, 1989, 3). This may be reflected in “estimated market values” that are lower than the costs or prices employed in table 11.
<table>
<thead>
<tr>
<th>Year of Estimate</th>
<th>Source</th>
<th>Estimate of housing costs to incomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>Bian, Logan, Lu, Pan and Guan (1997, 240)</td>
<td>12</td>
</tr>
<tr>
<td>1985</td>
<td>Kim (1987, 222)</td>
<td>40-71</td>
</tr>
<tr>
<td>1988</td>
<td>Kim (1990, 112-3)</td>
<td>22-83</td>
</tr>
<tr>
<td>1991</td>
<td>Cheung and Nadelson (1991, 41)</td>
<td>6</td>
</tr>
<tr>
<td>1991</td>
<td>Chiu (1996b, 573)</td>
<td>27-41</td>
</tr>
<tr>
<td>1992</td>
<td>World Bank (1992, 13)</td>
<td>8-20</td>
</tr>
<tr>
<td>1995</td>
<td>Song, Chu and Cao (1999, 546)</td>
<td>20</td>
</tr>
<tr>
<td>1996</td>
<td>Chiu (1996b, 578)</td>
<td>11</td>
</tr>
</tbody>
</table>

C. Why is urban housing so expensive?

Inefficiencies in the construction industry are, inevitably, among the explanations for high housing costs (Badcock, 1986, 167; Chen, 1996, 1085; Wu, 1996, 1608). They would certainly cause elevated housing prices for any type of unit. However, they cannot explain the persistent compulsion to produce housing units that are simply unaffordable.

This compulsion appears to derive, instead, from a tradition of housing policy based on non-economic criteria. The alleged "suppression" of housing investment during pre-reform times was driven by an ideological preference for heavy industry (Lim and Lee, 1990, 484) rather than a plausible economic strategy designed to maximize national wealth.

Although housing reform was motivated in part by a belief that improved housing would contribute to productivity, the reform movement defined housing first as "special consumption goods ensuring a decent quality of life" (Lim and Lee, 1990, 484). "(P)lanners and urban administrators adopted "improved space standards as a basic goal" without "any serious debate on standards in China" (Dwyer, 1986, 485). ¹⁹

Trained planners are in short supply, and what training occurs is largely in engineering (Chu and Kwok, 1990, 656). In consequence, planners lack both the tools and the inclination to consider the economic implications of housing policies (World Bank, 1992, 61 and Dowall, 1993, 185). Their influence helps to sustain the continued reliance on non-economic criteria in the formulation of those policies. ²⁰

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¹⁹ Increasing incomes may have led to legitimate expectations of improved housing (Fong, 1989a, 33). However, they cannot be blamed for expectations that new housing standards would perpetually exceed affordable levels.

²⁰ This reliance has led, most recently, to policies which reverse the role of housing "prices." In many cases, quoted prices are now supposed to be a simple function of income
The influence of planning standards has led to a system of housing provision that is almost exclusively quantity-driven: "Discussions with housing planners and government officials across China reveal a preoccupation with the per capita living and constructed area." (Dowall, 1994, 1507). As such, "success" is defined in terms of increasing housing quantities with little regard for other considerations (World Bank, 1992, 53).

The obsession with housing quantities leads to planning standards that are extravagant at the development and metropolitan levels, as well as at the level of the individual dwelling unit. These standards increasingly require multi-story construction, despite higher costs per square meter (Taubman, 1984, 200; Kirkby, 1988, 232 and World Bank, 1992, 75). Nevertheless, they stipulate ultimate residential densities in new housing projects that are well below international standards (Badcock, 1986, 156-7; Dowall, 1993, 186 and World Bank, 1992, 62-3). Moreover, the commitment to low residential densities in central cities can lead to master plans which paradoxically dictate the highest densities where the resource cost of land is lowest, at the metropolitan periphery (World Bank, 1992, 66).

The apparent dominance of the quantity-driven engineering perspective is responsible for a number of other dead-weight losses. Regulations and practices impose inefficient uniformity on dwelling units, (World Bank, 1992, 79 and Chen, 1993, 101) and inefficient spatial relationships between dwelling units and the public spaces in new developments (Chen, 1993, 103). The losses here derive less from increases in housing offer prices than to attendant reductions in bid prices.22

The dominant perspective also discourages alternative sources of housing supply that might be more efficient. At its most general level, housing policy has been supportive of "self-help" or "own-built" housing since Deng's 1980 speech. However, the planning system is largely hostile (Wu, 1996, 1610). In addition, the system of land allocation has little sympathy for claims to land use rights for this purpose (Wu, 1996, 1611). Similarly, old housing is usually demolished rather than rehabilitated (Taubman, 1984, 197) even though these and own-built dwellings often meet resident needs more effectively (Chen, 1993, 103).

(Chiu, 1996b, 564 and Wang and Murie, 1996, 983-4). In other words, they represent housing demand alone. This reduces, if not eliminates, the information regarding housing supply, in terms of resource or opportunity costs, that prices ordinarily embody. The suppression of this information cannot be in the service of improved economic efficiency.

21 Densities are further diluted by the land allocation system, discussed in section VII.A, which encourages urban land hoarding (Tong and Hays, 1996, 645).

22 "(T)he market ‘bid’ price for housing units built in the last three to five years falls below the cost of construction" (World Bank, 1992, 11). (N)ew construction that “is of higher quality than is consistent with demand conditions” (Tolley, 1989, 3) is partially responsible.
and rehabilitation is often less expensive than new construction (Taubman, 1984, 197-8 and Tolley, 1989, 102).

Although planning standards mandate excessive housing costs, these costs are elevated further by a second element of the Chinese system of urban housing provision. Supply prices for new housing incorporate not only construction costs, but many other charges. Some of them represent alleged resource costs of necessary public infrastructure (Dowall, 1994, 1501 and Li, 1997, 328).

However, many appear to be transfers. “Infrastructure charges” often do not fund infrastructure (Dowall, 1993, 187). When they do, the funded facilities often do not serve the funding development (Dowall, 1994, 1512). Title taxes in Beijing, for example, are 6% of sales prices, approximately equal, on average, to average household annual incomes (Song, Chu and Cao, 1999, 548), far in excess of any conceivable cost of registration.23

Prices for new housing in redevelopments also include explicit transfers to tenants in predecessor dwelling units. These households are typically entitled to relocation and living expenses during development (Tolley, 1989, 102) as well as dwelling units in the new structures (Dowall, 1993, 189). With housing standards that require continual improvements in housing quality, these households obtain new housing that is often far superior to their old (Dowall, 1993, 189 and Dowall, 1994, 1502) in return simply for their rights to habitation at that location.

The implicit value of these rights is substantial. The value of a compensatory housing unit may be more than double that of existing housing equivalent to that previously consumed (Dowall, 1994, 1515). The aggregate cost of compensatory housing, when capitalized into the sale price for the remaining new dwelling units, is typically at least as great as the actual construction costs for those units, and often greater (Dowall, 1993, 190).

In sum, excessive planning minimums, payments to upgrade inadequate infrastructure, and transfers all contribute to high housing prices. The inefficiencies associated with planning standards are simply deadweight losses. In contrast, transfers to local governments and to prior tenants at the development location are redistributive but potentially efficient, given the array of implicit property rights upon which they are based.

However, transfers may be badly inefficient if this array of rights is inconsistent with social welfare. For example, local governments interfere with the pursuit of improved housing conditions when they use

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23 Song, Chu and Cao (1999, 547-8) describe the array of charges imposed on real estate transactions as excessive. However, the true net government impact is impossible to evaluate because, if nothing else, it provides many developments with land use allocations that are subsidized to an unknown degree. Section VII.E discusses this further.
exactions to appropriate rents from new housing developments. Moreover, the capitalization of these transfers into purchase prices creates the possibility of substantial changes in capital values if future policies alter the underlying property rights.

D. Why are the alternatives to home-ownership so attractive?
The disparity between housing costs and incomes would be more than sufficient, on its own, to discourage all but a few households from aspiring to commoditized owner-occupancy. Unfortunately, this disincentive is compounded by the continuing availability of subsidized alternative housing sources. These alternatives arise as a consequence of continuing distortions in the urban Chinese labor market. They not only present a formidable challenge to the success of housing reform, but they are also beyond the reach of housing policy alone.

Prior to and during the early years of reform, most urban Chinese housing was financed by the government, but allocated to families through work units. This system was rife with inequities, both between (Lalkaka, 1984, 65; Whyte and Parish, 1984, 83; Badcock, 1986, 164; Walder, 1992; Wu, 1996, 1621 and Logan, Bian and Bian, 1999) and within work units (Fong, 1989b, 33; Chu and Kwok, 1990, 658; Walder, 1991, 481; World Bank, 1992, x and Bian, Logan, Lu, Pan and Guan, 1997, 231). Moreover, its principal advantage, the reinforcement of the prohibition on labor market mobility with residential mobility, increasingly became a liability as reform progressed in other sectors of the Chinese economy. As a consequence, the World Bank (1992, 54) asserts that "(t)horough going reform must cut the umbilical cord binding the worker to the employer".

However, during the past decade the government has been more interested in reducing the nominal burden of housing expenditures on its budget. In the absence of affordable commodity housing, new entrants to the labor market have continued to rely on their work units for housing. In consequence, work units now must finance housing as well as allocate it (Wu, 1996, 1625). Work units have therefore become more rather than less engaged in the urban housing sector (Bian, Logan, Lu, Pan and Guan (1997, 243). Overall, they own 60 percent (Wu, 1996, 1603-4) or 70 percent (Bian, Logan, Lu, Pan and Guan, 1997, 241) of urban housing, and house “the overwhelming majority of people” (Wang and Murie, 1966, 981).

Chinese practice has been to set urban wages that are "highly socialized" (Zhou and Logan, 1996, 418). Cash wages have been low but workers have also received many consumption items, such as housing, directly from their work units (Wu, 1996, 1609). While identical increases in wages and in prices paid to work units for consumption items would not alter worker welfare, the government apparently fears that such a policy would damage work unit finances and lead to commodity price inflation (Wu, 1996,
Therefore, the "low-wage policy" continues in force, at least in the state-owned sector. In consequence, work units continue to provide housing but are constrained from raising cash wages. These facts have led to the inference that cash rents for work-unit housing must also be kept low (Cheung and Nadelson, 1991, 40; Chen and Gao, 1993b, 123 and Zhou and Logan, 1996, 418, as examples). They are noticeably lower, as a proportion of income, than in other developing countries (Chaichian, 1991, 131 and Tong and Hays, 1996, 638) and much lower, by the same standard, than in industrialized market economies (Chen and Gao, 1993b, 123).

Holding income constant, continued occupation of rental housing at these rental rates naturally dominates unsubsidized housing purchases (Lalkaka, 1984, 72; Chu and Kwok, 1990, 665; Kim, 1990, 113; Chen, 1996, 1084-5; Tong and Hays, 1996, 640 and Wang and Murie, 1996, 976). Available methods of financing home purchases make this comparison all the more compelling: subsidized sales often require complete payments in a relatively few years (Wang and Murie, 1996, 974). Mortgages are rare, short-term and usually available only to those with personal funds equal to the loan amount (Zhou and Logan, 1996, 412).

E. What has been done about affordability?
The Chinese government has recognized the affordability problem (Lai, 1998, 237-8) and experimented with a number of policies to address it. Foremost among them, as demonstrated in section III, is discounted housing sales. In return for the discount, these sales convey only limited property rights. In particular, the sponsoring work unit has the right to repurchase and typically owns a share of any capital gains (Tong and Hays, 1996, 649). Obviously, this policy fails to fully disentangle housing consumption from employment and provides occupants with only partial maintenance incentives.

More promising, if much more limited, experiments address the issues underlying the affordability problem. As discussed in section II, the government has imposed a forced saving program on the demand side. At 10% of annual incomes, the typical accumulation rate, these funds require a substantial sacrifice of current purchasing power. Nevertheless, they will take many years to noticeably close the affordability gap.

On the supply side, Shenzhen has tried to encourage the production of what it terms "small-sized"

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24 It is certainly possible, if not likely, that consumption patterns subsequent to monetization of in-kind benefits would differ, perhaps greatly, from those imposed by the composition of those benefits.

25 Nominal rents are typically much less than the cost of ongoing maintenance (Kirkby, 1988, 231). The disparity between rents and resource costs is much greater (Fong, 1989b, 34; World Bank, 1992, 36 and Chen and Gao, 1993a, 268).
dwelling units (Chiu, 1996b, 556). More generally, as discussed in section II, the government has tried to vest production responsibilities in quasi-independent property development companies, in the hope that profit incentives will lead to greater construction efficiencies (Soileau, 1995, 363). However, thoughtful analyses of the underlying problem are scarce (Hamer and van Steekelenburg, 1999, 97).

These initiatives demonstrate the government’s limited awareness of the affordability problem. Their narrow scope confirms that the problem is not yet solved. Until it is, sales of commodity housing are certain to be disappointing.

V. WHY HAS CHINA BUILT SO MUCH URBAN HOUSING?

An economy that aspires to obtain the efficiencies associated with market transactions should be alert to the signals those transactions provide. Given the manifest impossibility of recouping, at least on an accounting basis, the apparent investments, China's continued enthusiasm for the construction of urban housing is puzzling. Most of this enthusiasm appears to reflect unreconstructed elements of the pre-reform system.

The first relevant element is the difference between nominal and true economic costs. Apart from the confusion regarding prevailing quoted prices, discussed in section IV.A, the true opportunity costs of the resources devoted to housing are obscured by the entire Chinese system of administered and semi-administered prices. If true housing costs are unknown, then investment levels are likely to be mistaken (Tolley, 1989, 9).26

The second relevant element is the heritage of policies based on non-economic criteria. The quantity-driven goals of the housing policy process, discussed in section IV.C, have a legitimacy that dominates those that might be derived from considerations of economic efficiency. As discussed in section II, investment has been further justified by apparent excess demand, even though subsidized prices must be primarily responsible. There has been no attempt to explore whether shortages, in any economic sense, actually exist (Dowall, 1994, 1497, for example).

In consequence, China’s urban housing stock appears to be better than those of other countries at similar stages of economic development (Lalkaka, 1984, 64 and Chaichian, 1991, 137). Chaichian (1991, 137) concludes that "the housing conditions in urban China were much better than in other developing countries in 1976" even though that was during the period in which living space per urban Chinese resident achieved its Communist-era minimum. Chinese goals for per capita living space in the early reform period were equal to or greater than those set in Singapore and Hong Kong, at much more advanced

26 Tolley (1989, 101) suggests, in effect, that true costs may be less than quoted prices. However, Pudney and Wang (1995, 145) take the opposite position.
stages of development (Dwyer, 1986, 485). Actual “living space per resident” in urban China now exceeds that in Hong Kong (Hamer and van Steeckelenburg, 1999, 91).

It is precisely this evidence of "success" that suggests China's investment in urban housing stock has been too large, rather than too small. The experience of other countries at China's stage of development indicates that some of the resources China has devoted to improving its urban housing standards would yield greater increases in welfare if diverted to other uses. The inadequacy of maintenance practices (World Bank, 1992, 100 for example), while partially attributable to moral hazard derived from uncertain property rights, is also an indication that, at prevailing implicit prices, the optimal level of housing services is much less than that for which the housing capital stock has been designed. Wang (1991, 116) concludes "We may well say that there is over-consumption of housing among China's urban dwellers."27


In sum, it appears likely that the housing conditions which stimulated China's elevated levels of urban housing investment did not represent "shortages", given China's level of economic development. The few available market-related signals have been consistent with this inference. However, this evidence has been overridden by China's ideological commitment to quantitative urban housing goals.

VI. WHY DOESN’T CHINA JUST GIVE ITS URBAN HOUSING AWAY?
The urban housing accounts of the government display a persistent, troubling deficit (Soileau, 1995, 379 and Wu, 1996, 1609). One of the principal motivations for urban housing reform was a desire to reduce that deficit (Wu, 1996, 1609). Ironically, the dramatic increase in investment during the reform period, coupled with the persistent excess of construction costs and maintenance expenses over purchase prices and rents, has increased it instead:

"The urban housing system is like a one-way ticket, operating on a track from the government to individuals. The state cannot recoup its investment to produce new housing. Furthermore, the state has increasing annual expenditures just to keep existing public units operating. ... The more the

27 In general, Buckley (1996, 48-9) doubts “that the pre-reform state of disequilibrium [in previously centrally-planned economies] is generally one of shortage.”
state invests in housing, the more revenue it loses. ... As new units are completed, new subsidies must be added. In sum, state investment in housing has become nothing less than throwing money into a bottomless pit." (Tong and Hays, 1996, 637-8).

The simplest way to stop the growth in these deficits would be to stop investing in new housing and abandon the existing stock: "(T)he current operation of public housing loses money in all the PCPEs [previously-Communist planned economies]. Giving such assets away would increase government revenues even if no taxes on private-housing returns or capital were collected." (Buckley, 1996, 39).

In China, the government could legitimately aspire to more. The willingness of many households to purchase restricted property rights at prices that are positive, if well below replacement costs (Chen, 1996, 1088), demonstrates that urban housing is not valueless. Sales at these prices would achieve the goal of "commodification" and recover at least some of the costs sunk in the existing stock.

Chen has suggested this policy (1996, 1089-90). However, accelerated privatization through reduced sales prices has not been seriously considered. This section examines potential obstacles to its adoption.

A. Who owes who?
The perception that the government's urban housing accounts are in deficit is reinforced by an analogous perception regarding the housing accounts of work units (World Bank, 1992, 50; Soileau, 1995, 379 and Wu, 1996, 1609). One goal of economic reform in general is to reduce such deficits in order to improve government finances and to prepare work units for more market-oriented environments.

Moreover, these deficits create the perception that the recipients of government and work unit housing are subsidized. The reduction or elimination of subsidies is another goal of economic reform. Lastly, the government has an independent aspiration to recover the replacement costs of housing (Tong and Hays, 1996, 649-50 and Bian, Logan, Lu, Pan and Guan, 1997, 241).

Adherence to these three goals could sustain government resistance to privatization at further reduced prices. However, the third of these goals is unattainable, and the perceptions upon which the other two are based are unverified, overstated and perhaps false.

The aspiration to recover replacement costs is fantastical. The economic value of urban housing is

28 It also demonstrates that the value of the expected future stream of housing services from these assets exceeds the expected future maintenance costs. This implies that rent increases are possible, though again, not to the point of recapturing replacement costs.

29 Hamer and van Seekelenburg (1999, 97) suggest that “the highly politicized issue of burden-sharing .... is enough to end the search for new solutions” to urban housing problems.
much less than replacement costs (Tolley, 1989, 3). Even if they were equal, Section IV.B demonstrates that replacement costs cannot be extracted from Chinese urban incomes.

The perception that households receive housing subsidies relies on the discrepancy between measured housing payments and the measured costs of housing provision. However, the exchange of housing between the government and work units, on the supply side, and households, on the demand side, is only one of many exchanges in which the these entities participate. In particular, households supply labor at wages which have been deliberately suppressed.

The 'surplus' almost surely accrued by the government and work units on this labor account implies that any net subsidy received by households is smaller than the explicit deficit in the housing accounts. It is possible that there is none at all. Without a clear demonstration to the contrary, there is no substantive support for the claim that either reform or efficiency requires additional extractions from the household sector in support of urban housing.

Similarly, the perception that the government and work units suffer losses through their involvement in the housing sector relies on measured deficits in their housing accounts. However, these deficits have no discernable economic interpretation. In China, as in other previously Communist planned economies, most of the revenue for the housing sector must come from implicit taxes on labor imposed through the low wage system, taxes implicit in the system for allocating land and construction rights, and the retention of any implicit capital gains on the existing housing stock. Similarly, the majority of government housing expenditures probably occur as indirect subsidies through the allocation of land rights, and as continued state support of the construction industry in particular and state-owned enterprises in general.30

In consequence, accounting deficits are not informative regarding the true fiscal position of either the government or the work units with regard to the urban housing sector. Therefore, these positions are mysteries, themselves. In the absence of evidence that true deficits actually exist, the argument that revenues from housing sales are essential to close them can have only superficial appeal.

The question of who has actually 'paid' for Chinese urban housing remains not only unanswered but essentially unasked. The sector has indisputably absorbed real resources that came from elsewhere in the Chinese economy, but their exact sources are unknown.31 Similarly, it has returned payments to the rest of

30 Buckley (1996, 25, 34 and 56) makes these points and cites the example of Poland, where measured net implicit transfers out of the housing sector are larger than net explicit government housing expenditures.

31 The excess of replacement costs over the economic value of urban housing indicates that this sector has wasted some of these resources. It is possible that urban housing is financed, at least in part, from the transfers that accrue to urban China from rural sectors (Khan, Griffin, Riskin and Renwei, 1992).
the economy but their destinations have not been identified.

It is therefore not possible to perform the accounting that would identify whether any sector or entity has actually contributed resources in excess of compensation received. It might be appropriate to retain public ownership of urban housing while this accounting takes place. However, there is no indication that this is on the policy agenda. It is not appropriate to retain public ownership on the unsupported assertion that such an accounting exists and verifies that the government and work units need and are entitled to claim additional household resources.

B. Housing inequality

While the question of whether investments in the urban housing sector have caused net inter-sectoral transfers is open, there is substantial evidence that the allocation of urban housing has created inter-household inequities, as discussed in sections II and IV.D. The Chinese government apparently has no policy to deal with horizontal inequities. Chinese policy towards vertical inequities emphasizes giving "priority to finding new housing for those who are in the worst circumstances" (Bian, Logan, Lu, Pan and Guan, 1997, 226) and includes subsidies that are declining in income as described in section II.B.

However, many continuing housing policies are probably increasing inequities. For example, increasing national standards for average living space per capita failed to target households in substandard dwelling units. To the contrary, they have encouraged the production of over-sized luxury dwelling units because these units have disproportionate impacts on national averages.

Under socialized housing provision, differences in political access and influence led to differences in the quality and quantity of housing available to different work units. Reform has typically not altered the relevant political configurations (Wu, 1996, 1618 and Bian, Logan, Lu, Pan and Guan, 1997, 247). Increased reliance on work units for housing provision, as discussed in section IV.D, has therefore magnified differences in the housing to which they have access (Wu, 1996, 1625).

Perhaps in consequence, the government apparently now believes that inequities can best be addressed in the context of commoditization (Lai, 1998, 237), as discussed in section II.C. Not surprisingly, this belief has not yet been vindicated. Commodity housing is designed for, and apparently oversupplied to the wealthiest households (Chu and Kwok, 1990, 664 and Lai, 1998, 248 and section V).

Current policy also exacerbates inequalities between households already allocated housing and those entering the urban housing market for the first time. It has no provisions for in-migrants (Lai, 1998, 240), who must presumably rely on low priorities in work unit allocation schemes or commodity housing. Attempts to focus commodification on new construction force new households to confront market prices for housing, while preserving the pre-reform housing arrangements of older households (Tong and Hays,
Any attempt to address horizontal inequities would probably threaten many households with the loss of their current abode. Accelerated privatization would probably have to ratify these inequities instead. However, the current policy regime does the same, as will attempts to raise housing prices slowly in the hope of eventually converging to market levels (Buckley, 1996, 55).

Accelerated privatization has several advantages over these alternatives. It would quickly divest the government and work units of depreciating, loss-making housing assets. It would release most of the urban housing stock for market transactions. The consequent market disciplines might encourage greater efficiencies not only for resale transactions but for new construction. Lastly, it would create the possibility of addressing horizontal inequities through capital-gains taxation on subsequent sales.

VII. WHAT ELSE IS THERE TO WORRY ABOUT?

Sustainable housing commoditization will require further institutional reform. Land use rights must be clarified and priced appropriately. The aggregate of all property rights inhering in a dwelling unit must be similarly clarified and provided with appropriate protection. Effective, or at least abundant mortgage financing is not likely to appear until these issues and several others are addressed. Activity in the informal housing sector should be examined, to inform progress in the formal sector if not to serve as an important alternative. Lastly, property taxation requires rationalization. This section examines each of these issues in turn.

A. Land use rights

Urban land ownership remains vested in the Chinese government. In principal, it uses two methods to convey land use rights to developments. Those adopted through the state planning process receive these rights at little or no cost. "Commercial" developments must purchase these same rights (Zhu, 1994, 1621). This second method accounts for the conveyance of rights to only a very small proportion of urban land (Zhu, 1994, 1615; and Hays, 1996, 645 and Yeh and Wu, 1996, 351). In practice, the extent of subsidization varies widely across the remaining transactions (Zhou and Logan, 1996, 410).

As with housing itself, subsidies applied to land use rights inevitably encourage excess demand and

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32 Pudney and Wang (1995, 150), assert that inequities in imputed housing consumption are approximately proportional to income, and therefore largely vertical in origin. Anecdotal evidence and footnote 8 suggest that these imputations may be unreliable. However, if their conclusion is reliable, continuing discontent (Bian, Logan, Lu, Pan and Guan, 1997, 227) may simply reflect discomfort with the novelty of the income-based distinctions that inevitably arise in marketized economies.
hoarding (Zhu, 1994, 1615; Tong and Hays, 1996, 645 and Zhou and Logan, 1996, 410). In this case the problem is exacerbated because legal, if ill-defined, opportunities for resale exist (Zhou and Logan, 1996, 410). In consequence, the government transfers massive unrealized surpluses to the holders of subsidized land use rights (Zhu, 1994, 1619-20; Zhou and Logan, 1996, 410 and Li, 1997, 333). Nevertheless, the government remains committed to subsidized conveyance.33

This commitment presents a challenge to the entire process of urban housing reform. Reform is entirely a response to perceptions of resource misallocations: between the housing and other sectors, between the government and work units, between work units and households, and among households themselves. However, misallocations cannot be truly remedied unless they can be accurately identified.

Prices which convey meaningful information regarding opportunity costs are essential for this identification. In the case of urban housing, these costs depend heavily on those associated with land use (Tolley, 1989, 9). If the value of land use rights remains unknown, perceptions of misallocations will remain unaddressable.

B. Property rights

In order to be priced accurately, land use rights need to be defined clearly. This is a demanding task in urban China, because legal rights can vary across parcels and transactions (Fong, 1989b, 36; Tolley, 1989, 85 and Zhou and Logan, 1996, 418). Different, and potentially separable rights inhere to structures and to the land upon which they stand (Fong, 1989a, 40 and Soileau, 1995, 348). Moreover, bureaucratic and institutional practices can often create substantial discrepancies between juridical and effective rights (Soileau, 1995, 312 and Zhou and Logan, 1996, 418).

In particular, "owner-occupancy" subsumes a wide variety of property right configurations. As

33 The central government, which owns urban land, and local governments, which administer it, are in conflict regarding the distribution of any surpluses that are retained by the government sector (Li, 1997, 333).

34 This commitment is apparently based on several misconceptions. The government justifies price controls as a response to the perception of “an acute undersupply of land” (Li, 1997, 332), when this perception is almost surely the consequence of this policy. It regards exaggerated demand for subsidized land use rights as indicators of desirable development activity (Li, 1997, 333), rather than of misallocated resources. Lastly, it fails to recognize these subsidies as the source of market prices for land use rights that are excessively high and volatile. The supply of these rights to the commercial market is small and unpredictable because entities with development interests apply bureaucratic and political influence to divert them to subsidized allocation (Zhu, 1994, 1621). This encourages the purchase of commercial land use rights for speculative rather than substantive purposes (Zhou and Logan, 1996, 409-10).
examples, an owner's actual right to occupancy is not absolute, because it can be superceded by those of existing tenants (Badcock, 1986, 162; Tolley, 1989, 6 and Chen, 1996, 1083). As indicated in section IV.E, rights of resale depend on the degree to which ownership has been subsidized (Chen, 1996, 1082), as well as the extent to which land lease transfers in the secondary market are permitted (Yeh and Wu, 1996, 338 and Huang and Hua, 1995, 602-3).  

Whatever rights currently exist may change as the role of urban planning agencies continues to evolve. In practice, the allocation of land use rights to individual projects and uses has been largely independent of urban master plans (Yeh and Wu, 1996, 347 and Yeh and Wu, 1999, 237 and 241). These plans have had little authority because zoning regulations do not exist (Yeh and Wu, 1996, 349 and Yeh and Wu, 1999, 195). However, attempts to introduce zoning (Yeh and Wu, 1999, 193-4) and to increase planning authority further through parcel-specific "development control" (Yeh and Wu, 1996, 350 and Yeh and Wu, 1999, 189), if successful, will substantially reduce the autonomy of residential property owners.  

Formally, the exercise of residential property rights requires the registration of ownership (Huang and Hua, 1995, 606 and Soileau, 1995, 364). As an example, registration is a legal prerequisite for mortgages in China (Randolph and Jianbo, 1999, 544). Failure to register may invalidate transactions or the rights conveyed thereby (Huang and Hua, 1995, 607; Soileau, 1995, 373 and Randolph and Jianbo, 1999, 544). The State Land Administration Bureau, directly under the State Council, supervises a system of Land Administration Departments whose purpose is to maintain the necessary records (Huang and Hua, 1995, 608).  

In practice, uncertainties in the registration process compound those inherent in the underlying rights. They begin with parcel definitions, which are unclear because of "inaccurate and out-of-date cadastres" (Dowall, 1993, 191). Inadequate registration systems in most cities make procedures idiosyncratic (Soileau, 1995, 319 and 367). Bureaucrats exploit these idiosyncracies to their own advantages, further impeding registration procedures (Soileau, 1995, 367-8).  

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35 Section VII.D addresses the question of mortgagability.  

36 Owner occupants in urban peripheries may be especially at risk for unexpected changes in property rights. In principle, collectively owned land on urban peripheries should be converted to state ownership prior to development (Huang and Hua, 1995, 602). In practice, “spontaneous conversion” prevails, with attendant confusion regarding the status of property rights (Yeh and Wu, 1999, 237 and 240).  

37 Reliable registration procedures compromise reform goals as well as individual rights. As an example, commodity mortgage banking is impossible without standardized registration (Buckley, 1996, 21 and Soileau, 1995, 364). Registration is also important to local governments, because it “is a major point at which local governments extract value from property rights.
Uncertainties persist subsequent to the transaction. "(C)onsultation, conciliation, administrative mediation, arbitration and litigation" are recognized methods for resolving real estate disputes (Huang and Hua, 1995, 615). In practice, however, "property rights laws are still subject to veto both by actors in possession of property and their supervisors." (Soileau, 1995, 342; also Zhou and Logan, 1996, 418 and Yeh and Wu, 1999, 187). Judicial inadequacies and politicization compete with legal rectitude in determining court judgements, which are difficult to enforce in any case (Soileau, 1995, 355).

The precarious nature of rights in real estate is not entirely inconsistent with government policies. In its broadest formulation, they intend to convey greater and more secure property rights to private actors (Soileau, 1995, 338). However,

"privatization is not really the goal of these reforms. Rather, it is the value-driven use and exchange through commoditization and marketization of housing that is the goal of reform. The P.R.C. is attempting to prove, with some success, that this is possible without fully alienating ownership in public property." (Soileau, 1995, 359)

In consequence, regulations defining property rights

"also clarify the government's continuing willingness to burden these rights in order to maintain administrative and fiscal control over housing rights use, transfer, price, and profits." (Soileau, 1995, 372).

To the extent that the exercise of this control requires the capacity for arbitrary enforcement, it will continue to conflict with economic development. Development requires secure property rights, which can only arise under more consistent registration and enforcement procedures.

C. Mortgage financing

Mortgage financing of real property transactions has a long history in China, which continued under the People's Republic even prior to the introduction of a supporting legal framework (Soileau, 1995, 375). However, mortgages have been rare (Hui and Wong, 1999, 148). Mortgage financing is now an important element in the government's conception of urban housing reform (Soileau, 1995, 386-7; Wang and Murie, 1966, 985-6; Lee, 1998, 540-1 and Randolph and Jianbo, 1999, 524-6).
Accordingly, mortgage rights and procedures are now becoming codified (Soileau, 1995, 372). In general, regulations seem to be more favorable to lenders than to borrowers (Randolph and Jianbo, 1999, 520). This may represent an attempt to invite financial institutions into a market which they have hitherto avoided (Barlow and Renaud, 1989, 83 and Chu and Kwok, 1990, 656). However, any institutions which accept this invitation confront many additional issues.

Mortgage relationships in urban China are complicated because of the nature of real estate ownership. Structures can be owned by non-government entities and are mortgagable. The land upon which they stand is not mortgagable because it is owned by the government. However, the land use rights assigned to structures are mortgagable, under appropriate conditions (Huang and Hua, 1995, 602-7).

Land use rights and structures require two separate mortgage instruments (Randolph and Jianbo, 1999, 545). In general, the two are to be exchanged together, as a consolidated transaction (Huang and Hua, 1995, 606-7). They may become separated, however, in part because different elements of a real estate development are mortgagable at different stages in the development process (Soileau, 1995, 377-8).

The subtleties of ownership are problematic for property valuation. This task is already difficult, because very few professional appraisers exist (Chen, 1996, 1080). As discussed in section IV.A, little information is available regarding true market values. In any case, it is typically ignored by valuation practices (World Bank, 1992, 128). In this context, useful valuation of properties that embody a multiplicity of mortgagable rights (Soileau, 1995, 372-3) presents a substantial challenge.

This challenge cannot be completely avoided, because commercial mortgage banking typically requires reliable property valuations (Soileau, 1995, 387). In their absence, lenders in China have relied on additional guarantees rather than the underlying assets (Hamer and van Steekelenburg, 1999, 92 and Randolph and Jianbo, 1999, 517). These may be provided by employers (World Bank, 1992, 126) or developers (Randolph and Jianbo, 1999, 521). While they may form the basis of a workable system of mortgage financing (Buckley, 1996, 23-4), this system would be much more effective if the housing stock itself could provide the principal collateral.

If a mortgage can be agreed upon, supporting regulations confer several distinctive rights on lenders. Their very existence removes some of the uncertainty which preceded them and which usually worked to the borrower's advantage (Lee, 1998, 562). When the mortgage is on a commercial property, lenders are

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38 As an example, Chinese law permits multiple mortgages on a property if their aggregate value does not exceed that of the property itself. This limitation is almost impossible to enforce in the absence of standardized valuations (Lee, 1998, 553).

39 China's financial industry has not yet developed the capability to examine credit histories and assess creditworthiness (World Bank, 1992, 126).
apparently entitled to receive lease payments directly from property lessees, without the intermediation of
the property owner (Randolph and Jianbo, 1999, 553). Creditors can also prevent the resale of a property
on which they hold a lien, even if it is not in default (Randolph and Jianbo, 1999, 576).

However, creditors are vulnerable in other dimensions of the mortgage transaction. Multiple mortgages
create not only the aforementioned risk that the security is overburdened, but that priorities will be
confused or ignored. In principle, registration records contain the necessary history of encumbrances (Lee,
1998, 551 and Randolph and Jianbo, 1999, 545, 570 and 572). However, as discussed in section VII.B,
these records are suspect and registry agencies are not responsible for omissions (Randolph and Jianbo,
1999, 545-6).

This vulnerability becomes acute in the event of default. This may be a substantial risk in an
environment where housing has previously had negligible marginal cost and eviction risk. (Randolph and
Jianbo, 1999, 521). If it occurs, creditors may find that many other entities have claims on the residential
assets at issue.

Government organs may have substantial rights in the event of foreclosure. In principle, they retain the
rights to any land use not explicit in the authorization for the defaulting property. These restrictions, if
enforced, may reduce the value of the secured property (Randolph and Jianbo, 1999, 571). In some cases,
mortgagees of defaulting state-owned industrial enterprises have claims only on the assets that remain after
fulfilling that enterprise's social welfare responsibilities and coverting the underlying land use right
(Randolph and Jianbo, 1999, 533).40 The rights of work units to repurchase housing units sold to workers
at subsidized prices presumably also retain some force if those workers default on mortgages obtained
elsewhere, though the literature appears to be silent on this point.

Non-government entities may also have competing claims. Tenants have pre-emptive purchase rights
to the property that they rent. The status of these rights in the event of foreclosure is uncertain (Randolph
and Jianbo, 1999, 578). Lessees also have rights to tenancy which may persist in foreclosure (Randolph
and Jianbo, 1999, 577). Apartment owners may have ill-defined and potentially competing claims to the
public spaces in their buildings or developments (Soileau, 1995, 377-8).

Foreclosure procedures introduces additional hazards.41 Although problems with these procedures are
well-known (World Bank, 1992, 133), they have not yet been resolved (Randolph and Jianbo, 1999, 519).

40 The government has exclusive claim on the land use rights associated with any property
allocated through the planning system. However, it now permits transfers of these rights in the
event of foreclosure for a fee (Randolph and Jianbo, 1999, 532).

41 Weak “postcontract governance” discourages mortgage supply “in most developing
countries” (Buckley, 1996, 3).
The law discourages litigation in favor of other forms of negotiation or mediation (Lee, 1998, 555). Courts are unfamiliar with their responsibilities in mortgage transactions (Randolph and Jianbo, 1999, 580) and short of the resources necessary to undertake them (Soileau, 1995, 386). Moreover, judges are locally funded and appointed (Randolph and Jianbo, 1999, 580). They may be reluctant or even unwilling to enforce a foreclosure judgement sought by a creditor from elsewhere against a local resident (Lee, 1998, 560-1 and Randolph and Jianbo, 1999, 517 and 565). Lastly, corruption can sustain shocking breaches of creditor rights (Lee, 1998, 561).

In sum, mortgage banking is likely to remain an exotic undertaking in urban China for some time to come. Apart from the problems of affordability discussed in section IV, legal property definitions, registration procedures, the status of competing claims, and the foreclosure process are all far too uncertain to support commodity mortgages. Progress on any of these individual issues will require major efforts. In consequence, mature mortgage markets are likely to be among the last accomplishments of urban housing reform.

D. Informal housing

As mentioned in section IV.C, the formal housing sector ignores or obstructs informal or "self-help" housing, despite official policy support. Nevertheless, there are examples of entire communities consisting of housing of this type. Leaf (1995) describes the example of Zhejiangcun, adjacent to the Beijing metropolitan area.

Housing in this community is almost surely unsubsidized. Moreover, land use rights are apparently obtained at uncontrolled prices from the agricultural households that hold them. The dwelling units are small. However, they appear to be well built and affordable.

This seems to be a remarkable achievement. Zhejiangcun's success appears to demonstrate the efficiency of truly market-driven development (Leaf, 1995, 162). It seems to demonstrate the inefficiency of government design standards. Dwelling units here are smaller than the state standard, and apparently built to higher than standard residential densities without the assistance of multi-story construction (Leaf, 1995, 158-9).

Government policy has apparently failed to engage the experience of this community (Leaf, 1995, 162)

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42 As an example, if a mortgagor in default conveys the collateral to an unsecured creditor prior to foreclosure proceedings, courts may not enforce the mortgagee’s claim to it (Lee, 1998, 551-2). This raises the possibility of collaboration between debtors and unsecured creditors at the mortgagee’s expense.

43 These details are in Leaf (1995).
and others like it (Leaf, 1995, 159). To the contrary, nothing systematic is known about this subsector of the housing market, perhaps because the government is reluctant to acknowledge its presence and accomplishments (Leaf, 1995, 161).

Developments of this type will not make large contributions to the aggregate urban housing stock in the near future. However, they may provide an essential experiment in the effectiveness of alternatives to housing types specified by state design standards. Moreover, they may be very valuable in helping to equate housing supplies with the demands of households that have no or weak claims to allocated housing (Zax, 1997).

E. Property taxation

Property taxation has been an element of Chinese fiscal policy throughout its history. The People's Republic has continued this tradition (Li, 1989, 529) since its inception. However, tax policy with regard to real estate continues to evolve. It has changed substantially during the reform period (Li, 1989, 533 and Huang and Hua, 1995, 598).

Several taxes may apply to real estate transactions. Fees appear to be proportional to sales price, rather than fixed, and can apparently amount to more than one-third of the total cost of the transaction (Song, Chu and Cao, 1999, 547-8). This amount may include the "house property tax", which is apparently also proportional to sales price (Huang and Hua, 1995, 610-1).

A complicated array of charges applies to the land use rights conveyed in any transaction. Apparently, the government charges housing purchasers for the assignment of land use rights for a period of 50 to 70 years. These charges account for an additional one-fifth of total sales price (Song, Chu and Cao, 1999, 547-8). There also appears to be a "house property contract tax" levied perhaps as a surtax on these charges (Huang and Hua, 1995, 610-1).

Capital gains taxes evidently apply to transactions in land use rights alone (Huang and Hua, 1995, 612-3 and Soileau, 1995, 371). Their intent appears to be to discourage speculation (Lai, 1998, 236). It is possible that these taxes are waived if residential construction takes place (Huang and Hua, 1995, 612-3).

Dwelling units may also be subject to periodic taxes. As with transactions taxes, separate instruments apply to structures and land use rights (Li, 1989, 568-9; Huang and Hua, 1995, 614 and Song, Chu and

44 The discussion in this section is tentative because the English language literature on this subject is ambiguous and inconsistent.

45 The literature is silent as to whether the government retains this fee in its entirety if the purchaser leaves the property prior to the expiration of this period.
Broad exemptions appear to be available, for all urban residences according to Song, Chu and Cao (1999, 544) or for all non-business properties or properties owned by the government and armed forces according to Li (1989, 568-9). Under some conditions, subsidized housing purchases have also received temporary exemptions (Wang and Murie, 1996, 975).

In sum, the contemporary property taxation regime seems complicated and haphazard. In particular, the multiplicity of taxes attached to charges for land use rights, which themselves represent government revenues, seem ripe for rationalization. Song, Chu and Cao (1999) suggest a number of reforms, including reducing the range of exemptions and consolidating different tax instruments.

However, as in other dimensions of the urban housing issue, the immediate imperative would be to identify the true resource flows engendered by the current system. Nothing is apparently known regarding the incidence of any individual tax instrument. The net effects of the entire system are unquestionably a mystery.

To compound this mystery, the relationship between tax payments and services actually delivered to residences and residents has not even been raised in the literature. If the former exceeds the latter, as complaints about the magnitude of taxes might imply (Song, Chu and Cao, 1999, 547-8), then the urban public finance system is transferring resources to other parts of the economy. Whether this is true or not is another component of the problem raised in section VI.A, the question of what the true fiscal position of the government sector, as a whole, is with respect to the urban housing sector.

Were these mysteries resolved, the property tax system might be employed to address three difficult issues arising elsewhere in the urban housing sector. First, in the absence of long-term financing, as discussed in section VII.C, capital constraints compound the basic affordability problem of section IV.B. Given the apparent size of government exactions on real estate transactions, this problem could be substantially ameliorated if these exactions were restructured as periodic payments rather than extracted as a lump sum (Hamer and van Steekelenburg, 1999, 96 and Song, Chu and Cao, 1999, 548).

Second, any process which achieves substantial increases in the extent of and rights accruing to urban owner-occupancy is also likely to leave substantial inequities, as discussed in section VI.B. Appropriately designed property taxes might reduce them to some degree (Song, Chu and Cao, 1999, 548-9). As

46 No source discusses the methods by which structure values are determined.

47 Li (1989) does not address whether this includes residences owned by state-owned work units.

48 Analysis of this issue is currently so rudimentary that Song, Chu and Cao (1999, 545 for example) repeatedly refer to "incidence" when they mean "nominal responsibility".
examples, the burden of property taxation could be inversely proportional to the degree of subsidy in the original purchase. Some degree of progressive property taxation, increasing in the value of the dwelling unit, might compensate for some of the arbitrariness in work units housing assignments. Capital gains taxes on housing sales that are increasing in the amount of profit might be similarly useful.

Third, commercial land use rights conveyed at below-market prices will cause additional inequities in the future. Recipients will presumably expect to retain the surpluses so obtained when they sell their rights on the secondary market. Continued and perhaps reconfigured taxes on capital gains accruing to land use rights may also be necessary to distribute these surpluses acceptably (Li, 1997, 333 and Lai, 1998, 236).49

VIII. CONCLUSION
China's urban housing stock has improved dramatically over the past 20 years. In consequence, its urban housing problem, from a policy perspective, has gotten worse. There appears to have been almost no new construction that is economically sensible. Each new unit of housing seems to widen the gap between what households are willing to pay and what construction costs.

The accounting consequences are inevitable. Government and work unit housing accounts display increasing expenditures and deficits. Moreover, the allocation of each new unit confers a huge surplus on the recipient household. That household then joins the many others who will resist reform if it threatens their windfall.

This process will never provide vertical equity. However, that has never been a feature of the urban housing system, despite representations to the contrary. The true indictment is that it does nothing to ameliorate horizontal inequity. As always, if two households with identical wealth have dwelling units of different quality, it is almost surely because that with the better home had more influence with the providing work unit, or that work unit had more influence with organs of government.

In this sense, China's administered and semi-administered housing allocation system has truly been less effective than would have been a market system at attaining its own stated objectives. With housing allocated by open bids, differences in housing consumption among otherwise identical households would be attributable to differences in choice. Successful commodification is also the only way to reconcile construction costs with willingness-to-pay.

The obvious difficulty is in achieving "success". Many of the obstacles are administrative: It requires more sensible housing regulations, more reliable systems of property registration, more complete and

49 While these taxes might “deter investment interests,” (Li, 1997, 333) it is efficient to do so when the investments in question depend for their profits upon the surpluses attached to underpriced land use rights.
trustworthy definitions of property rights, a more transparent regime for the allocation of land use rights, and more consistent enforcement. All of these requirements are essentially public goods. Their provision is appropriately the responsibility of the government. They offer the government an important opportunity to make an undeniably positive contribution to social welfare.

Naturally, the other obstacles are political. The most important is the existing distribution of economic rents, or surpluses, through the housing system. Those who enjoy such surpluses must be well-placed to defend them, simply on the evidence that they were placed sufficiently well to receive them in the first place. Similarly, those originally denied access to these surpluses are unlikely now to have the power to confiscate them. Therefore, any proposed reform which incorporates immediate threats to this distribution is almost surely doomed.

This implies that commodification and horizontal equity cannot be achieved simultaneously. Horizontal equity cannot precede commodification either, because it is politically infeasible and because commodification is necessary to identify the distribution of surpluses. Therefore, commodification must be the primary policy goal of current urban housing reform.

The best way to achieve this goal is through accelerated privatization. Current residents should receive titles to their dwelling units. In return, they should contribute whatever balance has accrued in their provident funds. In addition, some administrative procedure or bidding mechanism that might extract at least some of any excess of each household's true bid prices over these funds would be helpful. However, privatization should not be delayed, in the vain hope of discovering a procedure that would reveal these prices in their entirety.

Commodification alone will simply validate the existing distribution of housing surpluses. Post-commodification policy will need to address redistribution explicitly. Three sources may provide revenues for this purpose. Proceeds from provident funds and other privatization revenues will be available almost immediately. The government will realize additional revenues from sales of land use rights at proper prices.

Lastly, equity will require a substantial and long-lasting capital gains tax on real estate transactions between non-governmental entities. The comparison between sales prices and privatization revenues would be a reliable estimate of the surpluses associated with the original occupancy grant. Progressive taxation of these surpluses at time of resale will be the least provocative method of extracting them. The ensuing revenues, over time, can be used to slowly rectify the inequities from which they arose.

A program such as this would differ substantially from the government's current approach to existing housing. Its appeal lies in the evident failure of this approach.

The government's position with regard to new housing is more promising. Marketized provision by
real estate development corporations that are at least semi-privatized is clearly the appropriate direction. There appear to be two reasons why these corporations do not yet provide affordable housing. The first is that the demand for affordable housing at market prices is practically nonexistent, because of the availability of subsidized alternatives. The second is that government regulations appear to prohibit the construction of units that might be affordable.

Commodification as proposed above would abolish subsidized alternatives. The government also has the authority to abolish the second problem, as it is the source. Housing regulations that are appropriate for China's level of economic development are absolutely essential for further rationalization. Any attempt to continue providing housing at unaffordable construction costs dooms China to perpetual subsidies, imbalances and inequities in its urban housing sector.

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