Urban Redevelopment in the People's Republic of China

by David E. Dowall

INTRODUCTION

In market economies, private redevelopment occurs only when the revenues generated by building and selling or leasing new space exceeds the cost of site acquisition, clearance and new construction. Governments assist and facilitate redevelopment by assembling land and providing infrastructure to support new development. Regardless of the extent of government intervention, current users of the land and property to be redeveloped are compensated for the loss of their property. This compensation almost always takes the form of a cash payment.[1] Rarely is compensation made in terms of in-kind transfers - flats for flats, or shops for shops.

China's approach to inner city residential redevelopment is different. The first and foremost difference is that relocation laws revolve around the principle of in-kind compensation - if a household or business must give up its accommodation, the redeveloper must replace the space in-kind. This concept leads to a very high incidence of on-site resettlement of households and businesses. Most cities strive to provide as much on-site relocation as possible. Examples abound of virtual 100 percent on-site relocation in Guangzhou, Tianjin, Hangzhou and Shanghai. However, there are signs that cities recognize the high costs of in-kind, on-site replacement of housing and are developing alternatives aimed at reducing on-site resettlement and increasing the percentage of households willing to move to lower-cost suburban projects.

While reducing the incidence of on-site resettlement works to increase the financial feasibility of redevelopment projects, other government policies impose severe financial costs on these projects. In most cities, real estate development corporations carrying out inner city redevelopment projects are required to make significant improvements to the base of community facilities provided in old areas, and to do so without receiving compensation from the district governments to which these facilities are transferred. Such requirements impose considerable financial burdens making it difficult for real estate development corporations to build feasible redevelopment projects.

Another burden most redevelopment projects must shoulder is the payment of substantial fees, taxes and charges. In Guangzhou, most inner city real estate developers assume that taxes, fees and charges will comprise about 33 percent of total project costs.

The high incidence of in-kind and on-site resettlement, heavy requirements for the provision of community facilities at no cost to local district governments, and the payment of numerous fees, taxes and charges makes it difficult for real estate development corporations to undertake redevelopment projects. Unless they are permitted to redevelop cleared sites at substantially higher densities, projects are financially feasible only if the price of commodity housing or commercial space can be aggressively marked-up to provide enough revenue to carry the cost of project development, including the provision of replacement housing. In some instances, the high mark-ups are not achievable and commodity housing units remain unsold.

This paper reviews redevelopment policies and practices in use in a range of Chinese cities and assesses alternative policy options for improving the financial feasibility of urban residential redevelopment. The paper is based on extensive field research in Fuzhou, Guangzhou, Hangzhou, Shanghai and Tianjin which was supported by the China Department of the World Bank.

AN OVERVIEW OF REDEVELOPMENT PROJECTS

To assess the financial impacts of current urban redevelopment policies, case studies of eleven redevelopment projects have been assembled. These are listed in Table 1. Most projects were started between 1985 and 1987 and were completed within the

David Dowall is a Professor at the College of Environmental Design, School of City and Regional Planning, University of California, Berkeley. *This article has been reprinted with permission from the* Journal of the American Planning Association, *Vol. 59,1, Spring 1993.*

past two to three years. The site area of projects ranges from 0.5 to 29 hectares, with an average of 5.7 hectares. Before redevelopment, the constructed area ranged from 6,000 square metres to 335,000 square metres (average 53,000 square metres). After redevelopment, the total constructed area ranged from 0 to 737,000 square metres (average 141,900 square metres). Before redevelopment, the floor area ratio (FAR) of projects averaged 1: 0.93. Redevelopment brought an increase in density, and the average FAR of projects after redevelopment increased to 1: 2.5. These FAR statistics illustrate that developers have been successful in implementing urban planning policies aimed at reducing inner city development densities. The higher densities, have enabled real estate development corporations to construct and sell commodity housing to finance their projects. Finally, although there is considerable variation in terms of the percentage of former residents who were resettled on the site, ranging from 0 to 100 percent, the typical project provides on-site replacement housing for most affected households (an average 65 percent). Before turning to the actual financial performance of these projects, the next section reviews the process and approach of redevelopment.

AN OVERVIEW OF COMPENSATION AND RELOCATION POLICIES

The most critical determinant of the financial feasibility of redevelopment projects is how the owners and tenants of demolished housing are compensated. The exact nature of this compensation in terms of the size and quality of the replacement housing, where such housing is provided and what kinds of temporary accommodation is provided largely determines the costs of redevelopment projects.

In virtually all instances, redevelopment begins with a careful and protracted negotiation over property compensation. While practices vary from city to city, the principles are similar and are dictated by municipal and provincial statute. The resulting compensation depends on the ownership of the structure to be demolished. In the case of private owners, the REDCs negotiate directly with them and payments go to each and every individual owner. Compensation proceeds can be used to purchase a new unit or owners can forego compensation and instead exchange their property ownership right for the right to occupy a municipally owned rental unit. In the case of units owned by enterprises, negotiations are with the enterprise, not the tenant, and the payments or exchanges take place between the enterprise and the real estate development corporation. After resettlement, the enterprises are free to set new rents. In most cases new rents increase to partially reflect the higher costs of the units. In cases where the municipality owns the units, the housing authority negotiates with the developer over the level of compensation and the typical pattern is for the developer to provide replacement housing at no cost to the city. Rental rates for the tenants usually remain the same on a per square metre basis.

In most cases, compensation provided to households located in these areas is made on an in-kind basis and rarely reflects the economic value of either the demolished or newly provided unit. It is quite common that the value of the replacement unit far exceeds that of the demolished unit. Because of the emphasis on in-kind contributions and the concept of exchanging property rights as opposed to financial compensation, resettlement and relocation payments are biased heavily in favour of the sitting tenant. The financial implications of in-kind contributions are enormous, and greatly determine the financial feasibility of rede-

Table 1: Profile of Redevelopment Case Studies

Project Name	City	Date Started	Site Area	Built Area		% On-site
				Old	New	Resettled
An Deng	Fuzhou	1987	0.5	6,213	0	0
Jin Wah	Guangzhou	1986	29.0	335,000	737,000	90
Xiao Fuqing	Hangzhou	1985	0.7	6,000	15,417	100
Hu Lang Garden	Shanghai	1985	1.7	12,589	84,000	100
Hui Yi Garden	Shanghai	1984	1.3	8,630	8,250	0
Jiang Gou	Shanghai	1985	1.9	26,221	88,400	0
Ordinary Citizen	Shanghai	1985	16.5	116,040	325,000	90
Tian He	Shanghai	*	0.5	13,880	17,200	45
Ying Xiang	Shanghai	1985	5.5	33,000	190,000	86
Ping Shan Rd.	Tianjin	1985	1.4	8,756	33,967	100
Wujiayao	Tianjin	1985	3.4	15,715	61,319	100

* Exact data not available, approximate start in mid-1980's
Source : Redevelopment project surveys, 1991, 1992.

velopment projects.

Table 2 provides estimates of the depreciated value of old dwelling units. As the table illustrates, the typical depreciated value of old housing units ranges from Yuan 3,000 to 12,000 (reflecting an average value of Yuan 200 per square metre). Based on new construction costs, new units provided to resettled households range from Yuan 16,048 to 71,050. In some cases the value of new units is nearly four times greater than the value of the replaced units. In the case with the smallest ratio, Jin Wah, new units cost nearly 50 percent more than the old ones, despite the fact that new ones are smaller.

While redevelopment compensation policies are based on the notion of replacing a tenant's use rights, in-kind compensation actually provides the tenants with much more. The cumulative effect of making these substantial in-kind payments results in high relocation costs. Table 3 illustrates the total in-kind compensation costs for the surveyed projects and their percentage of total project redevelopment costs. The costs associated with merely replacing the demolished housing is considerable, ranging from 17 to up to nearly 70 percent of the total cost of redevelopment.

Table 3: Total Redevelopment and Resettlement Costs

Project	Original Housing Units	Total Relocation Cost (Yuan)	Total Project Cost (Yuan)	Relocation as a % of Total Cost
An Deng	108	2,809,080	8,025,000	35.00%
Jin Wah	7,492	125,865,600	741,224,028	16.98%
Xiao Fuqing	120	2,559,600	6,992,956	36.60%
Hu Lang Garden	1,394	89,076,600	265,209,200	33.59%
Hui Yi Garden	553	30,525,600	186,332,000	16.38%
Jiang Gou	264	18,757,200	46,291,500	40.52%
Ordinary Citizen	3,620	179,190,000	257,470,000	69.60%
Tian He	204	6,349,500	14,619,093	43.43%
Ying Xiang	1,400	34,094,200	153,458,000	22.22%
Ping Shan Rd.	253	4,060,144	11,002,948	36.90%
Wujiayao	612	10,255,896	23,742,829	43.20%

Source : Redevelopment Project Surveys, 1991, 1992.

Instead of structuring redevelopment and relocation benefits around the concept of in-kind compensation, it is far more efficient to provide financial compensation. Economic literature reporting on research on the value of housing has concluded that housing is best viewed as a bundle of services provided to the user. This flow of services includes areas for sleeping, entertaining and socialising, personal hygiene, food preparation and storage. The services also include access to employment, family, friends, shops and governmental and institutional activities. Given the complexity and extreme variation in levels of service

Table 2: Comparison of the Economic Value of Old Dwelling Units and New In-Kind Replacement Units

Project	Housing Units	Unit Size		Value Old Unit* Yuan	Cost of Replaced Unit Yuan	Ratio Old/New
		Orig. sq. m.	New sq. m.			
An Deng	108	60	85	12,000	26,010	2.17
Jin Wah	7,492	44	42	8,800	12,852	1.46
Xiao Fuqing	120	50	79	10,000	24,174	2.42
Hu Lang Garden	1,394	15	60	3,000	18,360	6.12
Hui Yi Garden	553	14	48	2,800	14,688	5.25
Jiang Gou	264	30	49	6,000	14,994	2.50
Ordinary Citizen	3,620	28	55	5,600	16,830	3.01
Tian He	204	60	83	12,000	25,398	2.12
Ying Xiang	1,400	22	71	4,400	21,726	4.94
Ping Shan Rd.	253	35	59	7,000	18,054	2.58
Wujiayao	612	26	57	5,200	17,442	3.35

* The economic value of the old unit is established at Yuan 200 per square metre of constructed area, and is based on the actual construction cost to replace the unit, less accumulated depreciation. The value excludes land and infrastructure costs and fees and charges.

Source : Redevelopment Project Surveys, 1991, 1992.

exhibited by these physical and non-physical attributes it is clear that dwelling size alone is not the best measure of housing services.

Assuming that residential owners receive no compensation for land, payment is based on the replacement cost of the unit less depreciation, with the same levels of payment made to private owners, enterprises and government. Municipal, enterprise and private owners should be free to purchase replacement units in a variety of projects, taking into consideration access to jobs, family and other services. Redevelopers should assist in these acquisitions .

Recognising the significant hidden costs of in-kind replacement policies, several cities are exploring alternative policies. For example, virtually all redevelopment activity in Fuzhou provides no on-site replacement housing. Instead, the municipal housing bureau, households and businesses located in redevelopment areas have two options: they can either cash out and move to a new area, or they can cash out and purchase a new unit in the completed redevelopment project, if one is available.

Sitting tenants in redevelopment areas are compensated for the loss of their units. Private tenants receive payment according to the type of construction of the unit (brick, wood or concrete and brick), the age of the unit and its condition. At the present time, high quality concrete and brick units in excellent condition are compensated at a rate of Yuan 320 per square metre, reflecting 80 percent of the current replacement cost.

The amount of compensation is negotiated between the real estate development company and the tenant. The real estate development corporations negotiate directly with private owners and payments go to them. In the case of units owned by enterprises or the municipality, negotiations are with the owner, not the tenant, and the payments go to the owner. After resettlement, the enterprises are free to set new rents. In most cases new rents are increased to reflect higher costs. For municipally-owned units, the developer negotiates with the government over the level of compensation. Rental rates for the tenants usually remain the same on a per square metre basis.

Affected tenants who are private owners can choose to relocate to other housing projects, using their compensation. They can purchase larger units if the size of their existing unit is below government set targets. To encourage off-site relocation, tenants opting for suburban areas can purchase up to 40 percent more space, even if it exceeds policy levels. Enterprises and municipal housing authorities are also eligible to obtain "bonus" space if they agree to relocate their tenants to suburban projects. The actual amount of the bonus varies according to the location of the suburban project (the more remote, the higher the bonus) and the site of the former house.

Table 4: Previous and New On-Site Replacement Housing in Seven Redevelopment Projects with over 85 percent On-Site Resettlement

Project	Previous Constructed Residential Area	Ave. Unit Size	On-site Replaced Housing	Ave. Unit Size	On-site Replacement as % of Total Construction
Jin Wah	329,648	44	282,000	42	38.3%
Xiao Fuqing	6,000	50	9,530	79	61.8%
Hu Lang Garden	7,809	14	26,500	48	31.5%
Ordinary Citizen	103,040	28	178,000	55	54.5%
Ying Xiang	30,800	22	80,000	71	42.1%
Ping Shan Rd.	8,756	35	14,813	59	43.6%
Wujiayao	15,494	26	39,697	57	64.7%

Source : Redevelopment Project Surveys, 1991, 1992.

ON-SITE AND OFF-SITE REPLACEMENT OF DEMOLISHED HOUSING

The second most important determinant of redevelopment project financial feasibility is whether affected households are provided with on-site replacement. Clearly in the context of in-kind compensation and the notion of the exchange of use rights, many argue that tenants of demolished housing should be provided with new housing built on the redevelopment site. Such an approach makes it difficult to feasibly build new projects, since so much of the new construction is diverted to former tenants at no cost. This section reviews the various policies taken in several cities in regard to on-site replacement housing.

Redevelopment policies in Tianjin, Guangzhou and Hangzhou support and encourage the on-site resettlement of redevelopment area households. As illustrated in Table 1, four of the 11 projects we surveyed provided 100 percent on-site relocation of households. Another three projects provided on-site replacement of demolished units for over 85 percent of households. Only four cases called for substantial off-site resettlement. In one case this was because the site was used for a park (An Deng in Fuzhou). In the other three cases, new projects were developed which made it difficult to re-house everyone on-site. The incidence of on-site redevelopment is a critical determinant of redevelopment feasibility because of the following reasons:

- all redevelopment projects are financed through the sale of new commodity housing and commercial space produced on

the site;

- most redevelopment policies provide for in-kind replacement of demolished housing with no payments provided to the existing owners;
- FAR regulations limit post-redevelopment density;
- redevelopment projects are required to build and transfer substantial new public facilities at no cost to local and district governments; and
- replacement units are larger than old units.

If affected households were compensated with cash for the demolition of their units and were then permitted to purchase commodity housing on-site, real estate development companies would be indifferent to on-site relocation. However, replacement units are provided at no cost to these tenants, and this imposes substantial costs on the redeveloper.

With limitations on the potential floor area that can be constructed, requirements for new public facilities and increased living areas for occupants of replacement housing, the potential amount of commodity housing or space is limited. Table 4 illustrates the prior and replacement housing construction levels for seven projects which resettled more than 85 percent of the residents on-site. Before redevelopment, the seven projects had 501,547 square metres of residential space, an average of 71,650 square metres per project. There were 14,050 households living on-site, and each had an average of 35.7 square metres of constructed space. With redevelopment came the construction of 630,540 square metres of on-site residential replacement housing, an average of 90,077 square metres per project. After redevelopment, 91 percent of the households returned to the seven projects. Each of these 12,742 households received 49.5 square metres of constructed area.

In all but one project, households received considerably more housing space, as the redevelopment planners increased living space in inner city areas to reach per capita minimum standards. In some cases space per dwelling unit more than doubled. On-site replacement housing can account for a significant portion of the net increase in total construction. In the seven surveyed projects which had over 85 percent on-site resettlement, replacement housing accounted for between 32 and 65 percent of total new construction. Devoting between one third and two thirds of a redevelopment project constructed area to replacement housing for which no revenues are generated imposes a formidable financial drag on project feasibility. On the other hand, when the replacement housing is provided off-site, the portion of net new construction going to commodity housing is much greater and can routinely exceed 100 percent of net new construction.

As long as the revenues generated per square metre from the sale of commodity housing exceeds the per metre cost of off-site replacement housing, real estate development companies would benefit from resettling project area residents to new areas. There is widespread awareness of the cost implications of guaranteeing on-site replacement housing. In some cities, such as Chengdu, policies have been adopted which require all residents of redevelopment projects to be relocated to suburban areas.

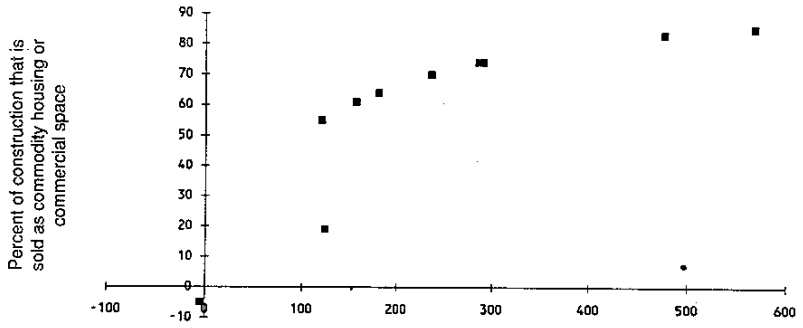
While mandatory off-site relocation policies might work in small and medium sized cities where the impacts of relocation on trip patterns is small, in the larger cities it may not be politically feasible. In larger cities such as Shanghai and Beijing, there is a trend toward providing a variety of space and financial inducements to encourage affected households to relocate to suburban areas. Recognising the special difficulties of redeveloping old areas, Shanghai's new relocation law provides for a differential payment for new housing constructed in redevelopment areas. In cases where commercial housing is to be developed on the cleared site, former users may purchase housing there, but they must pay the full commodity price including a location premium for central locations. An alternative mechanism

Table 5: Break-even Prices for Commodity Housing in Redevelopment Projects

Project	% On-site Resettlement	Break-even Price of Housing (Yuan per sq.m.)	Average Construction Cost (Yuan per sq.m.)	Ratio of Break-even Price to Cost
An Deng	0%	877	477	185%
Jin Wah	90%	2,592	1,006	258%
Xiao Fuqing	100%	1,559	454	343%
Jiang Gou	0%	3,154	3,000	105%
Hu Lang Garden	100%	3,727	2,218	168%
Hui Yi Garden	0%	5,611	5,611	100%
Ordinary Citizen	90%	2,320	1,200	193%
Tian He	45%	1,924	850	226%
Ying Xiang	86%	1,744	808	216%
Ping Shan Rd.	100%	641	324	198%
Wujiayao	100%	1,210	387	313%
Average		2,305	1,485	155%
Average Without Hui Yi		1,974	1,072	184%

Source : Redevelopment Project Survey, 1991, 1992.

Figure 1: Relationship Between Increase in F.A.R. and the Percent of New Construction that is Sold as Commodity Housing or Commercial Space



(also used in Shanghai) to encourage households to relocate to outlying areas is to allocate more space to households choosing suburban areas.

While initiatives aimed at providing incentives to households who choose to relocate to suburban areas should be encouraged, a major overhaul of the compensation framework is needed. It would be vastly easier for redevelopment corporations to compensate existing tenants on the depreciated value of their units and then require them to pay the full commodity price of new units developed on the cleared site. This policy should be applied to all classes of property ownership: municipal, enterprise and private. The next section of this paper looks at the financial performance of redevelopment projects and assesses alternative strategies for improving project feasibility.

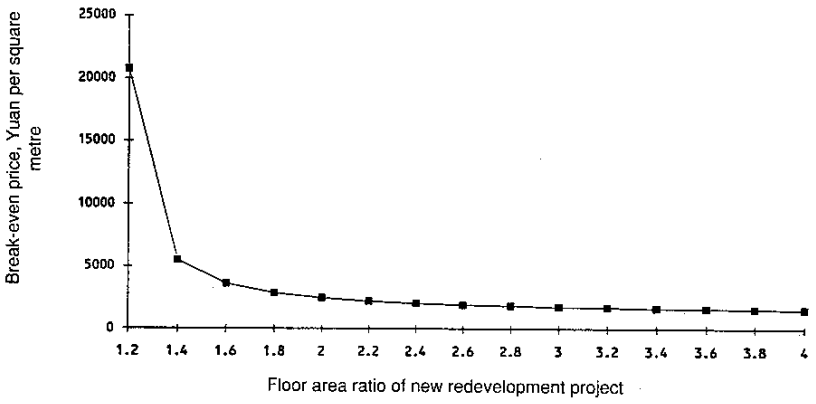
ASSESSING THE FINANCIAL PERFORMANCE OF REDEVELOPMENT PROJECTS

The policy followed in most redevelopment projects is to set the price of commodity housing at that level where costs are recovered, including a modest mark-up for profit. In cities where generous on-site replacement of demolished housing is the norm, the mark-up is enormous, and can exceed 100 percent. As illustrated in Table 5, the break-even prices of commodity housing vary considerably across redevelopment projects, ranging from a low of Yuan 641 for Tianjin's Pingshan Road project, to Yuan 5,611 for the overseas-oriented Hui Yi project in Shanghai. The average break-even sales price, excluding the Hui Yi project is Yuan 1,974 per square metre. The average cost of construction for these same ten projects is Yuan 1,072 per square metre (the wide variation in construction costs reflects the range of construction types, walk-ups to elevator buildings and variations in off-site infrastructure requirements).

Thus, the break-even price for these ten projects is 84 percent greater then the average cost of construction and profit, implying that the purchasers of commodity housing units pay an average of 84 percent over the average cost (including profit) of redevelopment projects.

The typical approach to pricing and cost recovery reflects the absence of long term financing for real estate development and the failure of rents to cover the real capital costs of new construction. The only way to pay for replacement units, given the government policies outlined above, is for the real estate development company to recover the costs from those who can pay - the purchasers of commodity housing. This strategy produces two serious problems which limit its long-term sustainibility. First, there are enormous distributional questions associated with the cost-recovery. Should purchasers of new units pay inflated prices for their units in order to finance replacement for existing residents of redevelopment areas? What are the implications of having enterprises (the dominant purchasers of commodity housing in redevelopment projects) finance the replacement of old municipal and privately owned housing in inner city areas? Why should the workers of one enterprise subsidise the housing of other enterprises?

Figure 2: Break-even Sales Price by Floor Area Ratio for Prototypical Redevelopment Project



The second problem generated by the pricing strategy is that in some cases, enterprises, or individuals are not willing to pay the inflated prices. They can avoid the costs by purchasing housing in green-field areas where there are no redevelopment costs to shoulder. In some cases they may even build their own housing. In market economies it would be extremely difficult for the developers of inner city redevelopment projects to simply pass on the costs of replacement housing, because they face price and product competition from other developers.

Why is there such tremendous variation between the average cost of redevelopment projects and the break-even sales prices of these redevelopment projects? The remainder of this section assesses price and cost variations and describes what factors influence high commodity housing prices. The focus of the assessment is on FAR, replacement space standards, on-site versus off-site replacement, provision of public facilities and payment of fees and taxes.

Floor Area Ratio and Redevelopment Cost and Financing

The floor area ratio is the single-most important determinant of redevelopment project feasibility. Figure 1 illustrates that the greater the increase in FAR, the more commodity housing and commercial space can be built on a redeveloped site. As it shows, the percentage of a new redevelopment's constructed area going to commodity sales increases with increases in post-redevelopment FAR. The more additional space that can be built, the more commodity space a developer will have to sell. With more space, the break-even commodity housing price can be reduced and brought closer to the actual cost of the project.

Figure 2 illustrates the impact of increasing FAR on the break-even price of commodity space. This figure is based on simulation test results of a financial model developed for a typical redevelopment project.[2] As Figure 2 illustrates, the break-even sales

Figure 3: Relationship between Replacement Space Standards and the Percentage of Net New Construction Sold on the Commodity Market

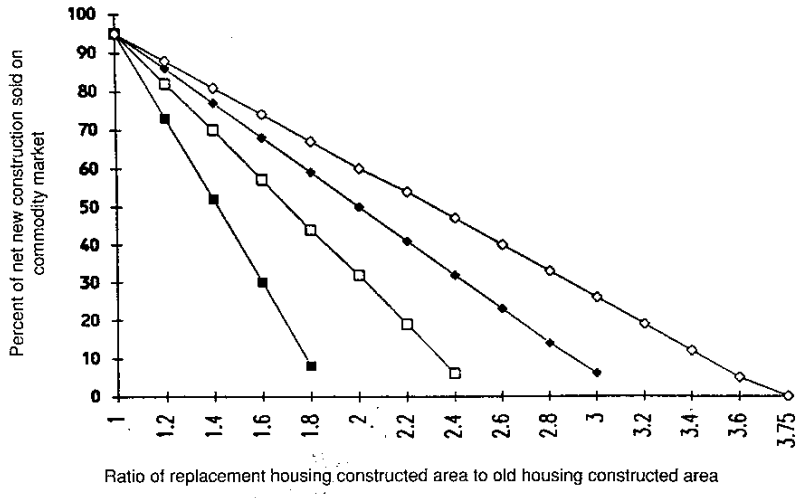
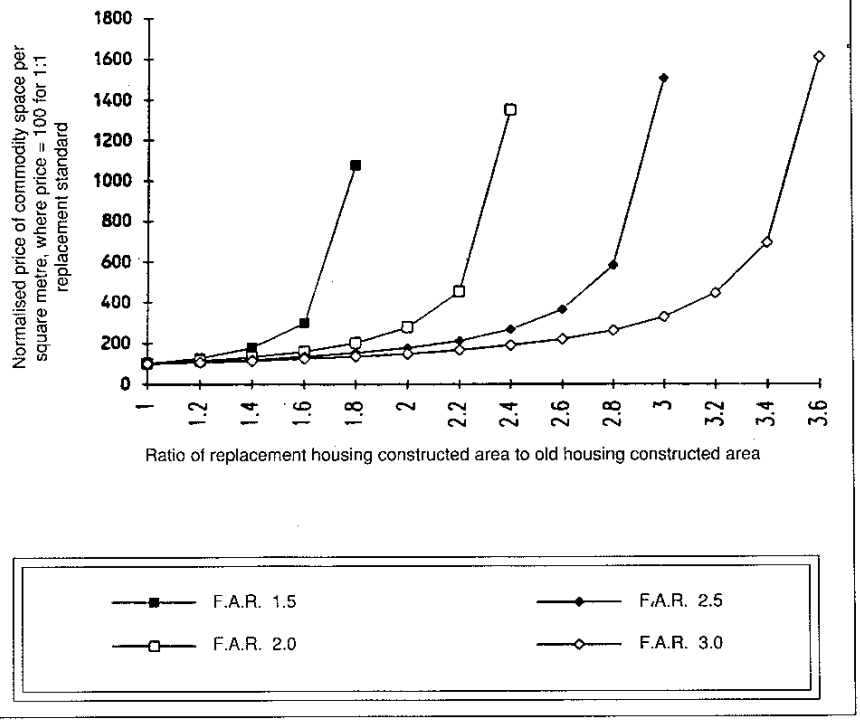


Figure 4: Relationship Between Replacement Space Standards and Break-even Sales Price of Commodity Space for Various F.A.R.s



price declines as the FAR increases. This decline reflects the fact that increases in FAR raise the portion of constructed area that can be sold as commodity space. However, the overall price structure of a typical project is also determined by other factors as well. The next section examines government replacement policies regarding the size of new units.

Replacement Space Standards

Discussions with housing planners and government officials across China reveal a preoccupation with the per capita living and constructed area. In most cities, housing policies are targeted on goals aimed at increasing per capita space in residential areas. As described above, in most redevelopment areas per capita space is limited and there is considerable over-crowding. As revealed in Table 4, for projects where most households were resettled on-site, the size of dwelling units before redevelopment ranged from 14 to 50 square metres, averaging about 31 square metres per unit. After redevelopment, on-site space allocations increased to an average of 59 square metres, a 90 percent increase. Only in the case of Guangzhou's Jin Wah redevelopment project were space allocations reduced after redevelopment from 44 to 42 square metres.

The degree to which more space is allocated to tenants receiving on-site replacement housing will significantly affect the amount of new space that can be sold. Figure 3 illustrates the relationship between space allocation standards and the portion of net new space sold on the commodity market. As the ratio of new replacement space for old housing space increases, the percentage of a redevelopment project's net new constructed area which can be developed decreases. The rate of decrease is faster with lower levels of FAR.

The impact of space allocation policies on the portion of commodity space in a project directly effects the break-even sales price of the commodity housing. In Figure 4, simulations of variations in break-even prices are provided for a range of housing replacement policies. The prices have been normalised, with the break-even price set to equal 100 when the replacement ratio is 1:1. The figure illustrates the price implications of offering generous replacement space standards, assuming that all replacement housing is to be financed through commodity sales. Depending on the FAR of the redevelopment project, prices rise dramatically when the replacement ratio increases beyond 1.6, 2.2, 2.8 and 3.4 for FARs of 1.5, 2.0, 2.5 and 3.0 respectively. In cases where considerable additional housing needs to be provided and resettlement is to occur on-site, the FAR should be increased, probably doubled or tripled. In cases where such increases in FAR are not feasible, redevelopment planners should consider relocating households to other sites. The next section assesses the cost implications of off-site relocation.

On-site Versus Off-site Housing Replacement

In most redevelopment projects, considerable, if not all households are provided with on-site replacement housing. Such a policy is extremely burdensome for several reasons. If a site has a higher potential use, say for commercial offices or retail facilities, it will always be financially advantageous to resettle households off-site, since all space in the new project could be sold at considerably higher prices. But even under circumstances where the housing units are replaced and where the sales price of commodity housing in such projects is strictly limited to cost-recovery, off-site resettlement may still be advantageous.

If off-site replacement housing can be provided for sitting tenants less expensively than on-site provision, relocation will always be financially advantageous. Off-site replacement costs are usually lower per square metre than on-site cost because it is usually of lower density (six-story versus high-rise) and built with lower-cost materials. Another reason is that off-site relocation does not require the provision of temporary housing or relocation benefits. Off-site relocation can be less expensive if it utilises low-cost suburban land.

However, in order to successfully implement off-site relocation, real estate development companies must offer a variety of inducements to encourage relocation. The most common form of inducement is to increase the allocation of replacement space to households electing to relocate. For example, in Shanghai and Guangzhou, households agreeing to relocate to suburban areas are provided with an additional 20 to 30 percent more space, depending on household size, crowding and the initial amount of space. These additional inducements reduce the financial benefits of promoting off-site relocation by increasing the size and thus the cost of off-site housing. While these inducements are appropriate, under the current form of pricing and allocation, they may off-set most of the economic benefits of increased off-site relocation.

To assess the relative costs of off-site versus on-site relocation a variety of simulations were prepared, reflecting differing assumptions regarding on-site versus off-site construction costs, and how much additional space is provided to those agreeing to relocate to off-site locations. Twelve separate simulations where run, and their results are presented in Figures 5 and 6. Figure 5 assumes that residents agreeing to relocate off-site will receive a space allocation bonus of 25 percent. Figure 6 assumes that off-site re-settlers receive a 50 percent space bonus. Both figures provide break-even price estimates for three overall housing replacement policies and two different cost differentials between on-site and off-site housing construction. The three replacement policies assume a replacement ratio of 1:1, 1:2 and 1:3. Six of twelve simulations assume that the costs of housing replacement are the same for both on-site and off-site locations and six assume that off-site costs are 50 percent less than on-site housing construction costs.

The results of the simulations reveal that in

all cases, the break-even prices of commodity space increase with the percentage of residents resettled on-site. Redevelopment policies which require generous replacement benefits to sitting tenants are most cost-effective when on-site resettlement is minimised. This suggests that when existing tenants are to be provided with two to three square metres of new floor area for each square metre demolished, redevelopment projects should provide little on-site resettlement.

These results hold even when the those agreeing to resettle off-site receive a space bonus of 25 to 50 percent. If the overall replacement ratio is 1:2 or more, redevelopment policies should encourage off-site resettlement. The overall patterns illustrated in Figures 5 and 6 suggest that cost differentials between on-site and off-site housing construction modestly effect the impacts of on-site versus off-site resettlement. In cases where the costs of on-site and off-site construction are similar, the benefits of shifting replacement housing off-site are less than when off-site costs are lower. However, the overall replacement ratio is the critical factor determining the relative cost-effectiveness of on-site versus off-site resettlement policies.

Provision of Public Facilities

Across the People's Republic of China, district and municipal governments require redevelopment projects to make numerous public facilities contributions. These facilities, which are turned over free-of-charge to local governments, represent a significant cost of redevelopment. As illustrated in Table 6, in some of the redevelopment projects, a substantial portion of the net new space

Figure 5: Break-even Prices by Percentage of On-site Resettlement, Assuming 25% Off-site Bonus for Various Housing Replacement Policies and Costs, Yuan/sq.m.

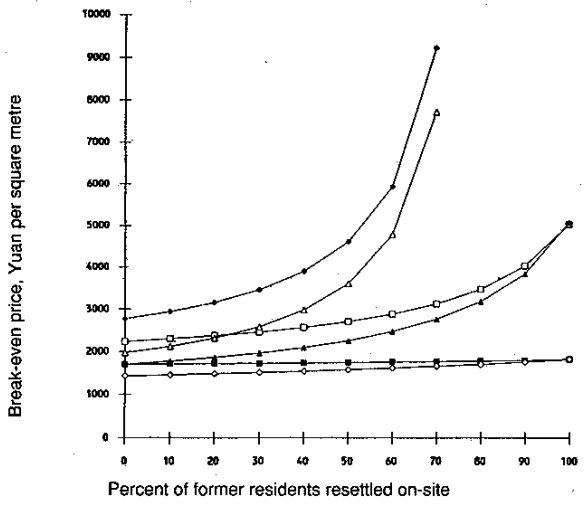
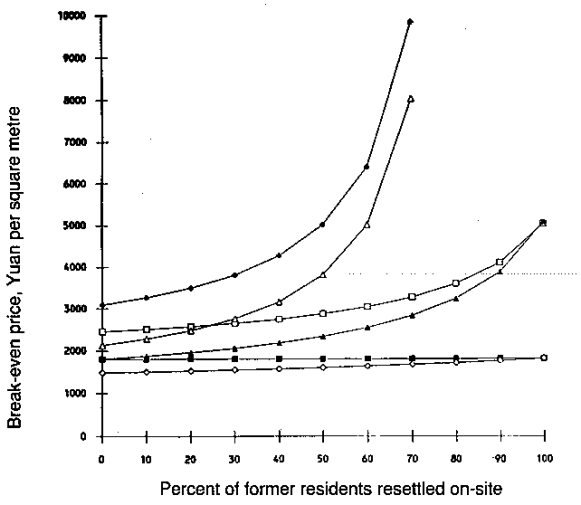


Figure 6: Break-even Prices by Percentage of On-site Resettlement, Assuming 50% Off-site Bonus for Various Housing Replacement Policies and Costs, Yuan/sq.m.



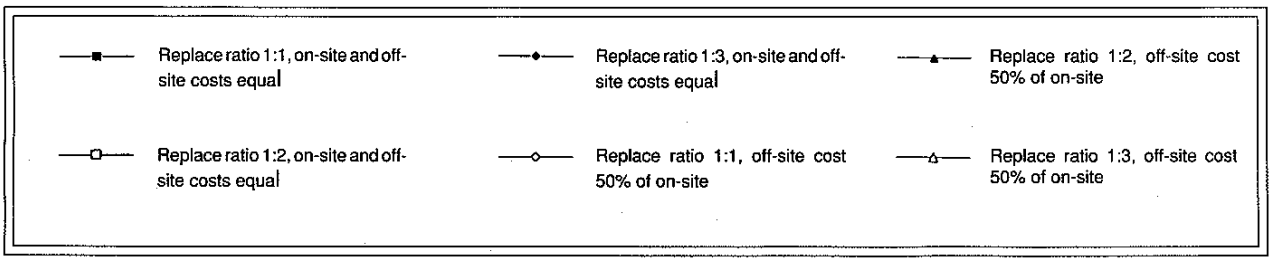


Table 6: Net Increase in Constructed Space and Provision of Public Facilities

Project Name	Net Increase in Constructed Area, sq.m.	Provision of Additional Public Facilities, sq.m.	% Public Facilities of Net Increase
Jin Wah	402,000	163,648	40.7%
Xiao Fuqing	9,417	1,402	14.9%
Hu Lang Garden	71,411	7,500	10.5%
Hui Yi Garden	-380	0	0.0%
Jiang Gou	62,179	4,300	6.9%
Ordinary Citizen	208,960	36,000	17.2%
Tian He	3,320	0	0.0%
Ying Xiang	157,000	17,000	10.8%
Ping Shan Rd.	25,231	2,020	8.0%
Wujiayao	45,604	2,000	4.4%

Source : Redevelopment Project Surveys, 1991, 1992.

constructed went to public facilities. Of the ten redevelopment projects, seven were required to provide public facilities. Of those projects providing public facilities, between 1,402 and 163,648 square metres of space were provided, representing between 4 and 41 percent of the total net new construction. The greatest contribution both in terms of square metres and as a percent of net new space was Guangzhou's Jin Wah project.

In some cities, public facilities are required according to planning standards and vary between 5 and 10 percent of the constructed residential area. Planning standards for shops, clinics, schools and other facilities are somewhat greater than found in other countries, but they are not excessive. What typically occurs is that redevelopment projects are viewed as "golden geese" which can be squeezed to produce city-wide services such as markets, clinics and cultural facilities. This is clearly the case in the Jin Wah project, where government planners require numerous facilities, accounting for 41 percent of net new construction.

Policy reforms are needed to curb the practice of requiring redevelopment projects to shoulder the costs of public facilities which are used by city-wide residents. When such facilities are needed, the local government should pay for them and not attempt to extract them from redevelopment projects. In other countries, space used for shops and markets is either sold or leased to private operators. In the case of public space, land is usually dedicated for facilities and the government builds and pays for the space.

Fees and Taxes

Virtually all redevelopment projects are required to pay a variety of taxes and fees. In some cases these fees and taxes are extraordinary, amounting to over 15 percent of total redevelopment costs. Table 7 presents estimates of total fees and taxes levied for the surveyed redevelopment projects. As revealed in the table, the incidence of taxes and fees varies considerably across cities. In Tianjin, only token fees and taxes are charged on projects, and instead redevelopment projects are required to provide substantial off-site infrastructure. In Fuzhou, modest taxes and fees are charged for redevelopment. In the An Deng project (the off-site resettlement project) fees and taxes amounted to about 9 percent of project costs.

In Guangzhou and Shanghai, there are a variety of taxes and fees which redevelopment projects must pay. In the Jin Wah project, in addition to the onerous public facility requirements, redevelopment companies must also pay out nearly Yuan 116,000,000 in fees and taxes, a staggering Yuan 546 per square metre of marketable area, accounting for 16 percent of total project costs. In Shanghai, all redevelopment projects are required to pay Yuan 95 per square metre to the SMG as an off-site infrastructure fee. Other fees and taxes increase total payments to between Yuan 213 and 555 per square metre of constructed space. In percentage terms, fees and taxes range from a low of 0.1 percent of total project costs, to 17.4 percent.

Table 7: Fees and Taxes Paid by Redevelopment Projects

Project Name	Fees and Taxes	As % of Total Project Cost	Per sq.m. of Marketable Area
An Deng	750,000	9.3%	82
Jin Wah	115,988,000	15.6%	546
Xiao Fuqing	1,213,699	17.4%	271
Hu Lang Garden	12,250,000	11.0%	348
Hui Yi Garden	4,575,000	6.6%	245
Ordinary Citizen	35,500,000	7.1%	320
Tian He	2,090,000	12.6%	275
Ying Xiang	18,800,000	12.3%	214
Ping Shan Rd.	14,504	0.1%	1
Wujiayao	101,693	0.4%	5

Source : Redevelopment Project Surveys, 1991, 1992.

It is clear that in some cases, taxes and fees account for a significant portion of redevelopment costs. While these fees and taxes are used to support the construction of capital plant and to provide services of benefit to redevelopment area residents, it is often the case that redevelopment activities are used to finance projects which benefit a wider audience. Similar to arrangements for the provision of public facilities, redevelopment projects should not be pressed upon to fund projects providing city-wide benefits.

RECOMMENDATIONS FOR IMPROVING THE FEASIBILITY OF RESIDENTIAL REDEVELOPMENT PROJECTS

In redevelopment projects across urban China, new commodity housing and commercial space is priced at two to four times its economic cost. This extreme differential between cost and price is inefficient and creates severe housing market distortions. It also imposes inequitable burdens on purchasers of housing in redevelopment projects, enterprises and individuals are indirectly paying for the improvement of housing conditions of others.

There are essentially two options for reducing redevelopment costs and lowering break-even commodity prices. One approach maintains the existing allocation system and tries to lower the "shadow costs" of the allocations. The other method monetises the transactions between the existing residents and the redeveloper. As described above the gap between direct redevelopment costs and the full-cost-recovery price of housing can be closed by:

- increasing the density of new development;
- limiting the ratio of new to existing replacement housing provided to existing occupants;
- limiting the provision of public facility space to only what is required to service project population taking into account the capacity of adjacent facilities and services; and
- increasing the off-site replacement of housing when off-site construction costs are low and replacement standards are generous.

An alternative, more aggressive approach is to monetise compensation for demolished housing and to sell all new redevelopment area housing at commodity prices. Under this approach (currently practiced in Fuzhou), residents of demolished units are paid the depreciated value of their housing. They then take the proceeds and purchase new units in other projects. Fuzhou's real estate developers sell all space in new redevelopment projects at commodity prices.

The payment of cash compensation for the loss of dwelling units would, even in the best of circumstances, leave the household or owner with a substantial shortfall. The gap reflects the fact that the current practice in Chinese cities is not to pay compensation for land, since it is assumed that urban land is under state ownership. If redevelopment compensation was paid for land as well as buildings, the gap between cash compensation and the commodity price of replacement housing could be narrowed.

If the pricing of commodity housing was based on demand as well as supply factors, the prices of commodity housing would be based on location, access to services and the quality of construction, not merely on project costs. If such a world prevailed, developers would purchase sites and carry-out redevelopment projects predicated on the potential revenues generated from the redevelopment, construction and sale of commodity housing or commercial space. Developers would bid for sites based on projected total sales revenues from building and selling commodity space in the potential project less all costs of construction and development (including, fees, charges, interest, materials, provision of public facilities, developer overheads, and target level of profit). The remaining amount, the "residual," is the amount the developer could pay for the land. In practice developers would bid for sites by offering a per square meter level of compensation for existing space, payable to current site users.

If cash compensation was paid for land and buildings, redevelopment projects could be implemented through competitive bidding for redevelopment project sites. The bids would reflect the real estate development companies estimates of the construction costs, sales revenues and compensation for demolished buildings and land, and the highest bidders would be awarded redevelopment rights. Existing owners of buildings on the site would receive compensation for the depreciated value of their structure and a pro-rata share of the land value of the site. The pro-rata share should be based the total value of the bid divided by the original constructed area of the site. Occupants of the site would receive a payment based on their pre-redevelopment ownership of constructed space.

Cash compensation for buildings and land given up for redevelopment would greatly enhance the efficiency and transparency of redevelopment financing. By broadening compensation payments to include land, affected households and owners would receive substantial funds to apply toward the purchase of replacement housing on the commodity market. Such an approach is far superior to the widespread practice of providing in-kind contributions. It would increase the transparency of redevelopment finance and reveal true resource costs to redevelopment agencies and governments as well as to the purchasers of commodity housing. ■

NOTES

[1] In some countries, such as Japan and Korea, compensation is paid in the form of plots of land in the project after the site has been cleared and equipped with new

➪ 41

RUSSIA . . .
➪10

Proposed Sberbank Contract Savings Program (As Defined in November 1992)." Moscow: *Urban Institute, Technical Cooperation Office*, processed.

Ravicz, M. (1992a) "The Bulgarian Indexed Capped Credit." Washington, DC: *The Urban Institute*, processed.

Ravicz, M. (1993 "The Deferred Adjustable Instrument for Russia (DAIR): Product Description." Moscow: *Urban Institute Technical Cooperation Office*, processed.

Renaud, B. (1991) Housing Reform in Socialist Economies. Washington, DC: *The World Bank, Discussion Paper 125.*

State Committee on Statistics of the RSFSR (1991) "Joint Report on Dwelling Stock and Number of Dwellers at the End of 1990." Moscow: author.

Struyk, R. N. Kosareva, J. Daniell, C. Hanson, and M. Mikelsons (1993) Implementing Housing Allowances in Russia: Rationalizing the Rental Sector. Washington, DC: *The Urban Institute Press.*

Struyk, R. (1992) "Structuring Housing Finance Reform in Eastern Europe." Washington, DC: *The Urban Institute*, paper given at USAID Conference on Housing and Urban Finance, Prague, May 4-5.

Struyk, R. and N. Kosareva (1992) "A Structure for Housing Finance in the Russian Federation." Moscow: *Urban Institute Technical Cooperation Office.*

Telgarsky, J., and K. Mark (1991) "Alternative Mortgage Instruments in High-Inflation Economies," *Housing Finance International*, September, pp.27-46.

World Bank (1992) Russian Economic Reform: Crossing the Threshold of Structural Change. Washington, DC: author, *World Bank Country.*

Ravicz, M. (1992) "The Bulgarian Indexed Capped Credit." Washington, DC: *The Urban Institute.* ■

DEREGULATION . . .
➪ 14

Deregulation is blamed by some for the turmoil in financial markets in the past few years, but this is not the general view. Deregulation, when badly done, as in America, has been disastrous. When well done, as in Britain, it has facilitated a smooth transition from a market which had become inappropriate in a modern economy to one that will serve nations well in the 21st century. Deregulation is here to stay. Those who talk about regulation generally confuse regulation with supervision. It should be automatic that deregulation goes hand in hand with tougher capital requirements and a more intrusive supervisory system. In the case of British building societies this was done at the outset. In other countries the lesson is being learned the hard way.

The barriers between markets and institutions will increasingly erode. Specialist housing finance lenders are likely to go out of business one way or another. Some may change their form such that they become more general banking institutions regulated in the same way as other banks. Others, particularly those which are subsidiaries of banks, may be absorbed into the parent bank, and some will change their status into general banking institutions. Housing finance will be seen as one part of a wide range of retail financial services. Much of the business will be conducted by wide ranging banking institutions, but there will always be room for specialists, concentrating on housing finance and doing it efficiently.

In developing countries it is vital to continue to develop a sound institutional framework and to build on the experience of successful institutions. The market potential is huge. ■

CHINA . . .
➪ 35

infrastructure services. However, the actual amount of land compensation reflects the economic value of acquired land.

[2] The model is based on a project with the following characteristics: site area of 50,000 square metres; a pre-redevelopment constructed area of 40,000 square metres (an FAR of 0.8); and 1,086 housing units within a total residential constructed area of 38,000 square metres (approximately 35 square metres per unit). It also contained 2,000 square metres of public facilities. The post-redevelopment simulation (baseline case) assumes that the site is redeveloped to an FAR of 2.0 and contains 100,000 square metres of constructed space. Reflecting practices in many cities, the simulation assumes that all households are resettled on site and that each household receives an average of 50 square metres of constructed area for a total area of 54,300 square metres. Additional public facilities are constructed to reach 5,000 square metres. After these allocations are made, there is an additional 40,700 square metres of commodity space. Total average construction costs (both hard and soft costs) are assumed to average Yuan 1,000 per square metre. ■