Rent Control in Developing Countries

Stephen Malpezzi
Gwendolyn Ball
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Rent Control in Developing Countries

Stephen Malpezzi
Gwendolyn Ball

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This report is a summary of the major findings produced by the World Bank research project "Rent control in Developing Countries" (RPO 674-01). The study was intended to serve as an international overview of the extent and nature of rent control regimes and an evaluation of their impact.

Work under this project entailed a survey of 68 rent control regimes in 55 countries and case studies of the costs and benefits of regimes in Cairo, Egypt; Kumasi, Ghana; Bangalore, India; and Rio de Janeiro, Brazil. Results from the survey were used to construct an index of the stringency of rent control regimes and to relate the index value to various macro-level indicators of housing sector performance. In each of the case studies an econometric analysis was performed to determine the welfare loss and the distributional impact of the regime. The results of this analysis were compared with other empirical studies of the impact of rent control.

The analysis closes with an evaluation of the policy options available for reform of rent control regimes. These options are evaluated according to the type of regime and the economic environment.
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As Third World cities grow, the housing conditions of populations in developing countries continues to be a major concern. The Infrastructure and Urban Development Department of the World Bank has completed a major study of the impact of policy on shelter conditions in the Third World. Rent control is one of the most common forms of housing policy—and also one of the most controversial.

This paper presents the results of the World Bank research project on Rent Control in Developing Countries (RPO 674-01), directed by Stephen Malpezzi. Other project papers include:


Louis Poliquen, Director
Infrastructure and Urban Development Division
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EXECUTIVE SUMMARY

i. Rent control is frequently advocated as a means of reducing the housing costs of low-income households. However, economists as a group have no trouble reaching a consensus on the negative qualitative effects of rent control on housing markets. A recent study revealed that only 2 percent of economists surveyed disagreed with the proposition that "a ceiling on rents reduces the quantity and quality of housing available" (Kearl 1979). This consensus rests on the analysis of rent control as a simple effective price control or tariff. However, remarkably little empirical research has been done on the magnitudes involved. Even less has been done on the analysis of real world rent control regimes, which often diverge from the simple textbook model. Little policy advice is available from the simple price control model other than that immediate blanket decontrol will restore equilibrium after some unknown lag. In 1986 a research project was begun to survey the international impact of rent control and to carry out case studies of controls in Cairo, Egypt; Kumasi, Ghana; Bangalore, India; and Rio de Janeiro, Brazil.

Approach of the Investigation

ii. To determine the nature of rent control regimes internationally, a survey was conducted of rent control legislation. This survey found a wide variety of regimes, some of which attempt to fix a "fair rent" for their markets and others of which attempt to regulate rent increases. An index was constructed, based on the degree to which a regime caused rents to deviate from their expected market levels, to compare the stringency of rent control regimes and evaluate the impact of controls on macro-level indicators of the housing sector's performance.

iii. In each of the case studies a microeconomic model was used to estimate the costs and benefits of rent control to landlords, tenants, and society as a whole. The cost to landlords was estimated as the reduction of rent, which also served as a partial estimate of the benefit to tenants. However, over time each unit may provide a lower supply of housing services per unit, as builders invest less in amenities per unit or in the maintenance of existing units. Thus, while consumers demand a greater quantity of housing services at the controlled price, landlords are supplying less. Tenants are consuming "off their demand curves" with a consequent loss in consumer surplus. The welfare loss from the change in consumer surplus was included with the reduction in rent to determine the net benefit to consumers; the net benefit to society was calculated as the net of costs and benefits. A comparison of the cost to landlords and the net benefit to consumers also produced an estimate of the efficiency of transfer from landlords to producers. Where data were available, the distribution of net benefits among tenants according to income and length of tenancy was also estimated.

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Major Findings

iv. According to the index of stringency of regime, developing countries tend to have stricter regimes than developed countries. The index was also used to evaluate the relationship between the stringency of a local regime and the macro-level performance of the economy or the housing sector. No statistically discernible relationship between the gross national product (GNP) or the level of urbanization and the rent control choice was found; but there were robust relationships between the strength of rent control regime and such variables, once the rent control choice was made. Among these countries, lower rates of income growth (falling real incomes) may be related to pressures for stronger controls. Higher rates of inflation are fairly strongly related to higher values of the index.

v. There also seem to be correlations between the results of the index and housing market conditions. As might be expected, countries with no or weak controls have typical rent-to-income ratios of 20 percent, while those with strong controls have average rent-to-income ratios of 10 percent or less. However, the results suggest that countries with strong rent controls generally distort their housing sector, leading to a decline in the supply of housing and an increase in its purchase price. The house price-to-income ratios (indicators of constraints in the supply of housing) in markets with weak rent control regimes averaged around 4; in stringently controlled markets the ratio was 7 or 8. The conclusion that housing supply is reduced in such countries is confirmed by the lower portion of Gross Domestic Product (GDP) invested in housing in stringently controlled as opposed to weakly controlled markets (3-4 percent and 6 percent, respectively). These results support the conclusion that although rent control does indeed lower rents, it restricts the supply of housing.

vi. The project estimated costs and benefits of rent control regimes in four housing markets--Cairo, Kumasi, Bangalore, and Rio de Janeiro. These markets were chosen to represent a variety of economic and cultural environments as well as a full spectrum of rent control regimes. Kumasi and Cairo have relatively strict regimes. Rio's is much less strict. And Bangalore's regime contains both a strictly controlled segment (which is occupied by public servants and allocated on a preferential basis), a less strictly controlled segment, and an uncontrolled component. The results of other studies of costs and benefits of rent control regimes were also compared.

vii. In the four markets studied, rent control reduced the rent paid by the typical tenant, with reductions ranging from 4 percent of the market rent for the small number of Bangalore households under "ordinary" controls to 64 percent for households in the same community under strict controls. However, the net benefit to tenants was substantially reduced by the welfare losses created by the reduction in the supply of housing services. In Kumasi, welfare losses reduced the benefit to tenants from a 26 percent reduction of the market rent to a 12 percent reduction. For households in Bangalore under "ordinary" controls, the welfare losses were sufficient to give the representative tenant a negative net benefit.

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viii. The efficiency of rent control regimes as a transfer mechanism was calculated by comparing the net benefit of welfare losses to the total rent reduction, that is, the loss incurred by landlords. Rio's weak regime and the strict controls on a small number of units in Bangalore were found to have a high degree of transfer efficiency (100 and 99 percent, respectively), while the efficiency of other regimes ranged from 45 to 87 percent. Ordinary controls in Bangalore had a net social loss and a negative transfer. Thus, with the exception of the preferentially allocated, strictly controlled units in Bangalore, weaker regimes tended to create a lower reduction in rents but have a higher rate of efficiency.

ix. In the four markets studied, the ability of rent control to target benefits to poor households was also evaluated. In Cairo and Bangalore, no relationship was found between the distribution of rent reductions or benefits and household income. In these markets, the benefits of rent control are not well-targeted toward lower income groups. In Rio, the distribution was moderately progressive. In Kumasi, there was no pattern to the distribution of rent reductions, and benefits were moderately progressive only because losses increased with income. Thus, only in the market with the least reduction in rents was the rent reduction or benefit appropriately targeted.

x. It was also found that the premise that rent control will aid income distribution by transferring income from wealthy landlords to poor tenants may be at fault. In three markets--Cairo, Kumasi, and Bangalore--the income distribution of tenants and landlords were compared. While the median income of landlords was higher in all three cases, there was significant overlap. In Cairo, for example, about a quarter of the tenants had higher incomes than the landlord median. And there is no guarantee that the transfer will occur only from high income landlords to low income tenants. As a redistributive mechanism, rent control appears as an inefficient regulation.

xi. The study concludes that rent control fails to meet the goals sought by its advocates. While a strong regime may reduce rents, rental supplements of equal value paid to low income households would have the same monetary benefit as the rent reduction without inducing the supply distortions, thereby leaving the households better off. Policy makers in developing countries should avoid using rent control to protect low income households or redistribute income.

Options for Reform

xii. In reforming markets currently affected by rent control, policy makers should carefully study the nature of the regime. Among the markets studied for this project, those with strict regimes have greater reductions of rent--and greater market distortions and welfare losses. (The exception to this rule, strictly controlled units in Bangalore, covers units which are allocated on a highly preferential basis and therefore can not necessarily be extrapolated to total markets.) These results suggest that in markets where rent control is strict, reforming the regime may create significant benefits. In markets where a highly restrictive rent control regime significantly distorts the market, several options exist to reform the policy. These can be summarized as follows:
(a) **Vacancy decontrol.** Units are decontrolled as they become vacant.

(b) **Vacancy-rate decontrol.** Particular housing submarkets (defined on the basis of the location or type of unit) with a vacancy rate above some statutory level are decontrolled.

(c) **Rent-level control.** Decontrol from the top down, decontrolling the most expensive units first and the cheapest last. The rent level above which units are decontrolled can depend on the location or the type of unit.

(d) **Floating up and out.** A gradual relaxation of controls that applies uniformly across housing submarkets by gradually raising the guideline annual increase. Where the control program contains a rate-of-return provision, this kind of decontrol could entail raising the rate of return.

(e) **Contracting out.** A form of vacancy decontrol where the landlord and tenant negotiate a sum that the landlord pays the tenant if he vacates.

(f) **Local option.** A higher jurisdiction that currently administers controls allows lower jurisdictions to choose whether or not to retain them. Usually, the lower is required to administer the controls if it decides to retain them.

(g) **Blanket-lifting.** All rent-control provisions are suddenly and completely lifted.

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xiii. In the four markets studied, an attempt was made to evaluate the effects of several decontrol techniques. In Kumasi it was found that rents had fallen so far below their estimated market levels that blanket decontrol would be difficult to introduce without creating serious budgetary shocks for either the households paying the rent or the government program designed to limit the shock. Decontrolling either new construction or new tenants would allow reform to be introduced gradually but only at the cost of reducing renter mobility and the efficiency of the use of the housing stock. Floating up or out avoids these problems, but in economies with high inflation rates, it may be difficult to increase rents at a rate that both covers inflation and brings real rents up to their estimated market levels. In general, in deciding how to reform a rent control regime, it is important to consider both the structure of the housing market and the macroeconomic environment.

xiv. However, reforming the rent control regime may not be the first step in dealing with the problems in any particular housing market; reform of other forms of housing policy might be more important than reform of rent control. Weak controls apparently create only minor distortions, and if serious problems exist in the housing market, other policies may be at fault. For example, an inadequate housing finance system may restrain the production of housing. Or overly restrictive regulation of land or housing may raise housing costs. In such cases, efforts to remove the rent control legislation may be a distraction from the real problems.
I. INTRODUCTION

The theoretical analysis of rent control rests on some principles which are quite elementary, indeed distressingly so. They are so obvious that one would feel the greatest reluctance to repeat them in a professional journal were it not that a great public policy has been erected upon either ignorance or a repudiation of them.\textsuperscript{1}

1.1 Economists as a group have no trouble reaching a consensus on the qualitative effects of rent control on housing markets. A recent study revealed that only 2 percent of economists surveyed disagreed with the proposition that "a ceiling on rents reduces the quantity and quality of housing available" (Kearl 1979). This consensus rests on the analysis of rent control as a simple effective price control or tariff. However, remarkably little empirical research has been done on the magnitudes involved. Even less has been done on the analysis of real world rent control regimes, which often diverge from the simple textbook model. Little policy advice is available from the simple price control model other than that immediate blanket decontrol will restore equilibrium after some unknown lag.

1.2 Government policies regarding housing and housing finance obviously have extensive impacts on the availability of affordable shelter in developing countries, but they also affect the efficiency and equity of resource use and public expenditures generally, because shelter is such a large sector of the economy. Housing investment ranges from 2 to 8 percent of GNP in developing countries; it can be a third of total investment; and the relative importance of the sector increases systematically as countries develop. Among the housing policies that have the most substantial impacts and are the most widespread are regulations that control the rents that landlords can charge.

1.3 A recent U.N. study estimates that about 42 percent of the world's urban dwellers are renters. It is not known precisely how many of those roughly 150 million households live under rent control regimes, but our survey research suggests the proportion is probably quite high; over half is a conservative guess. The motivation for research on and clear analysis of rent control is therefore apparent and needs little elaboration. Policy advice is not well informed by the simple textbook models of rent control as a simple tariff; these models only predict the consequences of rent control for very specific rent control regimes and certain market conditions, and lead to little useful policy advice beyond "remove all controls immediately." Despite the importance of the issue, only recently has much work been done to examine actual rent control laws, their effects, and alternative methods of decontrol.

\textsuperscript{1} Cramp, William (1950).
1.4 For practical policy applications, quite specific information is needed about the magnitudes of the costs and benefits of alternative policies, their distribution, and various methods of decontrol. Examples of the kinds of questions that need to be answered include the following:

- How extensive are rent controls in developing countries? What are the major types of controls? What are the stated policy objectives? How are rent controls enforced in various places?

- What are the magnitudes of the effects of rent controls in developing countries? Are the effects of different rent control regimes qualitatively and quantitatively similar? How do these magnitudes compare to other distortions, for example, lack of housing finance, poorly functioning land markets, etc.? How do landlords and tenants adjust to the presence of such controls? Who benefits and who loses from rent controls? What are the distributional effects?

- How can rent control be modified to have more appropriate distributional impacts while producing fewer economically inefficient market distortions? When should rent controls be abolished or retained? What alternative policies exist to achieve comparable goals? What practical problems in implementing alternative policies exist?

1.5 Recent research has helped fill these important gaps in knowledge about an area of housing policy that has potentially significant implications for the pace of development. In 1986 a research project was begun to carry out case studies of controls in Cairo, Egypt; Kumasi, Ghana; Bangalore, India; and Rio de Janeiro, Brazil. In addition to the research project, a number of other high quality research papers have been published recently on rent controls in a number of countries, developed and developing. We draw freely on those in this report.

**Eight Key Questions**

1.6 More specifically, this paper seeks to illuminate the following questions:

1. What are controls like around the world? What variation exists in laws, enforcement, and effects among the various states and among cities? What related regulations exist?

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2/ Malpeazi (1986).
(2) What are the static costs and benefits of controls from the point of view of representative tenants and landlords? How do changes in rents and housing consumption affect the welfare of "typical" individuals?

(3) What are the distributional implications of controls?

(4) What are the effects of rent control on the profitability of rental housing? What are the implications for housing supply?

(5) What are the effects of controls on government revenue, including property and income taxes?

(6) How, on balance, do landlords and tenants adjust to controls? What role is played by key money and advance payments, other side payments, and changes in maintenance and upgrading?

(7) Many alternatives for change present themselves. What can we infer about the effects of different changes on profitability and supply? On affordability, and on the distribution of income and welfare? What are the best sequences of reforms?

(8) What are the crucial areas for future research and policy analysis?

1.7 The body of the paper consists of a review of existing literature, new empirical work, theoretical analysis and simulation that will answer these and other questions.
II. HOUSING MARKETS AND HOUSING POLICY IN DEVELOPING COUNTRIES

2.1 Rent controls and related regulations are not of particular interest in and of themselves; it is the performance of the housing sector that is of interest. Our aim in this chapter is to provide an overview of housing market behavior in developing countries, with a particular focus on renters. Rent controls are introduced in this context as one of several possible interventions that affect the market; detailed analysis of the effect of controls on housing markets is deferred to the following chapters.

2.2 We will begin with a brief review of some stylized facts about housing markets in developing countries. The review will provide context for the analysis of controls to follow.

A. Housing Markets in Developing Countries

How Housing Markets Work

2.3 Figure 2.1 shows a schematic diagram of how the housing market works. Inputs such as land, labor, finance, materials, and infrastructure are combined by supply-side agents such as landlords and developers to produce housing services. Both homeowners and renters are producers as well, to the extent they maintain and upgrade their units. Relative prices inform producers of housing services about whether to provide more or less housing, and the input suppliers about providing more or fewer inputs.

2.4 Clearly some housing problems stem directly from poverty. Improving housing conditions that are bad solely because incomes are low must be accomplished by improving the productivity and incomes of the poor. But many countries succeeding in the task of general development find housing conditions lagging. Many countries at all levels of development find housing conditions worse than they need be because their housing markets are not functioning. One view is that controls are a response to such market failure.

2.5 In general, the market for housing services per se can be well approximated as a competitive market. For the activities in the middle box in Figure 2.1, there are few barriers

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to entry or large economies of scale in most countries. This does not mean, of course, that anybody in a poor country can become a landlord or developer. But there are seldom so few landlords or developers that they exert significant market power, unless they also control inputs that are not competitive, or their numbers are limited-intentionally or not-by regulation.

2.6 The market for many inputs is not competitive. However, their ownership may be so concentrated that owners can fix prices, as in some land markets, large economies of scale may make the production of some inputs a natural monopoly, as with some types of infrastructure and government regulations may restrict the competitive allocation of inputs, notably finance and serviced land.

2.7 It is worth emphasizing that analysis of the competitiveness of the housing market, and of its input markets, depends critically on the conditions of entry and exit and on the regulatory framework, as well as the existence or lack of economies of scale. There is little public policy can do to make a housing market or an input market more competitive by changing economies of scale; these are largely technically determined. There is much that policy can do to affect conditions of entry and exit and the regulatory framework; that is, the competitiveness of each market is partly determined by policies. Rather than bemoan lack of competitiveness, the establishment of competitive markets is an important intermediate policy goal.

2.8 The implications of this analysis are clear. Problems in housing markets are often caused by problems in the input markets. In such cases, government actions that attack these problems directly are the right ones. Rather than adopt this approach, however, many governments intervene in production (the middle box). Governments that try to fix prices—for example, by rent controls—are changing the signals being sent to the market. Analysis of controls can be viewed in two parts: Is it the signals—the prices—that are themselves the problem? Under what conditions could government expect to improve this signalling if it is part of the problem? This general framework, presented in numerous analyses of housing markets generally, can serve well in the study of rental controls and related regulations as well.

Housing Demand

2.9 What are the general patterns of housing demand across countries? Previous research at the World Bank and elsewhere established the following stylized facts. For both owners and renters, income elasticities within countries were less than 1, indicating that housing consumption falls less rapidly than income, and parri passu, low income households pay higher fractions of their incomes than high income households. But across markets the pattern was reversed: demand was income elastic. Comparing expenditure equations across

7/ See Mayo, Malpezzi and Gross (1986), and The Urban Edge (1984).

8/ Malpezzi and Mayo (1985, 1987a and 1987b); and many other studies, such as Ingram (1984), Mehta and Mehta (1986), Shefer (1983), Strassman (1977), Struyk et al. (1990).
countries revealed practically no systematic variation of income elasticities with country or city income level or population size, but considerable variation in dollar-adjusted intercepts, which were positively related to average city income. Rent-to-income ratios therefore declined systematically with income within cities but increased with income across cities.

2.10 These relationships are shown graphically in Figure 2.2 for renters in four representative cities. Relationships for owners are similar, although average rent-to-income ratios are invariably higher at every income level for owners within given housing markets.

2.11 The relationships portrayed in Figure 2.2 are very similar to the consumption patterns within and across countries documented by Kuznets (see Kuznets 1961 and other works cited therein). Qualitatively, housing consumption is remarkably smaller at various income levels than are between-country differences at different average income levels.

2.12 In summary, then, the structure of rental demand in developing countries can be roughly but fairly represented as follows. Within particular markets, demand is income inelastic: most estimates using household housing consumption and incomes from cross section data range between .4 to .6 or so. Across markets demand is elastic: using city averages of housing consumption and incomes as the unit of observation, the elasticity ranges somewhere above 1 but less than 1.6.2/

2.13 These particular demand results above are from studies of developing countries, with a range of per capita GNP of roughly $300 per capita to $2,500. While the high elasticity across markets is quite robust for this group, analysis of developed country data imply that the long run elasticity is less than 1 over some part of the range between the two groups.10/ Data on housing investment analyzed by Burns and Grebler (discussed below) is also consistent with this pattern.

2.14 Less is known about price elasticities, partly because decomposing consumption into price and quantity is more technically difficult. Our own estimates, of around -1, are among the highest, and our particular technique was subject to bias towards -1 (Malpezzi and Mayo 1987a). Estimates from aggregate data over time also suggest a high elasticity (Ingram 1984). Other estimates from cross sectional data suggest -.4 as a reasonable lower bound (Mayo 1981).

2/ Malpezzi and Mayo (1987a,b); Malpezzi et al. (1988).
2.15 If supply is elastic in the very long run, housing supply should mirror the demand patterns discussed above. Figure 2.3 shows the plot of housing investment as a share of GDP (called SHTO in the literature since Burns and Grebler) and the quadratic recession line. While the pattern is quite clear, and consistent with the demand results above, it should be noted that this figure focuses on new construction. Another underresearched area is housing from the existing stock.

2.16 Given a change in rents, what can be inferred about the effects on supply? That depends. The traditional housing market literature assumes that the supply of housing services is very elastic. That would imply, of course, that small reductions in rates of return would lead to large reductions in supply. The assumption of elastic supply has been subjected to empirical tests. The majority of such tests have been carried out in the United States and have supported the hypothesis of elastic supply. However the elasticity of supply is not a state of nature; it depends particularly on the policy environment in a country. Countries that have well functioning housing and housing input markets, and appropriate regulatory environments, will have more elastic supply than those that do not. Stephen Mayo has estimated supply elasticities in several developing countries. Table 2.1 supports the hypothesis that elasticities are related to regulatory stringency.

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11/ Other than the few studies surveyed in Ferchiou (1982) and Johnson (1987), very little has been done on filtering and other changes in utilization of the existing stock. There is a useful literature on upgrading, for example Jimenez (1984).

12/ See Olsen (1969) for a clear exposition of the implications of elastic supply of housing services.

13/ Muth (1960), Smith (1976) and Follain (1979) are the best-known empirical studies and all support elastic supply.

14/ His estimates are contained in Hannah. (1989), pp. 84-90.
Table 2.1: Estimated Long Run Price Elasticities of Housing Supply

<table>
<thead>
<tr>
<th>Assumption about LR demand elasticity:</th>
<th>E_y=1.0</th>
<th>E_y=1.5</th>
<th>Representative Price/Income Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Restrictive Regulatory Environments</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>0.10</td>
<td>0.40</td>
<td>5.5</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.14</td>
<td>0.46</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>Less Restrictive Regulatory Environments</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>6.64</td>
<td>10.21</td>
<td>2.5</td>
</tr>
<tr>
<td>United States</td>
<td>22.03</td>
<td>40.04</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Source: Supply elasticity calculations by Stephen Mayo, Annex 1 of Hannah (1989); house price to income ratios from Malpezzi and Nachrowi (1989). Price elasticity depends on assumptions about long run demand elasticities; estimates are presented for reasonable range of such assumptions. House price to income ratios are ratios of medians, for large cities.

2.17 Direct estimates of the price elasticity of supply of housing are not yet available for many developing countries, but indirect measures are. One simple but robust measure is the ratio of typical house prices to incomes. This proxies the elasticity of supply because inelastic markets are, by definition, markets in which increases in demand are translated into increases in prices relatively more than increases in output. What is important to realize is that this elasticity is not immutable but is directly affected by urban policies.

Do Policies Matter?

2.18 In general, recent work has demonstrated that policies matter, both in determining the overall performance of the economy (Agarwala 1983) and of the housing market (Malpezzi 1990). Agarwala has constructed indices of price distortion that are one convenient summary measure of the policy environment. Agarwala used quantitative indicators of distortions in: (1) exchange rates, (2) interest rates, (3) agricultural prices, (4) wages, (5) protection for manufacturing, (6) distortions in the overall price level, and (7) distortions in infrastructure pricing for thirty-one developing countries. He ranked each indicator in each country on a scale of 1 (least distortion) to 3 (most distorted). We sum these, so the minimum score is 7 and the maximum score is 21. Malpezzi used Agarwala's indices...
of general price distortion and found that while high levels of distortion were associated with lower rates of growth (Agarwala's original finding), they were also (but more weakly) associated with worse income distributions and with higher housing prices. Figure 2.4 illustrates the latter finding.

2.19 Many policies affect the elasticity or responsiveness of the market. Mayo et al. (1986) discusses land, finance, and other policies, as well as rent control. The important point for our present purpose is that quantifiable relationships exist between economic policies and housing market outcomes. In Chapter 3 we will construct a simple index of the strictness of rent control regimes and examine the correlation of such an index with housing prices, rents, and other market outcomes. Later we will discuss the importance of collateral actions in these areas for decontrol.

B. Rental Housing in Developing Countries

Renting and Owning: Forms of Tenure

2.20 In most of the housing market literature in both developed and developing countries, households are classified as either homeowners or renters. Sometimes reference is made to a residual category that includes households that do not pay cash rent but have other characteristics similar to renters. As always there is a trade-off between simplicity and analytical tractability and realism. Whether or not such a gross simplification is sensible depends on the purpose at hand.

2.21 Households can own or rent structures and/or land. Usage rights can be fee simple or leased for short or long term. Households may or may not hold title or customary rights over adjacent property and common space. They may rent from relatives or the government as well as private landlords. Long term tenants may be treated differently from recent movers. Rent may be paid in cash or in kind, periodically or in a lump sum, or some combination of the two. Lump sum payments may or may not be returned, with or without interest, on leaving the unit. Tenants may or may not receive utilities, maintenance, and other services as part of the package. Tenants from family or kinship groups may have different rights than strangers. There are a thousand kinds of informal tenure if there is one.

2.22 This list, already confusing, is by no means exhaustive. A number of schemes can be suggested to try to categorize tenure forms or to put them in a spectrum. All legal systems, formal or customary, define some system of property rights. Malpezzi (1989) presents and discusses some simple examples and suggestions for future work in analyzing such rights. In this paper we will generally refer to renters and owners as a simple bifurcation. At times we will
emphasize how rent control and related regulations change specific property rights for particular groups.

2.23 Table 2.2, mainly from U.N. sources, demonstrates the importance of rental housing as a form of urban tenure. In a third of the places listed, rental is the majority form of tenure. Many of the countries or cities have large "other" forms of tenure, and these share many of the characteristics of rental. Figure 2.6 graphs these data against GNP per capita and the level of urbanization. Note that the percent of urban renters first increases, then falls as average per capita incomes rise, but that the effect is weak. A similar pattern can be found with percent urban; the effect is stronger but still not pronounced.

C. Rental Housing Market Issues and Constraints

2.24 The discussion in the preceding section was purely descriptive. In addition to "what is," we want to know "how it got to be this way," or better still, "how to fix it." Many issues face policy makers concerned with rental housing, or with housing in general: tenure security, land markets, finance, and the regulatory framework are among the most important. Rent control is one of the most important subsets of the latter. However, context for our discussion of controls is provided by discussion of other market constraints and issues.

2.25 An estimated 20 to 40 percent of all urban households in developing countries are living on land to which neither they nor their landlords have legal title. The market for land in developing countries is often highly unorganized. Information about who owns what is poor; squatter settlements increase uncertainty about property rights; the legal and administrative systems for establishing, recording, and transferring title are inadequate. These failures have serious ramifications, many of which disproportionately affect the poor. Property transactions are slow or stalled; incentives for new construction and upgrading are depressed; lenders are unwilling to extend credit to property holders without clear title; and property taxation is impeded, often with the result that infrastructure investments can neither be made nor maintained because costs are not recovered.

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15/ Most of the data are as assembled in Gilbert (1983). A Lotus database containing these and other comparative data used in this paper is available on request from the author. See Malpezzi and Nachrowi (1989).
Table 2.2: Urban Housing Tenure, Selected Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>City</th>
<th>Year</th>
<th>Occupants</th>
<th>Renters</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td></td>
<td>1981</td>
<td>27.9</td>
<td>15.7</td>
<td>56.4</td>
</tr>
<tr>
<td>Indonesia</td>
<td></td>
<td>1971</td>
<td>59.2</td>
<td>24.7</td>
<td>16.1</td>
</tr>
<tr>
<td>Korea</td>
<td></td>
<td>1969</td>
<td>48.4</td>
<td>50.3</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1980</td>
<td>42.9</td>
<td>55.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Philippines</td>
<td></td>
<td>1967</td>
<td>73.9</td>
<td>19.3</td>
<td>6.8</td>
</tr>
<tr>
<td>Singapore</td>
<td></td>
<td>1980</td>
<td>55.0</td>
<td>39.6</td>
<td>5.4</td>
</tr>
<tr>
<td>India</td>
<td></td>
<td>1971</td>
<td>47.1</td>
<td>32.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1980</td>
<td>67.7</td>
<td>21.9</td>
<td>10.4</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td></td>
<td>1971</td>
<td>47.7</td>
<td>47.3</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1981</td>
<td>57.3</td>
<td>28.6</td>
<td>14.1</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Addis Ababa</td>
<td>1961</td>
<td>23.3</td>
<td>66.8</td>
<td>9.9</td>
</tr>
<tr>
<td>Mauritius</td>
<td></td>
<td>1960</td>
<td>30.6</td>
<td>56.2</td>
<td>13.2</td>
</tr>
<tr>
<td>Zaire</td>
<td></td>
<td>1967</td>
<td>47.4</td>
<td>38.3</td>
<td>14.3</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td></td>
<td>1962</td>
<td>64.2</td>
<td>32.1</td>
<td>3.7</td>
</tr>
<tr>
<td>Egypt</td>
<td></td>
<td>1960</td>
<td>43.0</td>
<td>57.0</td>
<td></td>
</tr>
<tr>
<td>Cairo</td>
<td></td>
<td>1981</td>
<td>31.0</td>
<td>69.0</td>
<td></td>
</tr>
<tr>
<td>Beni Suef</td>
<td></td>
<td>1981</td>
<td>74.0</td>
<td>26.0</td>
<td></td>
</tr>
<tr>
<td>Morocco</td>
<td></td>
<td>1960</td>
<td>32.6</td>
<td>58.8</td>
<td>8.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1971</td>
<td>28.9</td>
<td>62.8</td>
<td>8.3</td>
</tr>
<tr>
<td>Tunisia</td>
<td></td>
<td>1966</td>
<td>53.4</td>
<td>34.6</td>
<td>12.0</td>
</tr>
<tr>
<td>Yugoslavia</td>
<td></td>
<td>1961</td>
<td>47.5</td>
<td>52.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1971</td>
<td>46.6</td>
<td>53.4</td>
<td></td>
</tr>
<tr>
<td>Argentina</td>
<td></td>
<td>1960</td>
<td>38.4</td>
<td>49.4</td>
<td>12.2</td>
</tr>
<tr>
<td>Colombia</td>
<td></td>
<td>1964</td>
<td>54.1</td>
<td>38.8</td>
<td>7.1</td>
</tr>
<tr>
<td>Valencia</td>
<td></td>
<td>1970</td>
<td>68.9</td>
<td>29.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Bogota</td>
<td></td>
<td>1973</td>
<td>44.9</td>
<td>50.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Bogota</td>
<td></td>
<td>1977</td>
<td>43.4</td>
<td>56.6</td>
<td></td>
</tr>
<tr>
<td>Valencia</td>
<td></td>
<td>1978</td>
<td>94.9</td>
<td>4.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Bogota</td>
<td></td>
<td>1978</td>
<td>62.2</td>
<td>36.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Guatemala</td>
<td></td>
<td>1964</td>
<td>69.3</td>
<td>12.5</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1973</td>
<td>52.0</td>
<td>31.3</td>
<td>16.7</td>
</tr>
<tr>
<td>Mexico</td>
<td></td>
<td>1960</td>
<td>43.9</td>
<td>51.9</td>
<td>4.2</td>
</tr>
<tr>
<td>Mexico City</td>
<td></td>
<td>1960</td>
<td>19.8</td>
<td>80.2</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td></td>
<td>1978</td>
<td>54.2</td>
<td>45.8</td>
<td></td>
</tr>
<tr>
<td>Mexico City</td>
<td></td>
<td>1978</td>
<td>71.3</td>
<td>22.7</td>
<td>16.0</td>
</tr>
<tr>
<td>Panama</td>
<td></td>
<td>1960</td>
<td>27.1</td>
<td>68.3</td>
<td>4.6</td>
</tr>
<tr>
<td>Peru</td>
<td></td>
<td>1981</td>
<td>39.4</td>
<td>44.7</td>
<td>15.9</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Lagos Metro</td>
<td>1972</td>
<td>8.8</td>
<td>91.2</td>
<td></td>
</tr>
<tr>
<td>Kano</td>
<td></td>
<td>1973</td>
<td>46.3</td>
<td>53.7</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Gilbert (1983).

2.26 Land development standards constitute one of the major constraints encountered by developers in responding to the demand for low-cost housing, rental or owner occupied, in developed and developing countries alike. Analysis of developing country land use standards using the Bertaud Model shows that some standards and practices verge on the extravagant. These kinds of inappropriate standards constitute a problem for all tenure groups; but a reasonable conjecture is that, since areas with large proportions of rental housing are often more dense than areas primarily owner-occupied by such standards reduce the supply of and drive up costs for rental units even more than for other units. This could be true even in cases where rental units are primarily "filtered" from what is originally owner-occupied stock.
2.27 Another large regulatory cost to developers is the delay imposed by regulatory procedures that tie up capital and increase risk. In the United States, for example, developers often take a year or more to receive planning permissions; in many developing countries, they can be at least as long. Zoning—prohibiting certain land uses altogether in certain areas—can, when carefully implemented, reduce externalities (that is, reduce the shifting of costs from the landowner who receives the benefit of use to his or her neighbors); but the evidence is that in many countries zoning is undertaken with little or no attention to the economic costs and benefits, so that zoning yields little benefit in relation to its cost. A fuller discussion can be found in Fischel (1986); a rough and ready measure of the distortion, if any, is when rezoning alone (from, say, agricultural to residential use) increases the value of a parcel by a factor of 5 or 10. This suggests that, on the margin, too little land is being provided for residential uses.

2.28 The supply of infrastructure and related services—transport, water, sanitation, and so forth—is a traditional public sector activity, and one of particular importance to low-income groups. Government policies on the supply and pricing of urban infrastructure are characterized by various conflicting tendencies. For example, governments have taken the view that water and sanitation (and sometimes other types of infrastructure) are merit goods; infrastructure has significant externalities; low-income households may, out of ignorance, seriously underestimate the benefits of improved water and sanitation; and some of these services involve large economies of scale—that is, they are "natural monopolies" or at least require investments too large for the private sector. These views have led to governments taking the leading role in providing urban infrastructure, but often with underinvestment and prices that are too low to recover costs. The result has been severe rationing and chronic problems in maintaining and expanding the stock of urban infrastructure. Cities are therefore both less efficient and more inequitable than they could be with alternative policies.

2.29 Adequate supplies of finance, allocated efficiently between housing and other uses, and allocated efficiently and equitably among housing investors, is another precondition for an efficiently functioning housing market. Despite the potential benefits, few developing countries have widespread and successful systems of housing finance. Development planners often seem to treat housing more as a consumption good than an investment and fail to recognize either its potential for encouraging savings or the macroeconomic links between it and other sectors of the economy. It is also clear that the development of housing finance institutions is strongly related to the general sophistication of a country's financial system, which in turn is closely related to overall economic development. In addition, recent economic circumstances in many developing countries—rapid inflation, shifting terms of trade, and slow growth—have not been conducive to the development of housing finance institutions. Many have also had inappropriate lending and borrowing policies (often under the direction of governments) and thus have been seriously weakened within the past decade.

2.30 The viability of housing finance institutions has often been jeopardized by governments which, in wanting to make housing more "affordable," have sought to keep down interest rates. Particularly during the 1970s, when inflation was rapid in most developing countries, many housing finance
institutions lent at negative real rates of interest, which often led to considerable decapitalization by the early 1980s.

2.31 The inevitable consequence of keeping mortgage rates below market rates is that loans are rationed. Usually, the rationing benefits those who are perceived to have the lowest risk of default--often, wealthier people or those favored by government policy such as civil servants, many of whom are also relatively well off. Subsidies to better-off households are not only unfair; they are also an inefficient way of achieving whatever housing goals they are believed to serve. Lump-sum subsidies--in the form of writing down the cost of land or materials--could achieve the same production goals with far fewer distortions in resource allocation and far less harm to the viability of housing finance institutions.

2.32 While taxation issues may be second order in some countries, especially the poorest, the topic may be particularly relevant in others. Tax incentives can be potent in changing behavior, but can lead to large revenue losses, which rarely if ever appear "on the books."

2.33 It should be obvious by now that we believe changes in regulation are often among the most pressing areas for reform, for rental and for housing generally. Regulatory reform can play a key role in the three areas just discussed (increasing the supply of finance, infrastructure, and developable land). Zoning, taxes, rent controls, and building standards are other obvious regulatory areas to study for possible change. Governments must carefully weigh the costs and benefits, and the distributional consequences, of regulation. But some regulation is required to set the "rules of the game." Regulation should strive for a "level playing field" in so far as is practical, between housing and nonhousing investments and between rental and owner occupied housing.

2.34 Regulations are not good or bad per se; the way to approach any specific regulation is to weigh the benefits relative to the cost. Exemption from a regulation that has an identifiable benefit to society similar to its cost is a subsidy to the exempted at the expense of others. This amounts to a reduction in regulations that do not yield corresponding benefits, which are pure cost reductions. In other words there is a baseline of "normal" desirable regulation from which extra regulatory costs are measured. In a world where regulation seems to have fallen out of favor (at least with analysts if not with regulators), there are still cries for more regulation in some areas, especially the environment. Is this just an inconsistency arising from the clash of two policy "fads," or is there some lesson to be learned for both regulatory and environmental policy?

2.35 Despite their best intentions, most governments, developed and developing, do have systematic tendencies to overregulate. Why do regulations so often offend both efficiency and equity? The tendency to overregulate can be explained by the general failure to consider costs and benefits, coupled with the following tendencies. Every interested party adds small regulations, which are never considered together (the adding up problem). Communication breakdowns occur between regulators and the regulated, resulting in overregulation. And, finally, regulations provide an opportunity for rent seeking behavior by vested interests. Given such overregulation, understanding the reduction in efficiency is easy: regulations that so arise impose larger transactions costs than
benefits. Inequities also follow: the poor are usually not particularly good at rent seeking behavior, and since regulations raise costs and restrict supply, the poor are rationed out first. Regulations on lot size, for example, are not directly binding on the rich.

2.36 Other areas are clearly underregulated. The environment is one area in which a consensus is building that more needs to be done. What we have argued above is that our path is clear for all regulation: figure the cost-benefit ratio of specific regulations; eliminate or modify regulations benefits exceeding costs; keep, enact, or enforce the ones that make the grade. Get the regulations right. The superficial inconsistency of arguing for tighter environmental regulations disappears in this framework; even more importantly, we have a tool to discriminate between important and frivolous environmental issues and policies.\(^{16}\)

Some Common Regulations Impeding Rental Housing

2.37 Let us bring the section to a close by enumerating some specific regulations found to be problematic. In the regulatory arena as elsewhere, rental housing faces the same problems as housing generally. Regulatory constraints specific to rental include those that limit access to finance for rental housing. Restrictions on financing sales of existing stock, upgrading, and conversion affect rental as much or more as owner occupied housing.

2.38 Particular attention should be also be paid to building codes, land use standards, and other regulations that discriminate against low cost rental housing. For example, regulations in many countries restrict compound or multifamily housing; and these are often primarily rental. Where appropriate, land use regulations should be modified to permit construction of such units in urban areas. Building in indigenous materials should be permitted, subject to proper construction techniques.

2.39 Programs to expand the supply of serviced land also often discriminate --intentionally or not--against rental. Land development schemes, public or private, should not discriminate against rental in provision of serviced land. Do not require owner occupancy for access to land in any program designed to improve land availability (including sites and services).

2.40 Controls on rents, then, are only one class of public intervention of general interest, albeit an important and (recently) much studied one.

\(^{16}\) See Blinder (1987), Chapter 4.
III. RENT CONTROLS IN DEVELOPING COUNTRIES

A. Extent and Nature of Controls

An International Survey of Rent Control Regimes

3.1 Rent control is one of the most ubiquitous forms of regulation in the housing market. In a recent international survey of housing markets and their regulations, twenty out of the thirty respondents reported rent control legislation currently in force in a major urban market.\textsuperscript{17} Twenty two of the respondents reported that rent control had been in force sometime in the last ten years. In contrast, only five of the thirty respondents reported government intervention in the pricing of private sale of housing.

3.2 Rent control is often considered a simple policy in which the government mandates the rent that will be charged in the market. In reality, rent control regulations are anything but homogeneous and anything but simple. The wide variety of motives and historical circumstances has led to a bewildering array of control regimes. Some countries freeze rents at a particular date and only allow cost increases to be passed on to tenants. Others completely index rents. Some have multitiered systems in which some units are frozen, some increase at an express annual rate, and some only increase on a change of tenants.

3.3 This chapter will attempt to categorize rent control regimes in a number of countries. We have conducted a survey of rent control legislation in sixty eight nations, using responses to a questionnaire, original legislation, and secondary sources. Whenever possible, individuals familiar with the workings of various housing markets were asked to validate the nature of rent control regulations in their market. These results were supplemented by the results of the International Housing Market Survey conducted by the Urban Institute.\textsuperscript{18} Despite our best efforts to obtain the most current sources available, some of the information about specific markets may be outdated.\textsuperscript{19} However, the general conclusions and overall picture provided about rent control in an international perspective should be reasonably robust.

The Modern History of Rent Control

3.4 Rent controls are often instituted in response to a major economic or political shock that limits the responsiveness of the housing market. Most European nations introduced rent control during World War One, only to liberalize

\textsuperscript{17} Page and Struyk (1989).

\textsuperscript{18} Raymond Struyk kindly provided us with copies of the spreadsheet containing the results as organized by himself and Douglas Page.

\textsuperscript{19} Of course we welcome any corrections or further information which readers might provide.
in the interwar years. Controls were reintroduced in World War Two in Europe, North America, and, under European colonial influence, the developing world as well. Most jurisdictions in the United States and Canada removed controls in the postwar years; however, controls were maintained in Europe and the developing world. Many European nations adopted a postwar goal of guaranteeing housing to all individuals, and rent control was often used as a mechanism to ensure affordability. In less developed countries, the postwar years saw a rapid increase in the rate of urbanization. Local housing markets were frequently deemed unable to adjust with sufficient speed, and it was argued in some countries that rent control was required to keep local rents from rising to prohibitive levels.

3.5 In the 1970s many industrialized nations reintroduced controls or slowed the decontrol process. High inflation and (for some) falling real incomes led to a series of wage and price controls—and a "second generation" of rent controls was included in the package. In developing countries, it has been hypothesized that a combination of increased demand (from rapid urbanization) along with falling real incomes and general inelasticity of supply have contributed to pressure for controls. These hypotheses will be investigated later in this chapter.

3.6 These two generations of controls summarize the two most common reasons for the introduction of rent control: a rapid increase in the demand for housing and a general increase in inflation. Rent controls have also been maintained to meet a third goal: a governmental commitment to housing as a basic right, and the use of rent control to ensure affordability.

A Framework for Analyzing Rent Control Legislation

3.7 A variety of mechanisms are available to nations attempting to place controls on the rental market. The strength of these mechanisms varies between the complete control of prices in the rental housing market seen in many socialist economies to government sponsored landlord/tenant arbitration boards that merely facilitate the price negotiation. It is possible to rank mechanisms according to the degree to which prices are controlled, and the specific mechanisms available are surprisingly easy to classify according to their type and effect. Actual rent control regimes usually combine several mechanisms.

3.8 In its simplest form, rent control can take two approaches. The first is the actual "control of rents"—that is, the fixing of a "fair rent" for every unit and the establishment of enforcement mechanisms to ensure that these rents are in fact charged. Such a regime would fix the rent according to some rule and may or may not allow for future changes. The second form of control is the "control of rent increases"; no effort is made to change current rents, but future increases are regulated. Our survey suggests that it is more common for nations to regulate rent increases rather than rents themselves; about twice as many countries adopt the former approach, although as will be seen below there are significant differences between the behavior of very low income countries and others.
3.9 **The Fixing of Rent Levels.** How do countries fix rent levels? Many nations rely on a central authority, a "rent controller." Nearly all rent control regimes establish some central organization charged with administering and enforcing the regulation, but the "fair rent" concept theoretically empowers this authority to determine the actual rent to be charged for every unit. The systems of India and Pakistan rely heavily on such an authority, giving it the power to authorize rents for individual units on a case-by-case basis. The United Kingdom also has moved from an earlier freeze of rents to a "fair rent" system.

3.10 In some cases, for short periods of time, such a system has functioned successfully. Alaska created rent control boards in major cities to deal with the rapid increase in demand and rental rates created by the construction of the Alaskan oil pipeline. However, in very large communities and over long periods of time administratively determined rents tend to function badly. Apart from the difficulties faced by any government body in attempting to fix prices, the administrative problems associated with such a program are almost insurmountable. In countries that have instituted such programs, such as India and Pakistan, delays of over seven years in deciding cases have been reported. In such an environment, most landlords will avoid the legal rental market, preferring to provide units on an informal basis. As a result, tenants lose the other forms of protection provided in the law. To avoid such serious administrative problems, many systems have evolved from a rent fixing program to a rent arbitration system, in which only the worst complaints are examined.

3.11 Moreover, while fair rents may be an emotionally appealing concept, the exact definition of what is "fair" remains vague in many cases. The United Kingdom, despite implementing a major recording system to track rents for individual units, has yet to define the exact definition of "fair." Other nations that rely on the concept give instructions as to what factors should be taken into account by the rent control authority. Many Indian jurisdictions empower a rent controller with the instruction to consider "comparable local rates" in fixing rents—a useful concept in cases of simple arbitration though unlikely to have a major impact on local rent levels. Other nations instruct their authorities to follow two systems for determining fair rents, either generally or by establishing specific formulas.

3.12 Among the various options for controlling rents, two mechanisms have the greatest theoretical appeal. The first is what we have chosen to call the "housing services" technique. The government creates a classification system, usually based on the size of the unit and the amenities available, and sets a rent accordingly. Austria and Tunisia fix rent as a price per square unit with differing prices or weights depending on the amenities provided. In Israel, the fair rent is partially determined by the size of the unit. Nigeria publishes a list of seventeen types of units based on size, location, amenities, and construction materials. In the United Kingdom, local board officers are instructed to determine the "use value" of individual units and maintain lists.

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20/ While usage varies, many countries that set rent levels refer to them as "fair rents," and since the underlying rationale for setting levels is usually an appeal to equity, we use the terms somewhat interchangeably.
of units and their fair rents. Sometimes the value of the housing services is
determined indirectly. In Sweden rents for public units are determined by
negotiation between tenant organizations and the government, and rents of
comparable private units are set accordingly.

3.13 Differentiating between different types of units does make an attempt
to set rents according to housing services superior to techniques which treat all
units equally. In this respect it can be considered a more sophisticated form
of government mandated rents. Nonetheless, any housing services system has
little hope of precisely determining the value that renters should put on a unit.
It is nearly impossible to include all the factors that potential tenants take
into account in choosing a unit, and to determine a fair price for those
characteristics is nearly a hopeless task. Moreover, such a control regime is
generally instituted from the tenants perspective and ignores the information
provided to producers by the prices available in the market. The best to be
hoped is that the pricing will not seriously distort the type of units being
produced.

3.14 Another technique for setting fair rents seeks to directly address this
issue. In some markets rents are set so as to allow landlords a "fair rate of
return." Usually these rates are set in order to allow amortization of the
construction and land costs over a ten-to-fifteen-year period. While this
technique does not appear to be biased against landlords (they are guaranteed
what is considered a fair return on investment) it does not take into account
other investment opportunities. In highly inflationary times this return may be
insufficient to promote investment in rental housing. Only in one Canadian case
is the rate currently pegged to a benchmark interest rate.

3.15 A further complication is the difficulty in applying a rate of return
standard to previously constructed housing. Few landlords will maintain
sufficiently detailed information on construction costs. Jamaica is currently
attempts to estimate the construction costs of all existing units as of 1983.
The effort is already several years behind schedule. In some Indian states
property tax assessments are used as a proxy for the actual value of the
property, and rents are determined as a set percentage of this value. How this
system works in practice is difficult to determine; rents are evaluated according
to the value of the property but the value of the property is dependent on the
income it provides, that is, the rent charged.

3.16 Under extremely tight housing market conditions, the most obvious
solution to rapidly rising rents is a rollback to previous levels. Apart from
the political and administrative difficulties of instituting such a program, a
rollback completely ignores the reason for the increase and adds to the
difficulty of the housing market to respond to increased demand. Only four of
the nations surveyed have placed such strong controls over their rental markets.

3.17 A common feature of all these systems is the treatment of "fair rents"
as a static concept. Once the appropriate rent for a unit has been determined,
no matter what the system, it should remain fair over the life of the unit. The
rent continues to be based on the same initial construction costs or evaluation
of the value of housing services. Only systems based on appraised values leave
any room for increases, though with the serious proviso discussed above. There
is no theoretical or legal justification for a rent increase. In this respect, a fair rent system has the same degree of strictness as a rent freeze, the most restrictive form of increase control. We will rank the two systems as equally strict in our later analysis.

3.18 The Regulation of Rent Increases. Another approach to rent control is to explicitly contemplate future increases in the legislation but to put limits on the extent to which rents can be increased. Unlike the fair rent approach, this format does not attempt to set the rent but only to limit how high it can go. The simplest method for controlling rent increases is not to allow them, that is, to institute a rent freeze.

3.19 Rent freezes have been by far the most common approach to controlling the rental market. Such a policy is in effect a control over future rather than current rents, since no attempt is made to fix existing rents at a fair level but future increases are prohibited. In some cases, most notably Portugal and the older portions of the New York City and Hong Kong housing markets, the freeze is left for a long period of time with no increase. With time and even moderate inflation, rents may lag seriously behind "market" levels, and production of rental housing may drop off. Such was the experience of most European nations that imposed controls to counter the high rents caused by housing shortages after World War Two. Thus, in many markets where freezes have been imposed, rents are periodically increased in an ad hoc fashion in order to bring them more in line with the general price level. While such increases do help reduce distortions, they are unpredictable. Potential builders and landlords cannot include possible future increases in their investment calculations. Sporadic increases are therefore unlikely to seriously reduce the disincentives to investment in rental housing. We have considered systems that have relied on such increases to be highly restrictive.

3.20 Other countries place relatively new units under different types of control--either freezing them at a later year or applying a totally different set of criteria. As a consequence most jurisdictions that have imposed freezes quickly develop into multitiered systems. In New York City, units in the same building may fall under different provisions of the rent control law and have substantially different rents. In Hong Kong, attempts to rationalize the system have led to so many amendments that printers cannot keep up with the changes. Again, multitiered systems will be confusing and unpredictable, and therefore unlikely to encourage investment.

3.21 Moreover, if units of different ages fall under different regulations, unjustifiably high differentials between old and new housing develop. Possession of older units becomes a valuable "capital good," and individuals are unlikely to leave, either because they cannot locate such a cheap unit or because the unit itself is likely to be decontrolled. Labor mobility declines under such conditions.

3.22 Thus, in an effort to control future prices of rental housing, it is also common to set explicitly allowed levels of rent increases. Most commonly, a maximum increase is set. In Los Angeles, rents can be increased annually by 7.5 percent; in Berkeley, California, by a maximum of 15 percent a year. In the
Federal Republic of Germany, rents can go up by no more than 30 percent over a three-year period.

3.23 Another common approach is to empower the rent control authority to determine the maximum increases on an annual basis. In most Canadian provinces, the authority is instructed to consider costs in determining annual increases. In New York City, the rent control authority decides annual increases on the basis of a negotiated process between the board, landlords, and tenant associations. While such a system is preferable to no or sporadic increases, it does leave the process open to unpredictability and political maneuvering.

3.24 Other rent increase systems link controls much more closely to economic considerations. Some systems allow landlords to cover some or all costs. These may include tax increases, operating costs, or even increases in finance charges due to refinancing. Many systems allow increases above the maximum level for landlords with greater than average costs or for those who at the time of imposition have negative cash flows ("hardship cases"). A return on capital system may also allow landlords to increase rents if the system is tied to a benchmark interest rate.

3.25 Even in the most restrictive system landlords are usually allowed to amortize the costs of substantial improvements to the unit. In Egypt this is the only cost landlords may pass along to tenants. If the system is sufficiently restrictive, landlords may overinvest in improvements to keep rents rising in some fashion.

3.26 A more sophisticated system for tying rent increases to costs is an indexation system. Several Latin American nations, Portugal, and Washington, D.C. in the United States have instituted programs that explicitly link rents to some index. This system is particularly suited to environments in which rent control has been introduced to fight inflationary pressures, since it does no more than ensure that housing prices do not rise more quickly than the general price level and, presumably, wages. However, in economic environments where increasing demand is causing rental rates to rise, such a program will do little more than ensure that the housing market does not respond to demand pressures.

3.27 These mechanisms to control rent increases can be divided into a list of major types. The first allows no market signals to be transferred; that is, when demand increases and supply does not immediately respond, the rent level is not allowed to change. A freeze immediately falls into this category. However, rents may be allowed to respond to the price level. Ideally, a cost pass-through system or an indexation system should allow landlords to recover increases in operating costs. How closely systems actually do approximate cost increases depends upon what costs are considered; in some cases, for example, refinancing costs are included, while in others they are not. Indexation systems may also fall behind the actual increase in the price level if they are only partial or are significantly lagged, especially in a high inflation environment. Systems which set a cap on annual increases may or may not allow landlords to recover costs (or even exceed them) again, depending on the level of inflation.
3.28 We will use this form of analysis in ranking the degree of strictness of rent control systems. Sporadic increases will be judged most strict, followed by partial cost pass-throughs, partial indexation systems, and annual increases lower than inflation.

The Importance of Property Rights

3.29 The contract between landlord and tenant is a division of the rights to the unit. The landlord allows the tenant use rights, with some restrictions, in exchange for payment. Most governments intervene in the division of these rights, specifying under what conditions the landlord may repossess the unit. Since only the individual occupying the unit has the right to the lower price, the landlords right to remove that individual is restricted. In many countries leases are mandated for life; in some the right to occupy the unit is inheritable by members of the tenant’s immediate family.

3.30 The issue of tenure of property right becomes particularly important in countries where rents of some or all units have fallen behind the general price level. In these cases, the tenant’s right to occupy the unit takes on an ever-increasing economic value. It is in fact possible to quantify this value as the difference between the stream of rents the tenant would pay in the absence of controls and the one he/she actually pays. Correspondingly, the landlord loses an equal amount. Thus it would be in the landlord’s interest to regain the right by evicting the tenant at the earliest possible opportunity.

3.31 As a consequence, nations where rent control creates this problem have generally adopted a formalized though somewhat arbitrary division of ownership of this "right." Severe restrictions are placed on the landlord’s right to evict; in many cases the only grounds for eviction is nonpayment of rent or self-occupation under very particular circumstances. In the strictest cases, tenants may automatically be given a lifetime right to occupy the unit; in some cases this right may be inheritable by members of the immediate family. We will use provision for lifetime occupation rights as another indicator of a strict regime.

3.32 On the other hand, ownership of the right is often given exclusively to the sitting tenant—the unit reverts to a market rent on turnover. While this provision will somewhat lessen the strictness of the regime by allowing for gradual decontrol, it will reduce mobility and create labor market distortions. Thus while decontrol at turnover will be considered a somewhat less strict regime, a lifetime property right with such a provision will be considered more strict than a normal term lease.

3.33 The distribution of the valuable right to occupy a controlled apartment is a serious issue in nations attempting to reform their rent control regimes. Further options for dealing with the problem will be discussed in the next chapter.

Enforcement Mechanisms

3.34 None of the mechanisms for controlling either rents or rent increases can function effectively in the absence of an effective enforcement mechanism.
Unfortunately, this area is also the most difficult to analyze. Little information is available as to the efficacy of most enforcement systems.

3.35 Yet some information is available about enforcement, particularly in developed countries. In general, the more adaptable the regime is to economic conditions, the more administratively difficult it will be to enforce. Most industrialized nations have created large databases and staffs to record fair rents and conditions of individual units. The more a system is dependent on a "rent controller" to make decisions, the more that system--and the courts which support it--will be congested and unable to deal with the volume of cases. At the same time, a system that is too restrictive will undoubtedly be widely evaded.

3.36 But perhaps the most insurmountable problem is the difficulty in disseminating the actual nature of the legislation. A survey of landlords and tenants in Washington, D.C., found that a significant number of landlords did not know how often they were allowed to raise rents and many tenants could not accurately identify whether they lived in a controlled or an uncontrolled unit. If such difficulties exist in a developed country, they are likely to be still greater in an underdeveloped country.

3.37 Rent control legislation seldom covers only the control of rents and rent increases. Most legislation seeks to cover the entire range of issues included in landlord/tenant relations--responsibility for upkeep, eviction procedures, deposits, and the like. When legislation is widely evaded or is negligently enforced, both tenants and landlords lose important protections. It is probable that the more strict the control of rents, the more widely it will be evaded and the greater the loss of other protections granted to tenants.

B. A Survey of Controls

3.38 While rent control is one of the most widespread forms of regulation in the housing market, very little systematic analysis has been done about the nature of rent control legislation internationally. To perform such an analysis we have surveyed rent control regimes in sixty-eight political jurisdictions. In some cases the jurisdictions were subnational: a city, state, or province. In other cases rent control legislation was imposed at the national level and is described and analyzed accordingly. Of the jurisdictions surveyed, thirty are classified as upper income by the World Bank, five are considered upper middle income, seventeen are lower middle, and eleven are lower income. Regionally, seventeen are located in North America, thirteen in Europe, twelve in Latin America and the Caribbean, eight in Asia and South Asia, five in Africa, and two in the South Pacific.

3.39 In accordance with our classification scheme, the first step in analyzing the survey results should be to divide regimes into those that attempt to fix fair rents and those that regulate rent increases. However, most real-world regimes rely on several mechanisms, and some may attempt to both fix fair rents and control increases thereby falling into both categories. Most commonly,
different segments of the market may fall under different types of rent control. Thus, to classify jurisdictions we will first determine what mechanisms are applied to the various market segments. Later, we will determine how important each segment and the type of rent control imposed on it is within the total regime and rank jurisdictions by total degree of strictness. In this spirit, Table 3.1 summarizes the frequency with which the two main categories of rent control are applied within the various regimes.\(^{21}\)

### Table 3.1: Type of Regime By Per Capita Income

<table>
<thead>
<tr>
<th>Income</th>
<th>Fair Rents</th>
<th>Increase Controls</th>
<th>Arbitration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Income</td>
<td>5</td>
<td>26</td>
<td>6</td>
<td>37</td>
</tr>
<tr>
<td>Upper Middle</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Lower Middle</td>
<td>9</td>
<td>12</td>
<td>--</td>
<td>21</td>
</tr>
<tr>
<td>Lower</td>
<td>8</td>
<td>5</td>
<td>--</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>47</td>
<td>7</td>
<td>77</td>
</tr>
</tbody>
</table>

The sum of the cell counts, seventy seven, is greater than the number of jurisdictions studied, since the categories are not mutually exclusive.

Several facts immediately emerge from these results. The first is that rent control regimes are twice as likely to impose increase controls as to fix fair rents. However, it appears that the results in lower income jurisdictions run counter to this trend. While only five of the thirty upper income jurisdictions fix a fair rent, and only one of the five upper middle income jurisdictions, nine of the seventeen lower middle and eight of the eleven lower income jurisdictions attempt to do so. Apparently the nations with the least ability to administer a complex fair rent system are the most likely to attempt it.

Among jurisdictions that attempt to administer fair rent systems some techniques are used more commonly than others. The breakdown by type of fair rent is as follows:

- Rate of Return: 5
- Appraisal: 9
- Housing Services: 5
- Rent Controller: 3

These results suggest that most fair rents are determined according to a fixed rate of return on either the cost of construction or the appraised value

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21/  The complete survey results are included in Malpezzi with Ball (1991).
of the property. Only a few jurisdictions attempt to fix a fair rent based on
the value of the housing services provided by the unit. Three jurisdictions rely
primarily on a "rent controller," although four others give an administrative
body significant control over the rents imposed. One country applies an
appraised value to one portion of the market while allowing the rent controller
to set rents for unappraised units, while another allows the rent controller to
fix the appraised value and set the rent as a return on it. In general, fair
rents are most commonly based on an appraised value, a technique which, as
discussed earlier, has great theoretical appeal but presents great practical
difficulties.

Constructing an Overall Index of Rent Control

3.44 Analyzing the interaction between controls, market outcomes, and
economic performance requires that as much of the descriptive information
discussed above be summarized in one or more indices. Any such index will be
heavily judgmental and, perhaps, arbitrary in some ways; here we briefly discuss
the construction of our particular index.22/

3.45 We begin by restricting ourselves to countries for which we have
reasonable evidence about the nature and extent of controls (or evidence that
there are no controls).23/ Only market and mixed economies are included;
Eastern European countries, the Soviet Union, and China are among those
excluded.24/ This leaves some sixty countries. Both developing and developed
countries are included.

3.46 The index was constructed as follows. Countries with no controls
receive a zero rating. Other countries are rated on the following scale, based
on nine elements; for all but one, each element receives a rating of 0
(permissive), 1 (medium), 2 (restrictive). The first two elements are:

   Enforcement: if controls are not enforced or rarely enforced, the
country receives a 0 score. Selective or partial enforcement scores
1 point; strict enforcement, 2 points.

   Coverage: if coverage is restricted to a very small part of the
market, the country receives a 0 score. If a significant part of the
market is covered, the country receives a score of 1. If more than
half the market is covered, the country receives a score of 2.

22/ More details and extensive analysis are available in Malpezzi and Ball

23/ As noted, surprisingly few countries have no controls; if we dig deeply
enough, almost all countries have controls of some type or have had in the
recent past.

24/ Future comparisons with these countries would be instructive but would
require additional data collection.
If a country has controls that are at least selectively enforced and cover a significant part of the market, additional points are awarded as follows:

**Fair Rents:** Countries that do not set rent levels for units receive a 0 rating; those with some units so covered or no information, 1; those with stringent rent setting, 2.

**Indexation:** If rents are indexed and closely tied to inflation, the country receives a 0 rating. If rents are partially indexed or no information, 1; if rents are frozen or rarely revalued, 2.

**Cost Pass-Through:** Are upgrading, maintenance, and tax increases passed through to tenants? If often, 0; if some items are passed through, or no information, 1; if no or little pass-through, 2.

**Treatment of New Construction:** If newly constructed units are exempt, score 0. If newly constructed units have a temporary exemption, or some other differential treatment, or if there is no information, score 1. If new construction is controlled as other rental housing, score 2.

**Rents Reset On New Tenancy:** If rents reset to market on new tenancy, 0; if revalued but below market, or no information, 1; if no change, 2.

**Tenure Security:** If tenure security is more or less covered by private agreement (leases) and normal grounds for eviction, 0; if more stringent security of tenure or no information, 1; if strict security of tenure, 2.

The final element, which is open ended, is the average annual inflation rate from 1965 to 1985, divided by ten (that is, a country with a ten percent inflation rate receives 1 point; with fifteen, 1.5). Capturing such interaction with market conditions, even crudely, is essential; a rent freeze in, say, Switzerland would reduce real rents much less than indexing rents up to 90 percent of inflation in, say, Argentina.

Some countries, such as the United States and Canada, have many rent control regimes varying greatly from place to place. In such cases, when there was substantial divergence from place to place in an element, we graded the element 1.

Malpezzi and Ball (1991) presents the index for each country and its components, with some important housing market indicators. While the index is our best attempt at quantifying the nature of controls, recent research on the construction of such indexes highlights the difficulty of constructing accurate indexes (Page and Struyk 1989). Given the state of the current index, we regard this first index as exploratory. Despite its rough nature it suggests some interesting hypotheses for further research.
Numerical values of the index range from 0 to 21. For simplicity, and perhaps to average out errors in the individual country indices, Table 3.2 presents some key macro and housing market indicators by the following classification:

1. Index value of 0 to 5: "Weak or No Controls." Fourteen countries have such values.

2. Index value of 5 to 13: "Moderate Controls." Twenty seven countries received ratings in this range.

3. Index value greater than 13: "Strict Controls." Ten countries fit into this category.

Table 3.2

MACRO AND HOUSING INDICATORS BY LEVEL OF CONTROL

<table>
<thead>
<tr>
<th>Level of Control</th>
<th>GNP Per Capita</th>
<th>Inflation</th>
<th>Percent Urban</th>
<th>Typical Renters</th>
<th>Typical Persons</th>
<th>Rent to Income</th>
<th>Range</th>
<th>Typical HP to Income</th>
<th>Typical Inv. to Income</th>
<th>Housing</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strict Controls  (Med)</td>
<td>$370</td>
<td>10.2%</td>
<td>27%</td>
<td>32%</td>
<td>2.7</td>
<td>7.3%</td>
<td>1.5 to</td>
<td>7.5</td>
<td>2.1%</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Moderate Controls (Med)</td>
<td>$4,860</td>
<td>8.3%</td>
<td>60%</td>
<td>40%</td>
<td>1.0</td>
<td>16.0%</td>
<td>9.9 to</td>
<td>4.8</td>
<td>4.3%</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>Weak/No Controls  (Med)</td>
<td>$1,530</td>
<td>13.4%</td>
<td>49%</td>
<td>37%</td>
<td>2.1</td>
<td>18.0%</td>
<td>9.0 to</td>
<td>4.5</td>
<td>3.2%</td>
<td>27</td>
<td>11</td>
</tr>
</tbody>
</table>

See Griliches (1971).
The following points emerge from Table 3.2:

1. The median of country per capita incomes is much lower for strictly controlled markets than for "moderate" controls ($370 per capita versus $4,860 per capita). But the median income of countries with no or weak controls lies in between these two values: $1,530. There is no simple correlation of weak-moderate-strong controls with low-medium-high incomes; but there is an interesting nonmonotonic pattern discussed in detail later in this paper.

2. Variation in inflation rates is much less pronounced, at least when examining medians across classes. If controls are primarily a response to inflation we might expect a positive correlation between strength of regime and inflation; none is apparent. If controls reduce inflation (or rather reduce measured inflation), we might see a negative correlation; again, none is apparent.\(^{26}\)

3. No obvious pattern exists with respect to these categories and percent of the population living in urban areas; or percent of urban renters.

4. There is a relationship between a simple measure of housing consumption, persons per room, and control category, which closely mirrors the income pattern. This pattern is presumably dominated by the relationship between crowding and income, and income and controls. No direct relationship between controls and crowding is apparent.

5. The pattern of rent-to-income ratios departs sharply. There is a clear monotonic relationship between typical rent-to-income ratios and the strength of controls. The simple evidence suggests controls may well effectively reduce rent burdens, although these aggregate data do not permit decomposition of rent reductions into price and quantity reductions.

6. Just as interesting is the reverse pattern found in the relationship between house price to income ratio and controls. Recall from Chapter 2 that this ratio is an important summary measure of the overall functioning of the housing market. While rents fall with stronger controls, house prices increase. Given these two results—renting is cheaper and ownership more expensive—the lack of an obvious effect of controls on tenure is perhaps surprising. It suggests that rationing might well be at work in controlled markets.

7. Housing investment is lower in strictly controlled markets than in moderately controlled markets; but it is "in between" in weak or uncontrolled markets. The observed pattern may well be driven by the correlation with income.

\(^{26}\) Economic theory suggests the overall inflation rate depends on monetary and fiscal policy; controls on prices in some markets change relative prices but will not much affect the price level.
Macroeconomic Outcomes by Controls

3.51 In Chapter 2 we demonstrated that housing market outcomes as well as macroeconomic outcomes were correlated with the policy environment, as measured by general pricing distortions.

3.52 In Section 3.A it was pointed out that low income countries with controls tended to have stricter regimes. In particular, they were more likely to set fair rents. Figure 3.1 shows that when all seven elements of our index are considered, the pattern is still discernible though less pronounced. Contrast the two regression lines through the plotted points: one is fitted through all points, and the other through only those points where the control index exceeds 5 (our cutoff for weak or no controls). Then the relationship is more pronounced. It appears that high and low income countries are more or less equally likely to have significant controls, but once the rent control choice is made, low income countries have more stringent regimes.

Table 3.3: Cross Country Model of Rent Control Regime Strictness

| Sample: Countries With Rent Control Index > 5 |
| Dependent Variable: Rent Control Index | Adjusted R-Squared: .65 |
| Degrees of Freedom: 29 |

| Coefficient | Standard Error | Prob>|T| |
| Log GNP Per Capita | -1.326 | 0.564 | .026 |
| Ann. Change in GNP Per Capita, 1965-1986 | -0.840 | 0.242 | .002 |
| Percent Urban, 1985 | 0.010 | 0.030 | .750 |
| Urban Growth, 1965-1985 | -0.133 | 0.263 | .617 |
| Ann. Change in Prices, 1965-1986 | 0.058 | 0.017 | .002 |
| Constant | 22.562 | 3.708 | .001 |

3.53 This relationship is quite robust. Malpezzi and Ball (1991) present several multivariate models which confirm the qualitative result above. That paper found no statistically discernible relationship between GNP or the level of urbanization and the rent control choice; but there were robust relationships between the strength of rent control regime and such variables, once the rent control choice was made. Consider the representative results from Table 3.3. Using the subsample of countries with

Figure 3.1: Rent Control and GNP Per Capita

![Figure 3.1: Rent Control and GNP Per Capita](image-url)
significant controls (the index is greater than 5), the regression results suggest:

(a) low income countries have stronger forms of rent control, as measured by this index; this is consistent with Figure 3.1;

(b) lower rates of income growth (falling real incomes) may be related to pressures for stronger controls, as hypothesized in the previous chapter;

(c) the level of urbanization, and its change, has no statistically discernible effect. There is no support in these first data for the notion in the previous chapter that demographic pressures contribute to pressure for stronger rent controls;

(d) higher rates of inflation are fairly strongly related to higher values of the index.

Figure 3.2: Rent to Income and Controls

Figure 3.3: Rent Control and House Prices

How Controls Affect Housing Expenditure

3.54 If there is one clear finding from these bivariate plots, it is that controls are associated with lower rents. Figure 3.2 shows that countries with no or weak controls have typical rent-to-income ratios of 20 percent, while those with strong controls have average rent-to-income ratios of 10 percent or less.

3.55 Of course rents depend on much more than controls. As discussed in Chapter 2, Malpezzi and Mayo (1986, 1987) demonstrated that in general rents rise faster than incomes as countries develop, up to income levels associated
with middle income countries, where they flatten out and eventually decline. Following Malpezzi and Mayo’s cross country model, we estimate the following:

\[
R/Y = 0.203 + 5.56E-06 \times (\text{GNPPC}) - 3.66E-10 \times (\text{GNPPC}^2) - 0.0075 \times \text{RCINDEX}
\]

\[
(0.028) \quad (8.78E-06) \quad (5.72E-10) \quad (0.0024)
\]

3.56 The R-squared for this equation is 0.37 (0.26, adjusted). \(R/Y\) is the rent to income ratio for a large market in the country, GNPPC is GNP per capita, and RCINDEX is the rent control index. Standard errors are in parentheses.

3.57 This simple model predicts, according to Malpezzi and Mayo, that rent-to-income ratios rise and then fall as markets develop. This model predicts a turning point at about $7,500 per capita, in 1986 U.S. dollars but still significantly higher than the original Malpezzi and Mayo estimate. For each point increase in the index, the rent-to-income ratio falls by three quarters of a percent. This is just slightly faster than the rate of change in the simple bivariate plot.

3.58 While rents fall as controls increase, the cost of housing capital increases. In chapter 2 and in Malpezzi (1991, forthcoming) we argued that the house price-to-income ratio is a good summary measure of housing market distortion. Figure 3.3 suggests that uncontrolled or weakly controlled markets have house price-to-income ratios of around 4, on average, while stringently controlled markets have ratios on the order of 7 or 8, on average.

3.59 A simple model controlling for income can also be estimated:

\[
\text{Housing Price/Income} = 10.85 - 0.92 \times \log(\text{GNPPC}) + 0.20 \times \text{RCINDEX}
\]

\[
(3.59) \quad (0.43) \quad (0.12)
\]

\[27/\] They found a turning point of roughly $3,000 per capita, in 1981 US$.

\[28/\] There are several significant differences between this simple model and Malpezzi and Mayo’s. First, in their work the city was the unit of observation, not the country. Second, they only included data from cities where they had obtained high quality household survey data. We use a wider range of data, culling estimates of average or typical rent-to-income ratios from the literature. The spreadsheet database documents specific sources. Third, they estimated several models, but most of their data were from developing countries; their quadratic model with both developed and developing country markets was discussed less than a logarithmic model fitted to developing countries only. Our sample has both developing and developed country data.

\[29/\] Standard errors of both GNP per capita terms are large relative to the coefficient estimates. Given the additional error introduced by expanding the sample with less comparable data from a literature review, this is not surprising.
3.60 Why would rent controls increase asset prices? One simple view of the world suggests that, if controls hold down rents, and values are capitalized rents, values should also fall. This relationship may not hold for several reasons. First, controls hold down rents only in the controlled rental sector. Unless housing supply in the owner-occupied sector were elastic, prices in the owner-occupied sector would be bid up. Second, controls increase risk and transactions costs in the housing market, increasing the capitalization rate and changing the relationship between rents and stock prices. Third, controls may well be correlated with other distortions in land markets, housing finance, and so on, which also force up asset prices.

3.61 A fourth reason is that higher house price-to-income ratios are proxies for inelastic supply in the housing market, as discussed in the preceding chapter. Controls may reduce supply in and of themselves, and are almost certainly associated with constraints on important input markets, notably land and finance. Let us look at the supply side effects more directly.

How Controls Affect Supply

3.62 If controls reduce expenditures on rental housing, if such reductions cause decreases in the supply of rental housing, and if changes in tenure do not simply change supply from the rental to the owner-occupied submarket, then we could observe lower housing investment in controlled markets.

3.63 Figure 3.4 supports such an argument. Countries with no or weak controls invest about 6 percent of their GDP on housing, on average, while countries with strong controls invest 3-4 percent on average.

3.64 Simple multivariate models confirm this. Malpezzi (1991) presents several variants; a simple representative example is the following:

\[
\text{SHTO} = 4.86 + 0.00058 \times \text{GNPPC} - 3.63E-08 \times \text{GNPPC}^2 - 0.197 \times \text{RINDEX} \\
(1.23) 
(0.00040) 
(2.60E-08) 
(0.117)
\]

R-squared: 0.15 (0.04, adjusted)

---

*Remember, these are not the asset prices of the rental units, but generally the prices of houses sold for owner occupation.*
3.65 Not all supply comes from new investment. Most comes from the existing stock. Vacancy rates are one indicator of the utilization of that stock. However, we have no strong prior about effects of controls on utilization. One line of reasoning suggests that if controls reduce supply, the existing stock will necessarily be more intensively used. Another line suggests that more households will hold housing off the rental market, especially since controls are often coupled with strong tenure security provisions. Anecdotal evidence can be cited to support both arguments. India and Egypt are often cited as countries with strict controls and tenant protections, but high vacancy rates (often 10 percent in Indian cities). Ghana, on the other hand, is strict as well but has very little unoccupied housing.31/

3.66 Data not presented here show that, on balance, stricter rent control regimes are associated with slightly higher vacancy rates (from 5 to 6 percent, on average). But the increase is slight, and multivariate models have almost no real explanatory power. Perhaps the two effects above are roughly offsetting, at least in the aggregate.

31/ Ghana, as it happens, has a social system that encourages the utilization of housing by family members. Malpezzi, Tipple, and Willis show that controls have been associated with an increase in family housing and decrease in commercial renting.
IV. EVALUATING THE EFFECTS OF CONTROLS

A. Economic Models of Rent Control

4.1 Economic analysis of rent control has traditionally been based on the simple comparative statistics of an imposed price reduction, similar to a tax or a tariff on housing capital. Extensions such as Olsen's (1969) model highlight the role of reduced maintenance, which, all things being equal, reduces the quantity of housing services produced by a controlled dwelling. If rent ($PQ$) is fixed by controls, $Q$ can be reduced by accelerated depreciation, until the price per unit of services, $P$, meets or exceeds its precontrol level. Both comparative static and dynamic models indicate that a simple price control on housing will decrease maintenance and the useful life of a dwelling.

4.2 But real world rent control regimes are not that simple. There are at least seven alternative adjustment mechanisms which can equilibrate a nominally controlled market. The hypothesis is that markets must adjust in some fashion in a long run, given alternative opportunities for landlords and a housing stock of limited durability. Four of the adjustments can be embodied in rent control laws: indexing (keeping real rents constant), reassessment for new tenants, differential pricing of new and existing units, and differential pricing for upgraded units. Three are market responses that policy makers would generally consider undesirable outcomes; outright evasion; side payments such as key money; adoption by tenants of maintenance expenditures; accelerated depreciation and abandonment; and distortions in consumption, not only in the composite housing services but also crowding, length of stay, mobility, and tenure choice.

4.3 What is the evidence on the relative size of costs and benefits, net of these adjustments? Until recently, while there has been a large literature on controls, few papers had attempted to estimate magnitudes of the costs and benefits from rent control, and even fewer present estimates for developing countries.32/ But within the past two years a number of studies have been completed, some under the World Bank research project33/ and others independently.34/ We begin with a review of the economic models underlying these estimates.

32/ Fuller reviews of the literature can be found in Thibodeau (1981), Arnott (1981), and Malpezzi (1986). See Block and Olsen (1981) and Gilderbloom and Appelbaum (1983) for readers on rent control, with contrasting points of view. A more complete bibliography on rent controls is available upon request of the authors.


Rent Control as Price Control

4.4 Simple rent control can be viewed as a tax on the profits of landlords, or a tax on the return to housing capital. The traditional textbook analysis of rent control as a price control then follows directly. When rent control is imposed, the price per unit of housing service charged by landlords is reduced by fiat. In Figure 4.1, representing market demand and supply, this is represented by a move from $P_0$ to $P_1$. If rather than being reduced, rents are frozen at existing levels, then an assumed shift in demand or price inflation leads to a similar divergence between equilibrium and controlled prices. In the short run, the housing stock is fixed, $(S_0)$, so at $P_1$ there exists excess demand $(Q_1 - Q_0)$, and housing is rationed. The divergence between $P_0$ and $P_1$ also provides a strong incentive for the development of a key money system, where amortized key money makes up the difference $(P_0Q_0 - P_1Q_0)$.

4.5 In the longer run, the supply schedule has more elasticity $(S_1)$, and so if key money has not become an effective equilibrating mechanism (because of strict enforcement, or because it is difficult to collect key money from tenants already in place, or simply because low incomes and poor capital markets make it difficult for many renters to finance key money payments) then landlords decrease the quantity of housing services supplied to $Q_2$. Some houses are demolished early, and new starts are forgone. Obviously, shifts in demand as population and income increase will exacerbate this situation. In the very long run, with an elastic supply $(S_2)$, the simple competitive model implies an unhoused population.

Rent Control as Expenditure Control

4.6 In fact, landlords even have some ability to alter the quantity of housing services from an existing unit. Figure 4.2 therefore presents an alternative model, based on Olsen (1969) and Frankena (1975), which models rent control as an expenditure control, not a price control.

4.7 Suppose that rent control is imposed and initially lowers real rents to $P_1$—that is, the supply curve in the immediate market period, which is not shown, is vertical, and the immediate effect of the unanticipated imposition of controls is effectively to reduce the price from $P_0$ to $P_1$. Rent is fixed at $P_1Q_0$.

4.8 But in the intermediate run landlords have some latitude to vary the quantity of housing services available in the market, as represented by the slope of $S$. Also, virtually all real world rent control regimes fix rents, not the price per unit of housing services. Specifically, rental expenditure is fixed at $P_1Q_0$; that is, landlords are constrained by the rectangular hyperbola $E$, the
locus of all quantities and prices yielding rents equivalent to $P_1 Q_0$.

4.9 Now there is no longer a market clearing equilibrium, and, in fact, the final price per unit of housing services can exceed the original uncontrolled price. As drawn, landlords can reduce supply to $Q_1$ during the intermediate period, but charge $P_2 Q_1$. Note that at $P_2$ there is excess demand $Q_2 - Q_1$. If the minimum quantity which could be offered in the intermediate run (the vertical portion of the supply curve) were less than $Q_3$ (where $E$ intersects with the demand curve), $Q_3$ would become the binding constraint because at prices higher than $P_3$ consumers would demand less housing than was offered.

4.10 The existence of an alternative owner-occupied market further complicates the analysis. In one polar case, if the supply of housing services from this sector is perfectly elastic (and transaction costs broadly defined are ignored), the existence of this sector will limit prices to $P_0$, since if prices rise farther households will switch sectors. In the other polar case, assume that there is no available owner housing or that transactions costs, lack of finance, and other factors, constrain households to remain in the rental market. Then the analysis presented earlier stands.

Other Models of Maintenance Behavior Under Controls

4.11 Both the preceding models implicitly assume that nominal controlled rents are not adjusted to reflect actual maintenance behavior of landlords. Malpezzi (1986) and Olsen (1988) demonstrate that controls that controlled rent a positive function of maintenance can lead to increased housing maintenance. A parallel result holds with regimes that permit revaluation of units after upgrading. The theoretical rationale is quite simple to illustrate. In the upgrading case, for example, a marginal expenditure on extending the size or quality of the unit permits revaluation of the entire unit.

4.12 While it is fairly common to permit revaluation of upgraded units, it is less common to fine tune controls to the extent implied by valuations that vary with maintenance behavior. The latter is particularly costly and difficult to administer. Malpezzi (1986) did note that there was some upgrading behavior of the rental stock in Cairo, but that much of this was actually carried out by tenants.

---

35/ A number of U.S. jurisdictions with controls have collateral regulations requiring maintenance but fewer attempt to relate rents to maintenance behavior.
The Basic Consumer's Surplus Model

4.13 All the models above attempt to predict landlord and tenant behavior under controls. Each provides important insights into the workings of controls—or the possible workings of controls. But estimating these models directly is not often feasible. Supply functions in particular are difficult to recover from existing data. But we can readily estimate market outcomes, the changes in welfare implied by the above models, using familiar consumer's surplus measures. This model was first applied to controls by Olsen (1972) in his econometric analysis of rent control in New York. It is assumed that there is an uncontrolled housing market as well as a rent controlled market. The quantity of housing services provided by a unit reflects all of the characteristics associated with the unit: size, amenities, appearance, location, and physical features. Thus the rent of any unit reflects all the characteristics associated with housing. Differences in rent in a noncontrolled market would thus reflect differences in services associated with the good.

4.14 The costs and benefits of rent control can be assessed by comparing the controlled situation with the noncontrolled situation. One way of implementing this with-without perspective is to estimate how much controlled units would rent for in the absence of controls and consider the difference between that rent and the observed controlled rent as the cost imposed on the landlord and, conversely, the transfer to the tenant. The changes in producer's and consumer's surpluses resulting from the existence of controls can be made more clear with the aid of Figure 4.3.

4.15 With an uncontrolled rent per unit of housing service, \( P_m \), households would consume \( Q_m \) units of housing service, and pay a rent \( P_m Q_m \). The immediate effect of rent control is to reduce rent to \( P_c Q_m \). Thus the consumer spends \( (P_m Q_m - P_c Q_m) \) more on nonhousing goods.

4.16 At price \( P_c \) the consumer would demand \( Q_d \) units of housing services. However, under real world rent control regimes, landlords have no incentive to increase the flow of housing services to \( Q_d \); and indeed as landlords filter
housing downwards, tenants are likely to end up consuming $Q_c$ housing units. Households will find it more difficult to obtain and move to a suitable unit. Households will systematically consume "off their demand curve."

4.17 This geometric exposition illustrates the basic method quite well, but an algebraic generalization is better suited for actually estimating the size of welfare gains and losses using a sample. It can be shown that if the price elasticity of demand is constant, the benefit of a program that changes prices and quantities can be written as:

where

$\text{benefit} = \text{cash equivalent value, a measure of change in consumer's surplus}$

\[ [1] \text{Benefit} = \left( \frac{1}{Q_m} \right)^{1/b} \left( \frac{b}{b+1} \right) \left[ Q_c \frac{b+1}{b} - Q_m \frac{b+1}{b} \right] + P_m Q_m - P_c Q_c \]

$Q_m = \text{predicted housing consumption in the absence of rent controls}$

$Q_c = \text{housing consumption under rent controls}$

$P_m Q_m = \text{estimated rent in the absence of controls, also denoted } R_m$

$P_c Q_c = \text{observed controlled rent, also denoted } R_c$

$b = \text{price elasticity of demand}$

4.18 In the special case where the price elasticity of demand, $b$, is equal to -1, the expression $b/(b+1)$ is undefined. But it can be shown that in this special case the benefit can be expressed using natural logarithms as:

\[ [2] \text{Benefit} = P_m Q_m \left[ \log(P_m Q_c) - \log(P_m Q_m) \right] + P_m Q_m - P_c Q_c \]

4.19 These two related equations are the centerpiece of the empirical analysis below. The benefit may be thought of as composed of two parts. The first is comprised of the two terms to the right of the brackets in equations [1] and [2]. This is simply the additional spending on nonhousing goods brought about by paying a rent $R_c (= P_c Q_c)$ rather than $R_m (= P_m Q_m)$. This simple difference
between market and controlled rents, \( R_m - R_c \), is sometimes used as an approximation to tenant benefits from the imposition of controls. But this simple benefit measure does not take into account how households value changes in housing consumption in addition to changes in disposable income. The second, comprising the terms in parentheses and brackets in the two equations, depends on the difference in housing consumption with and without rent controls. But whereas in the simple benefit measure \( (R_m - R_c) \) an extra dollar of nonhousing is counted as being worth exactly one dollar to the tenant, in the benefit measures [1] and [2] extra housing is discounted based on the tenant's relative preference for housing vis-a-vis other goods.

4.20 The measures in [1] and [2] do not include all possible costs and benefits to tenants. For example, rent control may increase transactions costs for tenants, including search costs (Clark 1982), and increase waiting time for housing units (the cost of which to tenants may be considerable, see [Willis, 1984]. All of these will reduce the benefits to tenants, but the full system may also increase the bundle of property rights, such as security of tenure, enjoyed by tenants thus increasing their benefits in this area. The above measures [1] and [2] are then better approximations of benefits than \( R_m - R_c \), but they are still approximations.

4.21 The cost imposed on landlords is straightforwardly approximated by \( P_m Q_c - P_c Q_c \), or the difference between controlled and market rents for the unit inhabited by the tenant. This measure of cost to landlords does not include losses from prior accelerated depreciation of the unit. However, this could be regarded as a saving in maintenance costs, which would generate benefits elsewhere, perhaps equal to the opportunity cost forgone. The cost to landlords would also include losses from the uncompensated transfer of property rights to renters. Thus, the true costs to landlords may therefore exceed the \( (P_m Q_c - P_c Q_c) \) estimates.

B. Estimates of Costs and Benefits and their Incidence

Olsen's Original Study of New York

4.22 Perhaps the first careful study of the costs and benefits of rent control is Olsen's (1973) paper. New York City's rent control system is quite complex.\(^{37}\) A greatly simplified review of New York's system is as follows. The U.S. Congress enacted national rent control during World War Two. After the war, rent control powers were devolved to the states, and over several years most states removed controls. By the 1950s most jurisdictions had removed controls, except for those remaining in New York City. About a dozen significant revisions to the system have been enacted since then. The major features, for our purposes, are as follows. There are three main classes of rental housing. Controlled rental housing comprises mainly pre-1947 apartments, whose rents are set on what is roughly a (financial) cost plus basis. Since 1969, units built after 1947 (and some pre-1947 units which had been decontrolled) have been subject to "rent stabilization," under which a board comprising landlord, tenant,
and "general public" representatives set annual guidelines for percentage increases. Since 1971, both controlled and stabilized units have been removed from the system whenever tenants turn over, but since 1974 once new tenants negotiate rents the units come under stabilization once again.

4.23 Using data from New York City in 1968, Olsen used estimates from a hedonic index of uncontrolled units to predict the uncontrolled rentals of controlled units. In an analogous fashion, he used the data from the uncontrolled portion of the market to estimate the free market Engel curve for housing services. The average controlled rent for an apartment was $999 per annum; for comparison, the average income was $6,229. The average uncontrolled rent predicted by the hedonic results for those same units was $1,405, implying a subsidy of $406. The average free market expenditure for the controlled households was $1,470, indicating that they consumed slightly less housing than they would have in the free market. The average household in the controlled market consumed about 4.5 percent less housing than they would have in the free market.

<table>
<thead>
<tr>
<th>Table 4.1: Summary Cost-Benefit Measures From New York, 1968</th>
</tr>
</thead>
<tbody>
<tr>
<td>(in 1986 U.S. dollars)</td>
</tr>
<tr>
<td>Current Rent for Controlled Unit</td>
</tr>
<tr>
<td>Rent Costs</td>
</tr>
<tr>
<td>Current Rent with no Rent Control Subsidy</td>
</tr>
<tr>
<td>Current Rent with no Rent Control Benefits Efficiency,</td>
</tr>
<tr>
<td>Current Rent with no Rent Control Transfer</td>
</tr>
<tr>
<td>Mean/Mean Income</td>
</tr>
<tr>
<td>Current Rent Costs</td>
</tr>
<tr>
<td>Market Rent Costs</td>
</tr>
<tr>
<td>Est. Rent Costs</td>
</tr>
<tr>
<td>Cost of Rent Control Tenant Transfer</td>
</tr>
<tr>
<td>Mean/Mean Income</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>Market</th>
<th>Est.</th>
<th>Cost of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Rent for</td>
<td>999</td>
<td>1405</td>
<td>1470</td>
<td>406</td>
</tr>
<tr>
<td>Controlled Unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Rent with no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent Control Subsidy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Rent with no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent Control Benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Rent with no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent Control Transfer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean/Mean Income</td>
<td>.160</td>
<td>.226</td>
<td>.236</td>
<td>.065</td>
</tr>
</tbody>
</table>

Currency Unit: 1968 U.S. Dollars
Note: Olsen reported annual amounts.

4.24 Olsen computed the economic benefit of rent control to each tenant under the assumption of a unitary price elasticity, that is, using equation [2] from section 4.18. Olsen's estimate of the average net benefit is $213, little more than half the gross subsidy implied by rent control.

4.25 The benefits are found to be slightly negatively related to income, larger for larger households, and larger for households headed by older people. The annual benefit is estimated to decrease by about one cent for every dollar of additional income, $9 per year of head's age, and $69 per additional household member. Olsen notes that these results may underestimate the regressivity of benefits because lower income people are more likely to rent in the controlled market and, hence, appear in the regression sample. Benefits do not vary significantly by race or sex of head of household. Rent control in New York City in 1968 appears to redistribute income, but very weakly, and is in no way

38/ At this time rent stabilization was not in force, so there was a reasonably clear delineation between controlled and uncontrolled units.
proportional to its cost. Olsen showed that there is a slight tendency for lower income households in New York City in 1968 to receive slightly larger benefits.

**Pena and Ruiz-Castillo's Study of Madrid**

4.26 Daniel Pena and Javier Ruiz-Castillo (1984) carried out a similar household level cost-benefit analysis for Madrid. Madrid also has, in effect, a two-tiered system. Roughly, units occupied before 1964 have their rents controlled by the government. Only small increases in their rents have been permitted. Units occupied after 1964 are under a slightly more liberal system: leases must be renewed, but at a rent agreed upon by the landlord and tenant, subject to a government ceiling more generous than the increases permitted in the strictly controlled sector.

<table>
<thead>
<tr>
<th>Table 4.2: Cost-Benefit Measures From Madrid, 1974</th>
</tr>
</thead>
<tbody>
<tr>
<td>(in 1974 pesos)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Current</td>
</tr>
<tr>
<td>Control-</td>
</tr>
<tr>
<td>rolled</td>
</tr>
<tr>
<td>Rent</td>
</tr>
<tr>
<td>PceQc</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Mean/Mean Income</td>
</tr>
</tbody>
</table>

All amounts in 1974 pesos, per month.

4.27 The authors treat the post 1964 sample as approximately uncontrolled, a limitation imposed by the data. They find an average monthly rent of 945 pesos in the strictly controlled sector, while the average predicted rent for these units (using moderately controlled hedonic prices) is 4,694 pesetas. The average income in the strictly controlled sector is about 75 percent of the average income in the moderately controlled sector, suggesting some redistributive effect. However, extensive multivariate tests suggest that the subsidy is poorly targeted: personal characteristics, including income, explain only 30 percent of the variances in benefits. The size of the benefit is positively correlated with income. Further, households with lower socioeconomic or educational status, unemployed household heads, and female household heads receive systematically lower benefits.

**Malpezzi's Study of Cairo**

4.28 Rent control was introduced in Cairo, Egypt, in 1944. At that time, controls were applied only to houses built before 1944, in order to avoid discouraging housing production. The first major changes in the law took place gradually between 1952 (the Egyptian revolution) and 1965, as rent controls were extended to cover relatively new units, and previously set rents were further
reduced, until by 1962 the law was extended to cover new construction as well as the existing stock.

4.29 During recent years, legal rents were fixed at 8 percent of the assessed value of the land, and 5 percent of the assessed construction cost of the structure— at the time of completion for units as constructed, and at estimated construction costs for units built before that date. Since 1981 the legal rate of return has been fixed at 7 percent of the combined value of the land and cost of construction of the structure. Luxury and furnished units are exempt from controls, but the number of such units is strictly controlled. In practice, furnished (and therefore uncontrolled) units are rented only to foreigners.

4.30 Malpezzi (1986) presents estimates of the costs and benefits of rent control in Cairo. Controlled units in Cairo rent for much less than estimates of their market rent in the absence of controls. However, this paper shows that when account is taken of side payments, including key money, utilities, maintenance and repair, and upgrading by tenants the discount is greatly reduced for the typical (median) household. When these are excluded the median estimate of the price per unit of housing services is about 38 percent from the estimated long-run equilibrium free market price. When they are included the ratio increases to 70 percent of the market price. But it must also be emphasized that there is a wide distribution around this median. Quite a few Cairo households do receive large discounts, just as few pay very high prices for housing services. These differences appear to be largely unrelated to tenant characteristics measuring ability to pay, raising questions of horizontal equity. Otherwise equal households receive quite different housing "deals." Most Cairo renters are well off their demand curve— much farther off than can be explained by the stochastic nature of the estimated demand relation. Corresponding to this departure from equilibrium, many households have significant welfare losses from under- and overconsumption of housing services. Underconsumption dominates, but about a third of the renters consume more housing than predicted by their demand relation. This conclusion holds up even if households very far from their demand relation are analyzed separately from those within a 95 percent confidence interval of their equilibrium demand.
Table 4.3: Cost-Benefit Measures From Cairo, 1981 (in 1981 Egyptian pounds)

<table>
<thead>
<tr>
<th>Sample Statistics</th>
<th>Quantity of Housing Service</th>
<th>Price (Normalized to One)</th>
<th>Welfare Cost of Ration</th>
<th>Net Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on Q3*</td>
<td>14.9</td>
<td>0.66</td>
<td>19.94</td>
<td>12.14</td>
</tr>
<tr>
<td>Net Rents Med</td>
<td>8.2</td>
<td>0.38</td>
<td>8.24</td>
<td>4.78</td>
</tr>
<tr>
<td>(naive model)</td>
<td>1.4</td>
<td>0.23</td>
<td>2.25</td>
<td>1.06</td>
</tr>
<tr>
<td>N</td>
<td>312</td>
<td>297</td>
<td>239</td>
<td>239</td>
</tr>
<tr>
<td>Prob &gt;</td>
<td>s</td>
<td></td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td>Based on Q3</td>
<td>29.4</td>
<td>1.46</td>
<td>12.00</td>
<td>20.89</td>
</tr>
<tr>
<td>Gross Rents Med</td>
<td>17.0</td>
<td>0.71</td>
<td>3.27</td>
<td>5.84</td>
</tr>
<tr>
<td>(correct model)</td>
<td>10.1</td>
<td>0.42</td>
<td>-3.76</td>
<td>1.36</td>
</tr>
<tr>
<td>N</td>
<td>312</td>
<td>297</td>
<td>237</td>
<td>237</td>
</tr>
<tr>
<td>Prob &gt;</td>
<td>s</td>
<td></td>
<td>.001</td>
<td>.001</td>
</tr>
</tbody>
</table>

Representative Consumer **

| Net (native model) | 8.2  | 0.38  | 5.08  | 0.27  | 4.82    |
| Gross (correct model) | 17.0 | 0.71  | 4.93  | 0.63  | 4.30    |

* Notation: Q3: third quartile; Med: median; Q1: first quartile; Prob > |s|: Probability of observing such a large centered signed rent statistic (not reported) if the population mean is zero. Units: estimated equilibrium competitive price normalized at one; all other variables in Egyptian pounds. One pound was approximately one U.S. dollar in 1981 at unofficial rates. Median renter income is 85 pounds.

** Income, Quantity, Price set at each variable’s median. For other demand determinants, use median of dot product of sample values and demand coefficients.

4.31 On distributional issues, Malpezzi also presented evidence from Cairo that median landlord incomes were higher than median tenant incomes: 127 Egyptian pounds (1981) versus 87 pounds, respectively. While the difference is not negligible, typical landlords in Cairo are by no means rich. And there was significant overlap in the distributions.

Hardman’s Study of Cairo

4.32 Hardman (1987) independently carried out an analysis of rent control in Cairo, using the same data but a slightly different approach. She developed two models of rental transactions under controls. In the first, rental housing is provided by a competitive industry under controls. Landlords set key money
payments to maximize returns, under imperfect capital markets. Hardman shows such a model leads to price dispersion and a variety of side payments. In the second model, landlords have some market power and indulge in price discrimination, seeking tenants able to pay key money or other side payments.

4.33 Hardman then estimated a joint discrete-continuous model of the decision to pay key money and amount of key money paid. Key money was more likely to be paid by high income and better educated households; resident owners and landlords in informal areas were less likely to pay key money. For households that paid key money, rents were less related to housing characteristics than for households that did not. She found sufficient price discrimination to confirm the landlord market power hypothesis.

Struyk's Study of Urban Jordan

4.34 Struyk (1988) presents evidence on the distribution of benefits from rent control in urban Jordan. Using Olsen's method, Struyk finds that average benefits are equal to 27 percent of mean rents in Amman and 7 percent in smaller towns. The distribution of benefits is only weakly related to income; lower income households do receive slightly larger benefits, but the biggest benefits accrue to households in their units the longest, regardless of income.

<table>
<thead>
<tr>
<th>Table 4.4: Cost-Benefit Measures From Urban Jordan, 1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>(in 1986 dinars)</td>
</tr>
<tr>
<td>Current Market Cost of Tenant Transfer</td>
</tr>
<tr>
<td>Controlled Rent for Rent with no Rent Control Subsidy Benefits Efficiency</td>
</tr>
<tr>
<td>Rent Unit Controls</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Amman</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Other Urban</td>
</tr>
<tr>
<td>Mean</td>
</tr>
</tbody>
</table>
Malpezzi, Tipple, and Willis’s Study of Kumasi

4.35 As is true for many countries, rent controls were first instituted in Ghana during World War Two, when the Gold Coast began to suffer the effects of inflation. In response to this, the Defense (Rent Restriction) Regulations of 1942 made it an offense for anyone to increase rents above those of September 3, 1939, except where an assessment had been made by a Rent Assessment Committee.

4.36 Since that time Ghana has had a long and varied history of controls, which is described in detail in Malpezzi, Tipple, and Willis (1990). The salient features of the system as of the date of their data collection (1986) are as follows. Most residents of Kumasi rent accommodations, usually rooms in compound houses or tenements. The rent per room is fixed on a simple schedule; most tenants rented rooms which had controlled rents of 250-300 cedis (about $4). Rents were adjusted infrequently.

4.37 Malpezzi, Tipple and Willis (1990) analyzed the costs and benefits of controls in Kumasi, Ghana. Ninety percent of Kumasi’s population rent or live as tenants in family houses. Based on 1986 data, typical controlled rents were less than 2 percent of total consumption. A simple cross country model predicted that the median rent-to-income level would be about .08 in the absence of controls. Malpezzi, Tipple, and Willis found that renters pay a fraction of the estimated market rents for their units. The actual rent paid is roughly half the estimated market. Furthermore, while the controlled rents $P_cQ_c$ hardly vary, the estimated market rents $P_mQ_m$ vary with size and type of unit. Market demand $P_mQ_m$ varies even more.

4.38 The median cost of the subsidy implied by these rent reductions is estimated to be about 274 cedis per month in the tenement and 301 in the indigenous sector. But households would spend even more on housing in the absence of controls. Median estimated market demand ($P_mQ_m$) is over 1,000 cedis in both sectors. Comparing $P_mQ_c$ and $P_mQ_m$, it appears that while units rent for less because of controls, households would spend even more at market prices; that is, consumption of housing services has been greatly reduced under controls.

4.39 Rent control imposes a landlord cost ($P_mQ_c - P_cQ_c$), which exceeds the net benefit to tenants in both sectors. The transfer efficiency or ratio of benefits to costs is therefore low. Under the most favorable assumption in terms of controls efficiency, the efficiency is 40 to 50 percent. Tenants receive net benefits that are less than half the static cost to landlords. If the price elasticity is on the order of -0.5, net benefits to most tenants is negative; both landlords and (most) tenants are made worse off by controls.

---

39/ For the great majority of units, rents were fixed at 300 Cedis per room. Such fixed rents are in some sense a more strict regime than Indian systems, almost all of which permit some variation by type of unit. In 1986, U.S.$1=C90 (approximate).
### Table 4.5: Cost-Benefit Measures From Kumasi, 1986

<table>
<thead>
<tr>
<th></th>
<th>Tenement Sample</th>
<th></th>
<th>Transfer Efficiency, Ep = 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Current Market Rent for Est. d. Tenant Benefits</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rent Control</td>
<td>Cont- Rent for Rent with no Rent Control Subsidy (PmQc-PcQc)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rent</td>
<td>Current with no Rent Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PmQc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PcQc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>Mean</td>
<td>290</td>
<td>613</td>
<td>1094</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>300</td>
<td>580</td>
<td>1220</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>300</td>
<td>574</td>
<td>1040</td>
</tr>
<tr>
<td></td>
<td>Q1</td>
<td>300</td>
<td>570</td>
<td>909</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>358</td>
<td>343</td>
<td>328</td>
</tr>
<tr>
<td>Representative Consumer</td>
<td>Mean</td>
<td>300</td>
<td>574</td>
<td>1040</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### Tenement Sample

<table>
<thead>
<tr>
<th></th>
<th>Indigenous Sample</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>244</td>
</tr>
<tr>
<td></td>
<td>Q3</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>Q1</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>322</td>
</tr>
<tr>
<td>Representative Consumer</td>
<td>Mean</td>
<td>250</td>
</tr>
</tbody>
</table>

### Indigenous Sample

4.40 While costs and benefits are large relative to rents paid, they are small relative to income. The cost of the subsidy is usually on the order of 2 to 3 percent of consumption. Net tenant benefits are, at best, negligible compared to total consumption.

4.41 The bottom line, then, is that rent control reduces the rents households pay, but the benefit of this rent reduction is more or less offset by the welfare loss from underconsumption of housing. We estimate that existing units of typical quality would have rented for about twice existing rents in 1986, but that households would typically spend more than three times current rents--implying higher housing consumption—if supply was elastic.

4.42 Malpezzi, Tipple, and Willis were also able to analyze the income of tenants and landlords. Broadly, the results were similar to those in Cairo. In Kumasi, landlords were, on average, about 36 percent richer than tenants; but about one quarter of landlords had incomes below the median renter income, and one quarter of renters had incomes above the median landlord income.
Malpezzi and Tewari’s Study of Bangalore

Malpezzi and Tewari (1990) analyzed controls for Bangalore, India. Bangalore has a "two tier" system of controls, where some units are "uncontrolled" (primarily new units which enjoy a ten-year holiday from controls); some are under "ordinary" controls (increases are regulated); and some are under "strict" controls ("fair rents" are set by the rent controller, and in many cases tenants are allocated to the unit by the controller). Using a household survey carried out in 1974 by Prakasarao and Tewari (1979), large differences in outcomes for the two controlled group were found.

Controlled renters paid less than the estimated market rents for their units, but the amount of subsidy is highly dependent on whether or not the unit is strictly controlled. The median rent paid \((P_{CQc})\) is 92 percent of the estimated market rent \((P_{MQm})\) for ordinary controlled units, but only 42 percent for strictly controlled units. The median cost of the subsidy implied by these rent reductions was estimated to be about 7 rupees for ordinary units and 27 rupees for strictly controlled units.

Table 4.6: Cost-Benefit Measures From Bangalore, 1974
(in 1974 rupees)

<table>
<thead>
<tr>
<th></th>
<th>Current Market Est.</th>
<th>Cost of</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rent for Rent with no Rent Control</td>
<td>Tenant Benefit</td>
</tr>
<tr>
<td>Rent controlled</td>
<td>Rent Control Subsidy</td>
<td>Tenant</td>
</tr>
<tr>
<td>(P_{CQc})</td>
<td>(P_{MQm})</td>
<td>(P_{CQc}-P_{MQm})</td>
</tr>
<tr>
<td>Ordinary Controlled Renters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>96</td>
<td>113</td>
</tr>
<tr>
<td>Q3</td>
<td>110</td>
<td>120</td>
</tr>
<tr>
<td>Median</td>
<td>60</td>
<td>65</td>
</tr>
<tr>
<td>Q1</td>
<td>40</td>
<td>47</td>
</tr>
<tr>
<td>N</td>
<td>87</td>
<td>75</td>
</tr>
<tr>
<td>Representative Consumer</td>
<td>60</td>
<td>65</td>
</tr>
<tr>
<td>Strictly Controlled Renters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>74</td>
<td>111</td>
</tr>
<tr>
<td>Q3</td>
<td>90</td>
<td>142</td>
</tr>
<tr>
<td>Median</td>
<td>45</td>
<td>107</td>
</tr>
<tr>
<td>Q1</td>
<td>25</td>
<td>47</td>
</tr>
<tr>
<td>N</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Representative Consumer</td>
<td>45</td>
<td>107</td>
</tr>
</tbody>
</table>
4.45 The total amount households actually spend on housing was also reduced below uncontrolled levels. Median $P_m Q_m$ is approximately twice the consumption in the presence of controls for both ordinary and strictly controlled units. Moreover, a comparison of $P_m Q_c$ and $P_m Q_m$ for ordinary controlled units shows that while units rent for less because of controls, the actual value of housing consumed has also declined, that is, consumption of housing services has been greatly reduced under controls ($Q_c < Q_m$). However, a comparison for strictly controlled units finds that $P_m Q_c$ now exceeds $P_m Q_m$; these households are consuming more housing under controls.

4.46 If the loss from the reduction of housing consumption is subtracted from the subsidy paid by landlords, the net benefit to occupants of ordinary controlled units is negative—both landlords and (most) tenants are made worse off by controls. Such analysis finds that occupants of strictly controlled units do receive net positive benefits, but that the level received is small. If $E_p = 1$ (the most "favorable" assumption in terms of control efficiency), the transfer efficiency, or ratio of benefits to costs is only 82 percent. Tenants receive net benefits which are less than 60 percent of the static cost to landlords. If the price elasticity is on the order of -0.5, net benefits to renters are only 33 percent of the cost to landlords. Thus, a relatively small portion of the renting population is slightly better off, while the vast majority of renters, as well as landlords, is worse off.

4.47 While costs and benefits are large relative to rents paid, they are small relative to income. The cost of the typical subsidy to ordinary controlled renters is about 1 percent of their typical income; few households receive subsidies greater than 5 percent of their income. For strictly controlled renters, typical subsidies are around 6 percent of typical incomes. Net tenant benefits are, at best, negligible for small compared to total income.

4.48 Again, discussion of the "typical tenant" and the medians masks the fact that these welfare estimates have wide distributions. Even in the strictly controlled submarket, over one quarter of households have negative estimated net benefits. And over a quarter of ordinary controlled households have positive estimated benefits, even under the lower price elasticity.

4.49 Malpezzi and Tewari also examined the distribution of benefits with respect to income, length of stay, and several other demographic characteristics. Benefits were found to be so weakly related to income, household size, length of tenure, and other potential determinants that they could not statistically reject the hypothesis that benefits are conferred randomly.

4.50 Other distributional issues were also studied. The Bangalore survey permitted identification of landlords and contained data on income from property. Some rental tenants are themselves landlords, so Malpezzi and Tewari constructed a three way classification: (1) tenant, not a landlord, (2) landlords who own their own dwelling, and (3) landlords who are themselves renters; and a two way classification: (1) tenant, not a landlord, (2) all landlords.

4.51 They found that both classes of landlords have higher incomes than tenants who are not landlords, on average; median incomes for the landlord groups are some 70 percent higher than nonlandlord tenants. They also found that almost
one quarter of the landlords have incomes below the median (nonlandlord) renter income; almost one quarter of the nonlandlord renters have incomes greater than the median landlord income. More than 10 percent of renters (110 out of 1,045) are also landlords; and as a class, they are as rich as homeowning landlords. Most landlords hold relatively few units; the ratio of occupied rental units to number of landlords is about 4.

Thus it did not appear that rent control redistributed very much income from rich to poor, and almost certainly redistributes some in the wrong direction. Of course richer tenants own more units. The data were reanalyzed weighted by income from property. When the data are so weighted, the income disparities between landlords and tenants who do not own other property are accentuated; but the fact that renters who themselves own property are actually the richer class remains unaltered.

Silveira and Malpezzi's Study of Rio de Janeiro

Brazil has had a long and complicated history of controls. The first attempt at regulating the private rental market goes back to 1917. Silveira and Malpezzi detail the laws and their history; for the present purpose the important point is that the controls currently in force in Brazil are less stringent in general than in other countries studied in the comparative research project. In particular, in Brazil rent levels are not controlled directly by legislation, whereas rent increases are; they are indexed to increases in inflation and are reset by negotiation every fifth year and/or when tenants change.

Silveira and Malpezzi analyzed 1980 Brazilian census data for Rio to examine the static costs and benefits of controls. In the static sense, they found that a typical controlled renter paid about 90 percent of estimated market rent. These discounts yielded correspondingly small benefits, on average, or even small welfare losses, once changes in housing consumption were taken into account.

A typical controlled household pays rent not too different from what it would pay if market conditions prevailed. The rent paid by the median household is 90 percent of the estimated market rent. This meager discount translates into a net loss of Cr$95 to the average renter (Cr$356 assuming the lower-demand elasticity of -0.5) once changes in housing consumption are taken into account. For a representative tenant, there is a positive benefit of Cr$374. However, this benefit is still exceeded by the cost of Cr$376 to a representative landlord.

Rent control imposes a measurable static cost to the landlord of a controlled unit; but these are smaller than those found in the previous studies. Still, the median cost of the subsidy is estimated to be about Cr$175 per month or 6 percent of the actual rent. In the case of a representative landlord, however, the loss is of over 13 percent of the actual rent.

While losses are still significant relative to rents paid, they are small relative to income. The cost of the subsidy from landlords is in the order of 1 percent of median tenant income, while tenant losses are 0.5 percent of
income. It is clear that static, monetary welfare costs are much lower than in other rent control regimes surveyed by the rent control project.

Summary of Studies That Measure Consumer's Surplus of Controls

4.58 Table 4.8 presents some summary statistics of costs and benefits from the studies above, expressed in percentages for ease of comparison. For comparison, the values of the "strictness of regime" index from the previous chapter is as follows. The most restrictive regime is Ghana's (index value of 19.0), followed by Egypt (14.9), India (13.8), Jordan (12.5), and Brazil (11.9).

4.59 Perhaps the most immediately striking feature of the summary numbers is their wide variation. On average, controls confer large discounts relative to rents in New York, Amman, Kumasi, and (especially) Bangalore (those under "strict" controls). "Ordinary" Bangalore renters, Rio renters, and Jordanian renters outside of Amman receive much smaller rent reductions. The pattern is broadly similar when the discount is compared to tenant incomes; but the large discounts to typical tenants in Madrid are further highlighted.

Table 4.7: Cost-Benefit Measures From Rio, 1980
(in 1980 cruzeiros)

<table>
<thead>
<tr>
<th></th>
<th>Current Rent</th>
<th>Market Rent for Current Controlled Rent</th>
<th>Estimated Rent with no Controls</th>
<th>Cost of Rent Control Subsidy to landlords</th>
<th>Benefit to Tenant 1</th>
<th>Benefit to Tenant 2</th>
<th>Net Welfare Change (Ben.1-Cost)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4,325</td>
<td>3,825</td>
<td>3,503</td>
<td>-447</td>
<td>-850</td>
<td>-1,214</td>
<td>-390</td>
</tr>
<tr>
<td>Q3</td>
<td>5,310</td>
<td>5,141</td>
<td>4,450</td>
<td>979</td>
<td>745</td>
<td>569</td>
<td>-31</td>
</tr>
<tr>
<td>Median</td>
<td>2,800</td>
<td>3,176</td>
<td>3,060</td>
<td>175</td>
<td>-95</td>
<td>-386</td>
<td>-146</td>
</tr>
<tr>
<td>Q1</td>
<td>1,500</td>
<td>1,899</td>
<td>2,081</td>
<td>-953</td>
<td>-1,381</td>
<td>-1,762</td>
<td>-445</td>
</tr>
<tr>
<td>N</td>
<td>717</td>
<td>705</td>
<td>666</td>
<td>701</td>
<td>648</td>
<td>648</td>
<td>648</td>
</tr>
<tr>
<td>Representative</td>
<td>2,800</td>
<td>3,176</td>
<td>3,060</td>
<td>376</td>
<td>374</td>
<td>372</td>
<td>-2</td>
</tr>
</tbody>
</table>

Note: Benefit 1 is benefit to tenants under unitary elasticity. Benefit 2 is benefit to tenants under elasticity of -0.5.

40/ Of course the comparisons are still inexact. While attempts were made to compare studies with similar methodologies, there are differences between studies. Among others, we mention two here. Most studies cited present Marshallian consumer's surplus measures, but Malpezzi (1986) uses a Hicksian measure adjusted for the presence of rationing, and Ruiz and Pena-Castillo did not estimate benefits separately from costs. Also, we focus on median results but some studies only reported means.
4.60 The benefits to tenants of these reductions in rent are not directly related to the size of the rent reduction. Notice that the two markets with the highest transfer efficiency\(^{41}\) are the markets with one of the largest and one of the smallest total rent reductions ("strict" Bangalore and Rio, respectively). The relatively relaxed system of controls in Rio yields little rent reduction and little measurable distortion in housing consumption, so it is relatively efficient; the very strict regime in Bangalore reduces rent greatly, and those households in the strictly controlled units are not, as a class, too far "off their demand curves." And most markets have regimes that appear to confer modest benefits in relation to their costs (median transfer efficiency of six markets is 65 percent, three of seven are around 50 percent transfer efficiency).

4.61 It is worth reiterating that these measures of central tendency do not tell the full story. Table 4.8 gives some sense of the relative effects of controls in the different case study markets. The studies that focused on distribution of benefits within controlled samples highlighted the extreme variation of costs and benefits; it appears that within markets the averages mask

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Table 4.8: Summary of Cost-Benefit Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Rent Red. as % of Market Rent</th>
<th>Benefit as % of Market Rent</th>
<th>Transfer Efficiency</th>
<th>Means or Medians</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tenant Income</td>
<td>Tenant Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York (Olsen)</td>
<td>28</td>
<td>14</td>
<td>3.4</td>
<td>52</td>
</tr>
<tr>
<td>Madrid (Pena &amp; Ruiz-Castillo)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Cairo (Malpezzi)</td>
<td>30</td>
<td>26</td>
<td>5.1</td>
<td>87</td>
</tr>
<tr>
<td>Amman (Struyk)</td>
<td>33</td>
<td>NA</td>
<td>NA</td>
<td>65</td>
</tr>
<tr>
<td>Urban Jordan (Struyk)</td>
<td>14</td>
<td>7</td>
<td>NA</td>
<td>51</td>
</tr>
<tr>
<td>Kumasi (Malpezzi, Tipple and Willis)</td>
<td>26</td>
<td>12</td>
<td>1.0</td>
<td>45</td>
</tr>
<tr>
<td>&quot;Ordinary&quot; Bangalore (Malpezzi and Tewari)</td>
<td>4</td>
<td>Neg Ben</td>
<td>Neg Ben</td>
<td>Neg Ben</td>
</tr>
<tr>
<td>&quot;Strict&quot; Bangalore (Malpezzi and Tewari)</td>
<td>64</td>
<td>64</td>
<td>15.1</td>
<td>100</td>
</tr>
<tr>
<td>Rio de Janeiro (Silveira and Malpezzi)</td>
<td>12</td>
<td>12</td>
<td>2.0</td>
<td>99</td>
</tr>
</tbody>
</table>

\(^{41}\) Ratio of tenant benefit to rent reduction. It is important to note that transfer efficiency is a simple ratio of static measures and is not a measure of total efficiency in any sense.
large numbers of "winners" and "losers." For example, consider Cairo. Malpezzi (1986) found that, if the benefit were calculated separately for each household, the variation in benefits was very large relative to the median benefit or the benefit for the "representative consumer." The first quartile of net benefit was 8 Egyptian pounds per month (compared to typical household incomes of about 80 pounds) and the third quartile was -28 Egyptian pounds— for many households, the "disequilibrium in consumption" outweighed the benefit from lower rents.

4.62 Other distributional issues exist of course, and to these we now turn.

**Distributional Effects of Controls**

4.63 The cost-benefit papers discussed earlier presented evidence on the distribution of benefits from rent control within the class "controlled renters" and a little evidence between "controlled renters" and "other households" (uncontrolled tenants, and homeowners). Since rent control is seen by many as a redistribution of income from landlords to tenants, direct tests of the incomes of each class are of particular interest.

4.64 **Landlord and Tenant Incomes Compared.** Does the implicit subsidy landlords confer upon tenants in a rent controlled market improve the distribution of income? In three of the case study markets surveys it was ascertained whether the respondent owned the house or rented it from the owner or someone else, and whether anyone else in the house rents. Thus these samples can be divided into resident landlords and renters.

4.65 Table 4.9 presents a summary of the results. The results are quite consistent. In all three cases, landlords are richer than tenants, but in all three there is significant overlap in the distribution of landlord and tenant incomes. In Bangalore, the differences between groups are (not surprisingly) accentuated if landlord incomes are weighted by their income from nonresidential property.
The Distribution of Benefits Among Tenants. As already noted above, the most striking distributional result from Malpezzi's study of Cairo was the tremendous variation in tenant costs and benefits around the measures of central tendency. While the median net benefit from controls was modest, Table 4.3 showed that 25 percent of sample households experienced net welfare gains of over 10 percent of median household income, and another quarter of the population experienced a net welfare loss of about 30 percent of median household income. Long-time residents receive the largest subsidies and the largest benefits; but the subsidy increases much faster with length of tenure because distortions in consumption also increase with length of tenure. On the other hand, recent movers paid large amounts of key money, while tenants in place paid very small fractions of their incomes for shelter. When looking at the distribution of benefits by other criteria, there was no discernible distributive effect of subsidies or total benefits. The coefficients of the log of consumption in auxiliary benefit regressions were statistically zero. Finally, neither benefits nor subsidies were strongly related to household size, although there was a weak tendency for larger households to receive smaller subsidies.

In Ghana, the distributional results stem from the fact that (compared to other markets and other rent control regimes) both the size and quality of the housing stock, and the controlled rents paid, exhibit little variation. Examining median cost-benefit measures within consumption quartiles, Malpezzi, Tipple, and Willis found the following. The median rent paid for each unit \( (P_{cQc}) \) remained constant at 300 cedis. The price the housing unit would rent for in the absence of controls \( (P_{mQc}) \) was also remarkably stable, since there was not much variation in size and quality of unit. But estimated equilibrium demand in the absence of controls \( (P_{mQm}) \) rises with income. So the cost of the subsidy does not vary much with consumption, but higher income households have the largest "disequilibrium in consumption," that is, are most constrained by the lack of housing of suitable quality. Richer households have the smallest benefits (or the largest losses, depending on which assumption is made about the price elasticity). Conversely, poorer households receive larger benefits, both absolutely and as a percent of total consumption.
4.68 It was found that in Kumasi long term tenants had the smallest estimated disequilibrium in consumption, and the largest benefits. Net benefits were still small in comparison to consumption. The largest net costs were to recent movers. Even larger unmeasured costs were imposed on households constrained from moving at all.

4.69 Malpezzi and Tewari's study of Bangalore also found that discussion of the "typical tenant" and medians masks the fact that these welfare estimates have wide distributions. Even in the strictly controlled Bangalore submarket, over one quarter of households have negative estimated net benefits. And over a quarter of ordinary controlled households have positive estimated benefits, even under the lower price elasticity.

4.70 In Bangalore, ordinary controlled renters were found to have slightly higher median incomes than uncontrolled renters, and that strictly controlled renters are lower income; but there was a great deal of overlap in all these distributions. Controlled renters are more or less like other renters and like the general population; they are not, as a class, greatly more or less disadvantaged. Rent control does not seem efficient as a redistributive device on this account.

4.71 Within controlled renters, a striking distributional result is that there is no simple relationship between income and benefits. Malpezzi and Tewari disaggregated by strict versus ordinary controls and estimated simple multivariate models with the same result: within the sample of controlled households, benefits were largely unrelated to income, household size, or length of tenure.

4.72 In Rio, Silveira and Malpezzi found that typical net welfare changes were small, as discussed above; but that there was some tendency for low income tenants to have larger gains (assuming a unitary price elasticity) or smaller losses (assuming inelastic demand) than richer tenants. Controls were found to be very mildly progressive, in this restrictive sense.

The Effects of Controls on the "Uncontrolled" Submarket

4.73 Several papers have addressed the potential effects of a price control on a related, though nominally uncontrolled, market. Fallis and Smith (1984) develop two related models one for rent control regimes that exempt new units from price controls and one for regimes with vacancy decontrol provisions. Their short-run models predict that under most conditions excess demand spills over into the uncontrolled market, and, in the short run, drives up the uncontrolled price. In the long run, they implicitly assume an elastic supply function that implies a reduction in the quantity of housing services from the controlled sector, and an expansion in the uncontrolled sector, narrowing the wedge between prices.

4.74 They also present an empirical test of the model using data from Los Angeles (1969-1978). Fallis and Smith assume that there is a straightforward relationship between rental rates, $R$, operating expenses, $E$, and the vacancy rate, $V$, estimated as:
\[ \dot{R}_t = -6.25 + 0.078 \dot{E}_t + 34.09 \left( \frac{1}{V_t} \right) + 26.49 \left( \frac{1}{V_{t-1}} \right) \]

where dots indicate time derivatives and standard errors are in parentheses. Rent control was introduced in Los Angeles at the end of this period, 1978. The estimates are used to forecast what rents would have been in the absence of controls, and the forecast compared with rents in the controlled and uncontrolled sector. After two years, controlled rents had risen by 10 percent less than the forecast, and uncontrolled rents by 22 percent more, confirming the hypothesis that rent control increased prices in the uncontrolled sector in the short run.

4.75 Malpezzi (1986) was the first paper to address this issue for a developing country. That paper used the cross country demand model of Malpezzi and Mayo (1987) to predict long run equilibrium rents in the uncontrolled (furnished) sector in Cairo. There it was found that rents in the "uncontrolled" sector were much greater than predicted by the model. The average predicted rent to income for this group was .16; the actual observed was .53, as reported in Malpezzi (1986).

4.76 Malpezzi, Tipple, and Willis followed up with a similar method in Kumasi. They used an improved version of the cross country demand model to calibrate their model. In contrast to the Cairo case, Malpezzi, Tipple, and Willis found that controls reduced the rents paid in the "uncontrolled" sector in Kumasi in 1986. Predicted rents from the model were 9 percent of income, while actual was 5 percent, as reported in Malpezzi, Tipple, and Willis (1990). In India, Malpezzi and Tewari found that the prediction from the cross country model, while lower than actually observed (predicted rent-to-income of .09 versus observed, .12), the difference was small relative to the standard error of the prediction. A similar result was found for Rio by Silveira and Malpezzi. So in summary the effect of controls on the uncontrolled market, so far as we can discern, appears to vary widely with type of control regime, market, and the nature of the uncontrolled sector.

Rent Control's Effects on Profitability

4.77 In general, direct analysis of the effects of controls on supply is not feasible. Data are difficult to come by, and once obtained, existing empirical models are not sufficiently robust to confidently separate effects of controls from other market and regulatory phenomena. But it is technically straightforward to calculate the effects different control regimes have on the profitability of representative investments. Profit is the intervening variable between controls and supply. Reducing profit reduces supply, although it is difficult to quantify by how much, and in fact the effect depends crucially on other housing and urban policies (to be discussed later). Several of the case studies analyzed the effects of controls on profitability.42/
4.78 Malpezzi, Tipple and Willis (1990) analyzed the effect of Ghanaian rent controls on the profitability of rental investment in Kumasi. They studied a number of cases, but their central representative case suggested that controls reduced the rate of return on rental housing from about 6 percent per annum to about -1 percent. However, they noted that in the recent past Ghana’s economy was so disrupted that -1 percent was not an unattractive return to some investors; during the 1970s returns to cedi-denominated financial assets were around -40 percent. Merely preserving capital—or losing it slowly—is attractive under such conditions. Malpezzi, Tipple, and Willis point out the paradox that as Ghana’s economy recovers, the constraint controls place on rate of return will begin to “bite,” and controls may restrain investment more under “normal” economic conditions.

Table 4.10: Summary of Effects of Controls on Profitability: Three Examples

<table>
<thead>
<tr>
<th>Description of Investment</th>
<th>Baseline Regime</th>
<th>Alternative Regime</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kumasi</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New unit, room in a compound house with shared water and sanitation.</td>
<td>Existing regime: rents set at 300 cedis per month, with general price level rising at 20 percent per annum. Internal rate of return: -1X. Affordable to virtually all households.</td>
<td>Revised regime: rents rise to 1200 cedis, and keep pace with inflation thereafter. Internal rate of return: 8X. Unit affordable to top 40% of the income distribution.</td>
</tr>
<tr>
<td>Existing (low quality) units.</td>
<td>Same as above, except that rate of return is about zero.</td>
<td>Revised regime: rents rise to 600 cedis, and keep pace with inflation. Internal rate of return: 7X. Unit affordable to all but bottom decile of the income distribution.</td>
</tr>
<tr>
<td><strong>Bangalore</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical unit in the &quot;strictly controlled&quot; sector in 1973 (at 1973 prices). These units are of above average quality. Initially assume that at end of 10 year simulation period unit can be converted to highest and best use and sold for market value.</td>
<td>Strictly controlled unit: fair rent set at Rs. 45, and fixed as inflation rises at 8 percent per annum. Rate of return: -10 percent. Affordability: to top 60% of households in first year, improving year by year thereafter.</td>
<td>Rents set at 100 Rs. in 1974 prices, and keep pace with inflation. Internal Rate of return: 4X. Affordable to top 30% of the income distribution.</td>
</tr>
</tbody>
</table>
Malpezzi and Tewari carried out similar rate of return calculations for Bangalore, for both the mid-1970s and more recent data. Several representative investment cases were studied; but for one central case the internal rate of return for a controlled unit was estimated at -10 percent. In other words, landlords under controls lose about 10 percent per year, on average. Without controls, such rental housing units could compete for capital with investments yielding real returns of up to 3 or 4 percent. Controls reduce the rate of profit by about 14 percent overall. Perhaps surprisingly, tenure security regulations depressed returns as much or more than controls themselves. Other analysis showed that even deep land subsidies do not make such an investment profitable in the presence of rent control and tenure security regulation.

Rent Control's Effects on Government Revenue

Property Taxes. Property taxes provide 40 percent of municipal government taxes in India, and 24 percent of revenue. Rent control affects property taxes in several ways; the nature and magnitude of the effect depends on whether the property is taxed based on its capital value or on the stream of rents it generates, as well as important administrative details to be discussed.43

Many countries—for example the United States—base property taxes on their capital value. In such countries, rent controls lower taxes by decreasing the capital value of the underlying asset. The extent of the reduction depends not only on the reduction in current and future rents, but on regulations affecting the security of tenants and the conversion of property to other uses. From the point of view of investors, the decreased rent will be partly offset by decreased property taxes and maintenance costs, but aggravated by increased depreciation following the reduced maintenance. All these effects should be netted out in examining the effect of controls on taxes.44

Other countries—for example India—base property taxes on rental value. In India, property taxes are assessed on the basis of fair rents. Furthermore, the courts have held that rents for uncontrolled properties, including owner-occupied properties, must be assessed on the basis of the fair rents that would be obtained if they were controlled. Given the potential strong effects of controls on property tax collections in such a system, it is not surprising that to date it has been most carefully studied in India.

In all cases, property tax collections are obviously greatly affected by actual assessment and collection practices. Systems that in theory are based on market rents but in practice are rarely revalued are similar in effect to controlled systems of a sort.

43/ For a general discussion of the property tax see Dillinger (1988).

4.84 Obviously the effects of controls depends on the nature and effect of controls on rents. In particular, it is important to establish whether the control--of whatever type--results in a decrease roughly proportional to market value, market rent, or income (that is, to some measure of ability to pay taxes); or whether the decreases are random or mainly correlated with things like the age of the structure, which are themselves poor measures of ability to pay. This is because if controls merely shift the basis for assessment by some constant amount, tax revenue can be recovered without doing violence to equity or efficiency by appropriate adjustments in the tax rate. If controls shift rents stochastically, then taxes themselves are stochastic.

4.85 In their study of Bangalore, Malpezzi and Tewari used hedonic and demand models to study whether fair rents, used as an assessment basis, were related to property values or ability to pay taxes. There was remarkably little correlation between rents and the characteristics of the unit. This result held robustly when different specifications were tried. That suggests that if fair rent is the basis for assessment, it is not possible to proxy the result of property taxes on market rents by bumping the mill rate of the tax up by some fixed proportion. If market valuation or characteristics of the unit are taken as benchmark, fair rents cannot serve as a basis for fair taxation.

4.86 However, another point of view is that property values and/or income from property are themselves simply a proxy for income and/or other determinants of ability to pay. Malpezzi and Tewari also examined the correlation between fair rents and characteristics of the households in a simple demand equation. They found results are quite different from the demand equation for the uncontrolled sector. Demand in the strictly controlled sector is related to household size; households who have been in units for longer periods of time have lower fair rents; and more educated households consume more. But there is no positive relationship between income (our measure of ability to pay taxes) and fair rent (the basis of taxes). In effect, we cannot reject the hypothesis that there is no systematic relationship between fair rents and income, and the point estimate is perverse: richer households would pay lower taxes. If the standard of comparison is income, taxation based on fair rents is essentially random.

4.87 From the Bangalore survey data, it was found that median fair rents are about 42 percent of median estimated market rents. If Bangalore's market had been in equilibrium at our estimate of long run market prices; property tax collections would have been about 2.4 times their actual collection, assuming no change in mill rates or improvements in collection procedures; and the incidence of the tax would be more equitable, if we adopt the standard that ability to pay is related to characteristics of the unit and/or income of the household.

4.88 Since property taxes are nominally paid by the landlord, not the tenant, does this randomness violate the equity criteria? This is a more difficult question. First, many Indian states permit full or partial pass-through of property taxes in rents. To the extent these pass-throughs are effective, the incidence of these taxes does fall on tenants.
Second, a common view of an uncontrolled market is that, to the extent the market is competitive, the incidence of taxes on rental property ultimately falls on tenants; taxes are, in the long run, passed on as are other costs. But of course such is not the case in a severely controlled market.

Third, in the case where controls prevent taxes from being passed on to tenants (either statutorily or effectively), analysis of equity is more difficult. But once again, in a simple framework, if incomes of the landlords are linked to the characteristics and value of their units, a system such as this one breaks the line between tax liability and income.

Income Taxes. Surprisingly, it is little noted in the literature that rent control can depress income tax collections as well, at least in countries that collect taxes on rental income. As a very crude back of the envelope illustration, consider a country where market rents would be, say, 10 percent of GDP, and, say, half the households were renters. If the marginal tax rate on typical landlords were, say, 30 percent, then rental income taxes could be as much as a percent and a half of GDP. If controls cut legal rents by, again, say, half, government revenue would be cut by .75 percent of GDP. If total government revenue were 15 percent of GDP, the forgone tax revenue on rental income could approach 5 percent of government revenue (.75/15). This is not a trivial amount.

Malpezzi and Tewari calculated representative losses to Indian central and local governments from controls. They found that the losses to central government from income tax forgone are even higher than from property taxes; but both paled in comparison to net losses to landlords.

Increases in other Government Expenditures. Rent controls are expensive to administer. While there is a dearth of careful analysis of administrative expenses, especially in developing countries, anecdotal information suggests they can be high. For example, in Santa Monica, California, where legislation requires that administrative costs be recouped by surtaxes on rental units, the current surtax works out to about $75 per unit per annum.

Another underresearched area is the extent to which governments cause or exacerbate market failure by policies like rent control and related regulations, then try to ameliorate their effects by increased expenditure on public housing and/or land development projects. To the extent these expenditures are a cost borne to ameliorate the effects of controls (or restrictive land use regulations, or tenure security laws) they should be counted as a cost of regulation.
V. IMPLICATIONS FOR POLICY

A. Desirable Changes in Controls

Conditions Under Which Controls Could "Work"

5.1 Little of the preceding chapters has been favorable to controls. While there are many kinds of rent control regimes, controls were generally painted as, at best, poorly targeted and unfocused, increasing risk and long run costs of housing capital and, at worst, perverse, leading to welfare losses for tenants as well as landlords. Superior methods of addressing high rents, poor quality housing, and low incomes were discussed. But it was also emphasized that controls varied in their design and effects. Are there systems of controls which "work"? Under what conditions? Are these theoretical constructs or are there real world systems which approximate them?

5.2 A simple operational definition of controls that work might be something like the following: a system that keeps rents in line with the real long run equilibrium cost of housing capital, without significant losses in housing supply. In addition, controls that are progressive\(^{45}\) or neutral with respect to the income distribution are preferable to controls that have regressive effects.

5.3 The definition itself suggests some answers. If the goal is to keep rents in line with the real cost of housing capital, controls would be more likely to "work" in situations where unanticipated shocks have driven real rents above their long run equilibrium level. In such situations a short run indexation to the general price level would seem the appropriate remedy, given several other conditions. First, only existing units should be subject to indexation; new supplies of rental housing (through new construction or conversion) should be encouraged. Second, other impediments to housing supply, presuming these exist,\(^{46}\) should be simultaneously tackled. Third, real increases in landlord costs should be passed through in all but the shortest run. Fourth, a credible transparent scheme and timetable for decontrol should be put in place along with controls, to minimize perceived risk to investors.

5.4 Rate-of-return calculations, where allowable increases are calculated on a case by case basis, could have some appeal over a general indexation, but the transaction costs of a system that actually tracks such data for many units is enormous.

5.5 The importance of short run--temporary--controls bears elaboration. Short run controls--with a fixed end date or clearly defined and feasible trigger

\(^{45}\) By progressive we mean redistributing real purchasing power from rich to poor.

\(^{46}\) All countries, developed or developing, have addressable impediments. See Section B, below, for more details.
are important for three reasons. First, and most generally, temporary controls are least likely to reduce supply. Second, most distortions associated with controls increase over time. Third, and most specific, in a well functioning market rents do not increase by a fixed amount or constant percentage across the entire market. There is variation in rental price increases by quality of the stock and by location. While there are conditions under which other results can hold, generally theoretical and empirical work suggests that most of the time rents rise faster for newer and high quality units than for old, and for those located farther from the center of the city. This suggests that simple indexation schemes would, over time, lower real rents (or reduce real increases) more for higher income tenants than low. In fact, if the supply of low quality units for low income households is constrained, in part due to controls, then controls could perversely reduce declines in real rents that otherwise would occur.

5.6 In summary, controls that would work would likely be in response to some definable unanticipated market shock; would be temporary; would rely on indexation of market rents, rather than setting "fair rents;" and the transparent decontrol scheme would be in place with controls and would be credible to potential market participants. Are these conditions ever met?

5.7 The fact that they are not often met is suggested by the fact that of the sixty-plus countries identified as having controls, the great majority of them have had controls in place for three decades or more. The "temporary" condition is apparently violated. Many countries do rely on indexation of some sort, particularly the higher income countries, but only a few permit rents to rise at a rate anything like the inflation rate. Brazil comes close, at first blush; but note that 90 percent indexation when inflation runs 100 percent per year is equivalent to a 10 percent real decline per annum. But Brazil permits complete revaluation every four years, and the evidence presented in Silveira and Malpezzi suggests landlords and tenants factor real declines into their calculation of the rebased rent.

5.8 If the real shock is to the economy overall, rather than to the housing market, so that the problem being addressed is declining real incomes of the urban poor (rather than primarily increasing real rents, although the two are not mutually exclusive), then the potential redistributive function of controls

47/ The feasibility of the trigger--such as a promise to remove controls when vacancy rates hit particular levels or inflation abates below a certain level--is obviously a matter of market perceptions. Market participants are often more pessimistic than government officials (often with justification).

48/ See De Leeuw and Struyk (1975) for the best exposition of how housing price appreciation can vary by submarket. See Muth (1970) for theoretical and empirical evidence that housing prices increase faster farther from the central business district, and for higher income households than low. The result basically stems from the durable nature of the existing stock.
should be highlighted. Controls would best function as a "cushion" during adjustment when: many if not most urban poor are renters; landlords are richer than tenants; and reductions in real expenditures are not offset by reductions in housing consumption. Of the countries studied, Ghana comes closest to meeting these conditions. Most urban households rent, and most are currently poor by any measure. But while landlords are richer than tenants, on average, we have seen that they are not as a class enormously rich (median incomes somewhat over a third higher than tenants) and that there is significant overlap in the distributions. Further, implicit taxation of only holders of housing capital violates common notions of horizontal equity even if all landlords are rich—since other rich escape taxation. Finally, we saw that in Ghana the gain from lower rents was seriously eroded by loss of welfare from reduced housing consumption. ⁴⁹⁄

5.9 Perhaps the most difficult condition to meet in practice is the credibility condition. A number of observers of controls have pointed out the political difficulty of removing or relaxing controls once they are in place; while Brazil has from time to time relaxed controls, it has often followed up with policy changes in the other direction. Few cases have so far been documented where controls have been put on as a temporary measure and then removed or modified as originally scheduled. ⁵⁰⁄

5.10 Given our emphasis on the difference in systems of controls, and the emphasis on a planned and credible scheme of decontrol for temporary controls to work, this is a suitable place to turn to the question of "how to get there from here—how to relax or remove controls.

Analysis of Control and Decontrol Options

5.11 We start by borrowing a taxonomy of changes in controls from Arnott's (1981) study of Ontario's rent control. He lists seven forms of decontrol (pp. 74-75):

(1) **Vacancy decontrol.** Units are decontrolled as they become vacant.

(2) **Vacancy-rate decontrol.** Particular housing submarkets (defined on the basis of the location or type of unit) with a vacancy rate above some statutory level are decontrolled.

(3) **Rent-level control.** Rent-level decontrol could be more appropriately termed decontrol from the top down, since it involves decontrolling the most expensive units first and the

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⁴⁹⁄ Although not all the reduction is necessarily due to controls, since there are other impediments to the Ghanaian housing market, notably problems of land title and supply.

cheapest last. The rent level above which units are decontrolled can depend on the location or the type of unit.

(4) **Floating up and out.** This designation covers any gradual relaxation of controls that applies uniformly across housing submarkets. When controls restrict rent increases, floating up and out entails gradually raising the guideline increase. Where the control program contains a rate-of-return provision, this kind of decontrol could entail raising the rate of return.

(5) **Contracting out.** This is a form of vacancy decontrol; the landlord and tenant negotiate a sum that the landlord pays the tenant if he vacates.

(6) **Local option.** A higher jurisdiction that currently administers controls allows lower jurisdictions to choose whether or not to retain them. Usually, the higher jurisdiction requires the lower to administer the controls if the latter decides to retain them.

(7) **Blanket-lifting.** All rent-control provisions are suddenly and completely lifted.

After a thorough discussion of these alternatives, he concludes that lack of quantitative estimates of relative effects precludes choosing a clear-cut winner for Ontario's rent control regime, much less one method best for all regimes. In particular, the method implied by comparative static analysis, blanket decontrol, can have high costs:

The advantage of blanket-lifting is obvious: it eliminates at a stroke what could become a malignant cancer in the housing market. Such precipitate action has its costs, however, and the greater the degree of excess demand in the market, the greater these costs will be. If there is even moderate excess demand in the housing market as a whole, there is probably substantial excess demand in certain submarkets. The sudden and dramatic increase in rents that tenants in these submarkets will experience with blanket-lifting may have serious social and political repercussions.... In short, blanket-lifting is an attractive option only if there is little or no excess demand in any housing submarket (p. 98).

5.12 Estimating the time path of rents under alternative regimes places a lot of demands on any general equilibrium model, and no such model has yet been built for developing country markets. On the other hand, qualitative inferences about the time path of rents can be made in the absence of such a market clearing model. Three of the case study papers—Kumasi, Bangalore, and Rio—presented a simple analysis of profitability and supply, and used it to make simple inferences about decontrol by making what amounted to educated guesses about the time path of rents under alternative changes in controls. The implications of these estimates can be studied iteratively, and the sensitivity of profitability and affordability to alternative plausible time paths of rent can be studied.
5.13 The analysis of decontrol options in each of three markets was based on simple rate of return and affordability simulations. The results were broadly qualitatively similar in each; while a few representative results from each are presented here,\textsuperscript{11} consider the options and brief discussion below as "food for thought" when contemplating change in a particular market, rather than as a fixed roadmap.

**Do Nothing**

5.14 This was the baseline case studied in each. For example, Malpezzi, Tipple, and Willis assumed rents for a representative investment were frozen in nominal terms at 300 cedis. In practice in Kumasi, when there have been occasional revaluations, they have been modest and inflation has quickly eroded their value. Households would continue to consume fewer housing services than they would consume in a well functioning market, even given their low incomes.

**Blanket Decontrol**

5.15 Conceptually, this is the simplest decontrol option. This second option was studied above, under the assumption that rents for both "typical" strictly controlled and ordinary controlled units quickly adjusted to the comparative static estimate of market rents from the cross country model of the previous chapter. High quality units typical of the strictly controlled segment would therefore be "affordable" (given the demand assumptions) to the top income quintile. Market rents for other typical units (\(P_mQ_c\)) would be lower because these are more representative of the existing quality distribution in urban India (and more affordable). But other market imperfections could constrain the supply response. The case studies also therefore examined a "worst case" where rents for new rooms rise much higher initially due to inelastic supply.

5.16 In this option we are concerned more with the changes in rents for existing units than for new units. If a household is given a choice between remaining in an existing unit and moving to a new unit, however expensive, they cannot be made worse off because they have the option to remain. But they can be made worse off if rents rise for their current unit.

5.17 Blanket decontrol, where all controls are lifted at one time, is simplest administratively. But some rents in Kumasi have fallen so far behind market values that rises could result in major dislocations. Arnott (1981) points out that the greater excess demand there is in a market, the greater the disruption caused by blanket decontrol. Disruption under this alternative could be large, especially if other housing market imperfections initially impede the supply response.

\textsuperscript{11} Malpezzi, Tipple and Willis evaluated a number of similar scenarios for Ghana; Malpezzi and Tewari for India; and Silveira and Malpezzi for Brazil.
There is always a built-in check on this process. Rents have to be paid by someone, so units' rent can only rise as high as the market will bear. Malpezzi, Tipple, and Willis's initial "average" affordability estimate was 8 percent of consumption, with an elasticity estimate of .6. This yielded a predicted average willingness to pay rents of about 11 percent for this group. If initial rents for existing units rose by half again as much as Malpezzi, Tipple, and Willis's best estimate, this would require the typical bottom quintile household to devote 15 percent of their income to housing.

While 11 or even 15 percent of income may not seem extraordinary to an outside observer, especially when low income households typically spend large fractions of their income for housing elsewhere, the change from the current situation is substantial. One way to cushion the blow and ensure political sustainability of decontrol is to replace controls with better targeted housing subsidies for the poor. This is the approach that was used to relax postwar European controls.

But large scale subsidy schemes are probably not administratively or budgetarily feasible in Ghana at this time, or in many other developing countries. If overnight decontrol requires some such cushioning for political sustainability, its apparent attractiveness is reduced. Are there any other alternatives which do not make such demands on the budget and on government's administrative capacity? Several decontrol alternatives should be considered in this light.

Decontrol for New Tenants

Completely freeing rents for newly constructed units for all time can only increase supply. As noted, if a household is given a choice between remaining in an existing unit and moving to an expensive new unit, they cannot be made worse off because they have the option to remain. But to be effective, such regulations need to be credible. The difficulty in making them so is that all older housing was once new housing; landlords will rationally consider the possibility that such units would eventually come under controls, and may require higher returns (rents) initially. Limited (five or ten year) exemptions (as in many Indian states) have a similar drawback; landlords may require higher initial rents to keep up the total rate of return. Moreover, mobility and filling of the housing stock will again be reduced, at least in the short to medium term.

In addition to removal of controls on newly constructed units, revaluation or decontrol of units that have undergone upgrading could also increase supply. In all countries, most housing services are produced from the existing stock; preserving and upgrading this stock is a critical but oft-neglected part of any housing strategy. It would be important to choose the threshold at which decontrol occurs carefully; for example, requiring, say, flush toilets would simply make the regulation irrelevant for much of the population.
Decontrol New Construction and Upgraded Units

5.23 This option has been considered in a number of developed and developing markets, including Los Angeles. Cities like Cairo, with functioning key market systems, have systems that function de facto in a similar way, since key money can usually be collected from new tenants but not from old. But these systems result in several perverse incentives. Landlords have incentives to undermaintain units or even harass tenants to reclaim the unit and increase their rental income. Tenants have incentives to avoid moving to units more in line with their current needs because they would give up existing rent discounts and such systems have the potential to reduce mobility and decrease the efficiency of use of the existing stock.

5.24 Revaluation for new tenancies could be unhelpful as it would continue the problems caused at present by the demands of advance payments and result in an even less mobile rental sector than at present. As renters in compound houses live in closer proximity to other households than most tenancy groups in other countries, vastly different rents being paid by neighboring households, according to their length of tenancy, is likely to be socially unacceptable.

Floating Up and Out

5.25 The most effective method for encouraging new investment while protecting low income renters may involve a combination of indexation of increases with a "floating up and out" of controls. The latter involves the transition from controlled rents to market rents over a period of years. It is preferable to have an end date when controls are withdrawn completely to maintain landlord confidence in the reality of the end of the controls, which have cost them so much. Indexation could provide a formula for determining the intermediate rent levels. For example, rents could be increased annually by, say, the Consumer Price Index plus a percentage of the previous year's rent until a set date when the final increase to market levels would be implemented. Any units reaching their market level before this date would, of course, remain there. This phasing would smooth the path of adjustment giving tenants who could not afford their current room at the market rent time to find suitable alternatives. However, in an inflationary environment, it may be difficult to design a system that will both keep up with inflation and decrease the gap between existing rents and their "market" levels.

Other Options

5.26 Other systems that differentiate between tenants and or units (such as vacancy rate decontrol) were found to have significant disadvantages. Data requirements and administrative capacity are simply too high. Any decontrol measures suggested should be simple to administer and as fair to all parties as possible.

5.27 The contracting out option, where landlords are permitted to pay tenants a compensatory sum either to change their lease or to let the room to
someone else is most relevant in cities where the scale of rent is closely tied to date of occupation. Thus, in a city where newer tenancies are uncontrolled, landlords can negotiate to buy out their existing tenants. Existing rents in Bangalore are unaffected, in law, by the date of occupation; thus, contracting out is unlikely to be a useful mode of decontrol.

5.28 Decontrol by market segment could be useful for the self-contained units especially as many of them are employer housing in which the tenant would be cushioned from rent increases at least in the short term. Furthermore, this sub-market has been excluded from controls on previous occasions. However, rents in self-contained premises are currently heavily affected by those of shared accommodation and would have to rise very considerably to represent market values. If further segments of the market were required to spread control gradually to the whole stock, division of the remainder would be very complex. Thus, what is intended to be a gradual process may need to be implemented in only two stages.

B. Desirable Changes in Other Housing Market Policies

5.29 We have noted at several stages in this paper that changes in controls will often, perhaps always, require collateral actions to improve the functioning of the housing market, particularly in key input markets such as land and finance. We have discussed these problems, their causes and solutions in detail in a number of other papers. Here we provide a review of some of those previous findings.

5.30 First and foremost, economic development is the most effective way of improving housing conditions in developing countries. To ensure maximum benefits, governments should promote the efficiency of the housing sector and should avoid policies that cause significant market distortions and produce counterproductive results.

5.31 It has been well documented that as development proceeds, housing conditions improve more rapidly than incomes, in the long run. Housing investment as a share of GNP increases rapidly, as does the fraction of income that people spend on housing. To a considerable degree, what is good for the economy is better for housing. Thus, there is no substitute for sound macroeconomic policy. As a procyclical industry, housing often bears the brunt of macroeconomic instability. No housing program or policy ever designed will work indefinitely in completely unstable macroeconomic environments.

Regulations

5.32 In housing policy itself, many regulatory areas other than controls need to be addressed, such as unrealistic and costly building codes and zoning regulations. These increase costs, often without corresponding benefits, and may encourage development of illegal, informal areas. Other programs may provide subsidies to end users but these do not always offset regulatory costs.

5.33 Subsidies do not always cancel regulatory costs. In particular demand side subsidies cannot readily counteract regulations such as land use controls that reduce housing supply. Costs and benefits of specific regulations can and should be measured. Strengthen and enforce those whose benefits exceed costs. Remove or modify those that do not.

5.34 Avoid trying to subsidize one tenure group at the expense of another. Horizontal equity measured in the usual ways (for example, income) will be violated. In particular, when designing projects (sites and services, housing finance) try to remove unnecessary impediments to renter and landlord participation. Rather, level the regulatory playing field. The flip side of the preceding point is that regulatory reforms in land, infrastructure, finance, and, specifically, rent regulation and that rationalize taxes can further tenure neutrality. Note that rental development is often denser than owner occupied; make sure standards permit such densification.

Land

5.35 In addition to a better regulatory framework for land use, there can be large gains to the development of modern land information systems and a legal and administrative framework that promotes efficiency in land markets. The costs of developing land are unnecessarily high in most developing countries, largely because of poor land information, backward systems of titling and property rights, and a cumbersome legal and administrative structure.

5.36 Land tenure systems may need reform in order to promote private spending on housing. Most cities in developing countries are being built by the informal sector, with houses that are often illegal and with insecure tenure. Research shows that even very poor households place significant monetary premiums on security of tenure and that incentives to improve property are often dramatically increased when tenure in illegal or squatter settlements is legalized.

5.37 There is a need for the development of systems of land information and a legal and administrative framework that promotes efficiency in land markets. The costs of developing land are unnecessarily high in most developing countries, largely because of poor land information, backward systems of titling and property rights, and a cumbersome legal and administrative structure.
Infrastructure

5.38 There must be the provision of infrastructure with appropriate and affordable standards. The benefits of infrastructure investments are considerable: rates of return to investment are high (often higher than in housing alone), household spending on housing is often spurred, and de facto security of tenure is established for many informal households.

5.39 The recovery of the costs of providing and maintaining infrastructure must be recovered through efficient systems of taxes and user charges. Otherwise, enormous social and private economics costs result, as with the private provision of water and electricity in Lagos, for example.

Finance

5.40 Financial markets and institutions often need reform. Development or reform of housing finance institutions should be a part of the overall process of financial reform and thus of promoting savings, financial intermediation, and the free movement of capital throughout the economy. Housing finance institutions should not be excessively concerned with providing housing subsidies, but should instead be seen as facilitating capital to move into a sector that is growing rapidly as development proceeds.

5.41 In particular, many countries explicitly or implicitly make it difficult to lend for rental housing. Permit formal sector lenders to lend money for rental housing, where this is currently discouraged (implicitly or explicitly) by financial regulations and policies. In particular, permit financing of resale, conversion, and upgrading of existing units.

Taxation

5.42 Tax incentives can be potent incentives, but can lead to large revenue losses. Caps on deductions (such as those currently in place in the United Kingdom) may mitigate some of the worst effects. Tax credits may be preferable to deductions on equity grounds; alternatively deductions may be limited to the basic (lowest) tax rate in a progressive tax system. Rely less on tax expenditures and other off-budget expenditures for housing. While rarely measured, the effects can be powerful. The United States and Argentina provide examples of the problems such entitlements can cause.

Activist Approaches

5.43 A good start is to review critically the existing system of housing taxes, subsidies, and regulation, with the goals of increasing their effectiveness, avoiding unintended side effects, minimizing costs to the public and private sectors, and distributing benefits fairly in relation to need. In most developing countries, these policies suffer from an almost total lack of strategic planning. The scale, distribution, and impact of subsidies are not
known. Many individual taxes are imposed with little analysis of their cumulative effect or their incidence.

5.44 In many countries sites and services and, especially, slum upgrading projects remain viable solutions for the housing problems of low- to moderate-income households. The best of such projects provide appropriate and affordable housing and services to low- and moderate-income groups, recover costs and minimize subsidies, target such subsidies as there are to those in greatest need, have high economic rates of return, and improve the ability to replicate projects on a broad scale.

5.45 But in most countries most housing is and will continue to be provided through private markets. Private rental housing is often particularly relevant to low income urban households. The rental sector in most developing-country cities is large and growing, usually comprising at least 50 percent and sometimes as much as 90 percent of the housing stock. The sector is often hampered, however, by unfavorable treatment compared to owner-occupied housing, or to other capital. In public projects, such as sites and services and upgrading, do not prohibit or discourage rental. Avoid regulations against subletting.

5.46 Avoid counterproductive activities, such as the destruction of squatter settlements or displacement of private investment by public activities. Slum removal and urban renewal programs that simply displace the slums to other areas may encourage the development of larger and more militant squatter settlements. One study in the United States recently found that each 100 new units of publicly subsidized housing caused a drop of almost 85 units in private construction; other studies indicate that public housing actually has a negative economic rate of return (it is worth less than what it cost to build). Similar displacement effects and inefficiencies undoubtedly exist in many developing countries and are to be avoided at all cost. Consider, where appropriate, the privatization of publicly owned rental housing. Take a hard look at what this part of the stock is currently costing the government, and how tenants value it. Consider options for private participation.

C. A Final Synthesis: Answers to Our Eight Questions About Controls

5.47 In Chapter 1 we laid out eight questions. After perusing the evidence, our summary answers are as follows.

1. What are controls like around the world? What variation exists in laws, enforcement, and effects, among the various states, and among cities? What related regulations exist?

5.48 Chapter 3 addressed this question in some detail. Among the interesting findings are that low income countries tend to have more restrictive regimes, on average, especially in the key area of setting fair rents versus merely restricting increases in rents set by the market. Measuring the
strictness of regimes is difficult, especially since reliable information on enforcement is not readily available, but with this caveat an exploratory index was constructed. Most striking was the result that there was little relationship between a country's per capita income and whether or not rents were controlled but that once a country chose significant controls, poorer countries have stricter regimes. They are especially more likely to set "fair rents," or attempt to, rather than limit annual increases in (initially) market determined rents. Stricter regimes were indeed associated with lower rents (as a proportion of income) but (market wide) high house asset prices. Relationships with available cross country measures of physical housing consumption were generally weak, as were discernible effects on tenure choice.

2. What are the static costs and benefits of controls from the point of view of representative tenants and landlords? How do changes in rents and housing consumption affect the welfare of "typical" individuals?

5.49 Chapter 4 illustrated that there are a wide range of such static outcomes. Perhaps the most immediately striking feature of the "typical" results for several markets is their wide variation. On average, controls confer large discounts relative to rents in New York, Amman, Kumasi, and (especially) Bangalore (those under "strict" controls). "Ordinary" Bangalore renters, Rio renters, and Jordanian renters outside of Amman receive much smaller rent reductions. The pattern is broadly similar when the discount is compared to tenant incomes.

5.50 The benefits to tenants of these reductions in rent are not directly related to the size of the rent reduction. The "strictly controlled" submarket in Bangalore and the rental market in Rio were the two markets with the highest transfer efficiency but had respectively one of the largest and one of the smallest total rent reductions. The relatively relaxed system of controls in Rio yields little rent reduction and little measurable distortion in housing consumption, so it is relatively efficient; the very strict regime in Bangalore reduces rent by a lot, and those households in the strictly controlled units are not, as a class, too far "off their demand curves." Most other markets have regimes that appear to confer modest benefits in relation to their costs (median transfer efficiency of six markets is 65 percent, three of seven are around 50 percent transfer efficiency).

5.51 It cannot be overemphasized that these measures of central tendency do not reveal the full story. In some markets the averages mask large numbers of "winners" and "losers" around the mean. For example, in Cairo, if the benefit were calculated separately for each household, the variation in benefits was very large relative to the median benefit or the benefit for the "representative consumer." The first quartile of net benefit was 8 Egyptian pounds per month (compared to typical household incomes of about 80 pounds) and the third quartile was -28 Egyptian pounds--for many households, the "disequilibrium in consumption" outweighed benefit from lower rents.

5.52 On balance, then, in Rio, controls had little effect on static measures in 1980. In Kumasi, controls cut rents in half but this was more or less
outweighed by welfare losses from underconsumption of housing associated with controls and other problems with the housing supply system. Qualitatively similar results were obtained in Bangalore; but the outcomes differed greatly by type of rent control regime. "Ordinary" controlled housing was not much affected; "strictly controlled" housing--often occupied by government servants and other privileged groups--was. In Cairo, what initially appeared to be large discounts to tenants were dramatically reduced when key money and other side payments were taken into account.

3. What are the distributional implications of controls?

5.53 All case studies point to large variations in costs and benefits around the medians or averages, as mentioned earlier. These variations are not simply random. Often, long term tenants tend to benefit from controls, and recent movers often pay large key money, advance rent, or other side payments. But the exact pattern varies by market and regime.

5.54 In Cairo, long-time residents receive the largest subsidies and the largest benefits; but the subsidy increases much faster with length of tenure because distortions in consumption also increase with length of tenure. On the other hand, recent movers paid large amounts of key money, while tenants in place paid very small fractions of their incomes for shelter. When looking at the distribution of benefits by other criteria, there was no discernible distributive effect of subsidies or total benefits. Neither benefits nor subsidies were strongly related to household size. In Kumasi, the nature of controls limited dispersion in rents paid for each unit and the (estimated) price the housing unit would rent for in the absence of controls. But estimated equilibrium demand in the absence of controls rose with income. Thus, the cost of the subsidy did not vary much from unit to unit, but higher income households have the largest "disequilibrium in consumption," that is, are most constrained by the lack of housing of suitable quality. Richer households have the smallest benefits (or the largest losses, depending on which assumption is made about the price elasticity). Conversely, poorer households receive larger benefits, both absolutely and as a percent of total consumption.

5.55 It was also found that in Kumasi long term tenants had the smallest estimated disequilibrium in consumption, and the largest benefits. Net benefits were still small in comparison to consumption. The largest net costs were to recent movers. Even larger, unmeasured costs were imposed on households who are constrained from moving at all.

5.56 In Bangalore it was again found that discussion of the "typical tenant" and medians masks the fact that these welfare estimates have wide distributions. Even in the strictly controlled Bangalore submarket, over one quarter of households have negative estimated net benefits. And over a quarter of ordinary controlled households have positive estimated benefits, even under the lower price elasticity. Ordinary controlled renters were found to have slightly higher median incomes than uncontrolled renters and that strictly controlled renters are lower income; but there was a great deal of overlap in all these distributions. Controlled renters are more or less like other renters and like the general
population; they are not, as a class, greatly more or less disadvantaged. Rent control does not seem efficient as a redistributive device on this account. Within controlled renters, a striking distributional result is that there is no simple relationship between income and benefits.

5.57 In Rio, typical net welfare changes were small; but there was some tendency for low income tenants to have larger gains (assuming a unitary price elasticity) or smaller losses (assuming inelastic demand) than richer tenants. Controls were found to be very mildly progressive, in this restrictive sense.

5.58 Controls can have strong distributive effects among renters, then, but largely these are unintended consequences. Implicitly or explicitly, controls are often premised on the notion that redistribution between landlords and tenants would be progressive. Data from three of the case study markets confirmed that landlords are richer than tenants, on average, but differences are not huge and there is significant overlap. For example, in Kumasi, the landlord median consumption was about 36 percent greater than median controlled renter consumption. One fourth of the controlled renters consumed more than the median resident landlord; one fourth of resident landlords consumed less than the median tenant. In Cairo, median landlord incomes were about 32 percent higher than median tenant incomes; in Bangalore, the difference was more substantial (over 90 percent). In Bangalore, the differences between groups were (not surprisingly) accentuated when landlord incomes are weighted by their income from nonresidential property. But significant overlap remained in all cases.

4. What are the effects of rent control on the profitability of rental housing? What are the implications for housing supply?

5.59 Aggregate data suggest that stronger controls are associated with lower shares of GDP invested in housing. Countries with no or weak controls invest about 6 percent of their GDP in housing, on average, while countries with strong controls invest 3 to 4 percent on average. This result holds when controlling for the income level of the country.

5.60 At the micro level, controls reduce profitability of rental housing. By itself, this tautology tells us little. How much they reduce profitability depends very much on the nature of controls (whether rents are indexed, and how, for example) and on market conditions (most notably on the inflation rate). In India, for example, it was found that collateral regulations on tenure security, which prevents landlords from converting units to highest and best use, could exact costs larger than controls on rents themselves. How much reduced profitability reduces supply depends on the responsiveness of the supply system in general (especially with regard to land, finance, and the rest of the regulatory system), and on alternative investment opportunities. These vary so much from country to country that generalization is difficult. But the research project constructed a present value model which can be modified for the necessary country-specific study of these issues.
5. What are the effects of controls on government revenue, including property and income taxes?

5.61 The importance of such effects varies, not least with whether property taxes and income taxes are collected efficiently in the absence of controls. The effects of controls on property taxes also vary with the basis of taxation, that is, whether the basis is imputed rental income, capital value, and how owner-occupied and/or uncontrolled housing is treated relative to controlled. What is particularly critical is how the controlled basis relates to the uncontrolled, for if controls merely shift the basis down, tax revenues can be increased with a simple offsetting change in the mill rate. In Bangalore, where both rental and owner-occupied units are taxed on the basis of controlled "fair rents," it was found that controls made the tax base more or less random, or, at least, unrelated to property values and unrelated to income, our usual measure of ability to pay. Potential income tax revenues were also adversely affected. But in the case of both taxes, many if not most countries require other fundamental reforms in appraisal and collection to realize full revenue potential.

6. How, on balance, do landlords and tenants adjust to controls? What role is played by key money and advance payments, other side payments, and changes in maintenance and upgrading?

5.62 Experience varies. In Kumasi, for example, for over a decade most households paid controlled rent, and key money and other side payments were almost unknown. But since the mid-1980s, large advance rent payments have begun to become more common. Cultural and legal constraints do not appear fixed, but break down over time. In Cairo, on the other hand, key money is a well embedded feature of the market. Side payments account for almost as much imputed landlord revenue as rents there; and for recent tenants, they account for the majority of revenue.

7. Many alternatives for change present themselves. What can we infer about the effects of different changes on profitability and supply? On affordability, and on the distribution of income and welfare? What are the best sequences of reforms?

5.63 The first-best world is a simple one. Real incomes are rising, or at least static, and housing supply is elastic, that is, the rest of the regulatory environment for housing is an appropriate one, with adequate land and finance. There is a reasonable political consensus for change. Under such conditions, a radical decontrol program could be implemented without disruption.

5.64 What about second-best worlds? When real incomes are falling, is it possible for controls to cushion such shocks efficiently? When the supply of housing is inelastic, will changes in controls be translated into quantity increases or price increases? The answers to these questions suggest that sound macroeconomic policies and changes in other urban policies and regulations will often be precursors of such change.
5.65 As regards the question of the best way to relax or remove controls, there is no simple answer. In the second-best world, floating up and out may often be a reasonable alternative, given a program of collateral changes, the need to build political consensus, and the appropriate macroeconomic environment. Two generalizations are safe to make, however. First, the reform must be transparent and credible for changes to elicit increased investment in rental housing. This is easier to specify in theory than implement in practice, and assumes that some political consensus has to be forged in favor of reforms rather than changes imposed "top down." Second, virtually all countries require improvements in land, finance, and other regulatory areas, in addition to changes in controls. Otherwise, no supply response can be assured.

8. What are the crucial areas for future research and policy analysis?

5.66 Perhaps the most obvious next step is to do more explicit comparisons of controls to other distortions in housing markets? What other constraints must be addressed for the housing market to respond to changes with increased output rather than increased prices? The method pioneered in the Malaysia sector report is one technically straightforward way that such comparisons could be made. General equilibrium modeling of alternative decontrol strategies from alternative initial conditions in policies and market conditions is another area for fruitful work with a potentially high payoff. Richard Arnott's work on Canadian controls and that by Peter Rydell, Michael Murray and their colleagues on Los Angeles suggest some models.

5.67 Certainly this does not exhaust the possibilities. For example, the taxonomies and index methods we have used to compare controls across countries can be much improved. The forthcoming World Bank/Habitat research project on housing indicators offers an opportunity to improve the characterization of controls and to collect more information on enforcement and on other market constraints and outcomes. More research on the relationships between housing markets and the macroeconomic environment—especially market behavior during periods of falling real incomes—can improve our understanding of appropriate changes in controls under stringent market conditions. The study of spillovers into related markets, including the transport and labor markets, is important and so far remains underdeveloped. Finally, existing analysis and, especially, empirical research have concentrated on developed and low income mixed economies. Much remains to be done to apply these principles to Eastern European and other socialist economies, where profound changes in the structure of rental markets are taking place. Analysis of rental pricing and property rights there is essential.
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