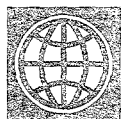


WDP-129

FILE COPY

129



World Bank Discussion Papers

---

# Rent Control in Developing Countries

---

Stephen Malpezzi  
Gwendolyn Ball

**FILE COPY**

## Recent World Bank Discussion Papers

- No. 70 *User Groups as Producers in Participatory Afforestation Strategies*. Michael M. Cernea
- No. 71 *How Adjustment Programs Can Help the Poor: The World Bank's Experience*. Helena Ribe, Soniya Carvalho, Robert Liebenthal, Peter Nicholas, and Elaine Zuckerman
- No. 72 *Export Catalysts in Low-Income Countries: A Review of Eleven Success Stories*. Yung Whee Rhee and Therese Belot
- No. 73 *Information Systems and Basic Statistics in Sub-Saharan Africa: A Review and Strategy for Improvement*. Ramesh Chander
- No. 74 *Costs and Benefits of Rent Control in Kumasi, Ghana*. Stephen Malpezzi, A. Graham Tipple, and Kenneth G. Willis
- No. 75 *Ecuador's Amazon Region: Development Issues and Options*. James F. Hicks, Herman E. Daly, Shelton H. Davis, and Maria de Lourdes de Freitas [Also available in Spanish (75S)]
- No. 76 *Debt Equity Conversion Analysis: A Case Study of the Philippine Program*. John D. Shilling, Anthony Toft, and Woonki Sung
- No. 77 *Higher Education in Latin America: Issues of Efficiency and Equity*. Donald R. Winkler
- No. 78 *The Greenhouse Effect: Implications for Economic Development*. Erik Arrhenius and Thomas W. Waltz
- No. 79 *Analyzing Taxes on Business Income with the Marginal Effective Tax Rate Model*. David Dunn and Anthony Pellechio
- No. 80 *Environmental Management in Development: The Evolution of Paradigms*. Michael E. Colby
- No. 81 *Latin America's Banking Systems in the 1980s: A Cross Country Comparison*. Felipe Morris, Mark Dorfman, Jose Pedro Ortiz, and others.
- No. 82 *Why Educational Policies Can Fail: An Overview of Selected African Experiences*. George Psacharopoulos
- No. 83 *Comparative African Experiences in Implementing Educational Policies*. John Craig
- No. 84 *Implementing Educational Policies in Ethiopia*. Fassil R. Kiros
- No. 85 *Implementing Educational Policies in Kenya*. G. S. Eshiwani
- No. 86 *Implementing Educational Policies in Tanzania*. C. J. Galabawa
- No. 87 *Implementing Educational Policies in Lesotho*. T. Sohl Thelejani
- No. 88 *Implementing Educational Policies in Swaziland*. Cisco Magalula
- No. 89 *Implementing Educational Policies in Uganda*. Cooper F. Odaet
- No. 90 *Implementing Educational Policies in Zambia*. Paul P. W. Achola
- No. 91 *Implementing Educational Policies in Zimbabwe*. O. E. Maravanyika
- No. 92 *Institutional Reforms in Sector Adjustment Operations: The World Bank's Experience*. Samuel Paul
- No. 93 *Assessment of the Private Sector: A Case Study and Its Methodological Implications*. Samuel Paul
- No. 94 *Reaching the Poor through Rural Public Employment: A Survey of Theory and Evidence*. Martin Ravallion
- No. 95 *Education and Development: Evidence for New Priorities*. Wadi D. Haddad and others
- No. 96 *Household Food Security and the Role of Women*. J. Price Gittinger and others
- No. 97 *Problems of Developing Countries in the 1990s. Volume I: General Topics*. F. Desmond McCarthy, editor
- No. 98 *Problems of Developing Countries in the 1990s. Volume II: Country Studies*. F. Desmond McCarthy, editor

(Continued on the inside back cover.)

129



World Bank Discussion Papers

---

# Rent Control in Developing Countries

---

Stephen Malpezzi  
Gwendolyn Ball

The World Bank  
Washington, D.C.

Copyright © 1991  
The International Bank for Reconstruction  
and Development/THE WORLD BANK  
1818 H Street, N.W.  
Washington, D.C. 20433, U.S.A.

All rights reserved  
Manufactured in the United States of America  
First printing September 1991

Discussion Papers present results of country analysis or research that is circulated to encourage discussion and comment within the development community. To present these results with the least possible delay, the typescript of this paper has not been prepared in accordance with the procedures appropriate to formal printed texts, and the World Bank accepts no responsibility for errors.

The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. The World Bank does not guarantee the accuracy of the data included in this publication and accepts no responsibility whatsoever for any consequence of their use. Any maps that accompany the text have been prepared solely for the convenience of readers; the designations and presentation of material in them do not imply the expression of any opinion whatsoever on the part of the World Bank, its affiliates, or its Board or member countries concerning the legal status of any country, territory, city, or area or of the authorities thereof or concerning the delimitation of its boundaries or its national affiliation.

The material in this publication is copyrighted. Requests for permission to reproduce portions of it should be sent to Director, Publications Department, at the address shown in the copyright notice above. The World Bank encourages dissemination of its work and will normally give permission promptly and, when the reproduction is for noncommercial purposes, without asking a fee. Permission to photocopy portions for classroom use is not required, though notification of such use having been made will be appreciated.

The complete backlist of publications from the World Bank is shown in the annual *Index of Publications*, which contains an alphabetical title list (with full ordering information) and indexes of subjects, authors, and countries and regions. The latest edition is available free of charge from the Publications Sales Unit, Department F, The World Bank, 1818 H Street, N.W., Washington, D.C. 20433, U.S.A., or from Publications, The World Bank, 66, avenue d'Iéna, 75116 Paris, France.

ISSN: 0259-210X

Stephen Malpezzi, formerly with the World Bank, is assistant professor in the Department of Real Estate and Urban Land Economics at the University of Wisconsin, Madison; Gwendolyn Ball is in the Urban Development Division of the Bank's Infrastructure and Urban Development Department.

#### **Library of Congress Cataloging-in-Publication Data**

Malpezzi, Stephen.

Rent control in developing countries / Stephen Malpezzi, Gwendolyn Ball.

p. cm. -- (World Bank discussion papers ; 129)

Includes bibliographical references.

ISBN 0-8213-1910-8

1. Rent control--Developing countries. I. Ball, Gwendolyn.

II. Title. III. Series.

HD7288.85.D44M35 1991

363.5'6'091724--dc20

91-31123

CIP

## ABSTRACT

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.

## ACKNOWLEDGMENTS

The authors would like to thank Robert Buckley, Michael Cohen, Emmanuel Jimenez, Stephen Mayo, Margaret Thalwitz, and Professor David Dowall for comments on an earlier draft of this paper. They are not responsible for remaining errors.

In addition to the authors of the present paper, many people contributed to this project. Peter Rydell coauthored the original design. Ricardo Silveira, Vinod Tewari, Graham Tipple and Kenneth Willis coauthored the case studies. Waleed El-Ansary, Nachrowi, William Stephens and Carmella Quintos were among those who provided computational and other assistance. Information on rent control laws and housing markets in various countries was provided by many individuals, including Samuel Afrane, Richard Arnott, Samuel Boapeah, Robert Buckley, Bruno De Borger, Manfred Fischer, Frederik Hansen, Dennis Keating, Krishna Kumar, Saitel Kulaba, Zewdineh Lakew, Stephen Mayo, L.M. Menezes, Eduardo Neto, Bakar Nominuma, Yomi Oruwari, Ayse Pamuk, John Prince, E.F.N. Ribeiro, Louis Rose, Peter Rydell, Bo Sandelin, N. Sridharan, Raymond Struyk, Carolyn Tager, Martha Tamlakoe, Graham Tipple, Bengt Turner, Margery Austin Turner, Elia Werczberger, and Jun Zhang. Most certainly they are not responsible for our shortcomings in interpreting and making use of the information they so kindly provided.

Managerial support from David DeFerranti, Per Ljung and Michael Cohen is gratefully acknowledged. Detailed comments on the project and on the case study papers were provided by many Bank staff, researchers, and country policy makers, including Richard Arnott, Esra Bennathan, Robert Buckley, Dennis De Tray, William Dillinger, Gregory Ingram, Emmanuel Jimenez, Johannes Linn, Per Ljung, Stephen Mayo, William McGreevey, Rakesh Mohan, Michael Murray, Edgar Olsen, Bertrand Renaud, Evan Rotner, Margery Turner, and Anthony M.J. Yezer, among others. So many other people made useful comments that they cannot be acknowledged individually. Finally, Stephen Mayo's contributions to the formulation and execution of this project were legion.

## FOREWORD

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:

Stephen Malpezzi and C. Peter Rydell, Rent Controls: A Framework for Analysis (Water Supply and Urban Development Discussion paper No. 102, 1986).

Stephen Malpezzi, Stephen K. Mayo, Ricardo Silveira and Carmela Quintos. Measuring the Costs and Benefits of Rent Control: Case Study Design. INU Discussion Paper No. 24, 1988.

Stephen Malpezzi and Vinod Tewari. Costs and Benefits of Rent Regulation in Bangalore, India. INU Discussion Paper, forthcoming.

Stephen Malpezzi, Graham Tipple and Kenneth Willis. Costs and Benefits of Rent Control in Kumasi, Ghana. World Bank, Discussion Paper No. 64, 1990.

Ricardo Silveira and Stephen Malpezzi. Welfare Analysis of Rent Control in Brazil: The Case of Rio de Janeiro. INU Discussion Paper, forthcoming.

Louis Poliquen, Director  
Infrastructure and Urban Development Division





## TABLE OF CONTENTS

EXECUTIVE SUMMARY . . . . .		xi
I. INTRODUCTION . . . . .		1
Eight Key Questions . . . . .		2
II. HOUSING MARKETS AND HOUSING POLICY IN DEVELOPING COUNTRIES . . . . .		4
A. <u>Housing Markets in Developing Countries</u> . . . . .		4
How Housing Markets Work . . . . .		4
Housing Demand . . . . .		5
Housing Supply . . . . .		7
Do Policies Matter? . . . . .		8
B. <u>Rental Housing in Developing Countries</u> . . . . .		9
Renting and Owning: Forms of Tenure . . . . .		9
C. <u>Rental Housing Market Issues and Constraints</u> . . . . .		10
Some Common Regulations Impeding Rental Housing . . . . .		14
III. RENT CONTROLS IN DEVELOPING COUNTRIES . . . . .		15
A. <u>Extent and Nature of Controls</u> . . . . .		15
An International Survey of Rent Control Regimes . . . . .		15
The Modern History of Rent Control . . . . .		15
A Framework for Analyzing Rent Control Legislation . . . . .		16
The Fixing of Rent Levels . . . . .		17
The Regulation of Rent Increases . . . . .		19
The Importance of Property Rights . . . . .		21
Enforcement Mechanisms . . . . .		21
B. <u>A Survey of Controls</u> . . . . .		22
Constructing an Overall Index of Rent Control . . . . .		24
Macroeconomic Outcomes by Controls . . . . .		28
How Controls Affect Housing Expenditure . . . . .		29
How Controls Affect Supply . . . . .		31
IV. EVALUATING THE EFFECTS OF CONTROLS . . . . .		33
A. <u>Economic Models of Rent Control</u> . . . . .		33
Rent Control as Price Control . . . . .		34
Rent Control as Expenditure Control . . . . .		34
Other Models of Maintenance Behavior Under Controls . . . . .		35
The Basic Consumer's Surplus Model . . . . .		36
B. <u>Estimates of Costs and Benefits, and their Incidence</u> . . . . .		38
Olsen's Original Study of New York . . . . .		38
Pena and Ruiz-Castillo's Study of Madrid . . . . .		40
Malpezzi's Study of Cairo . . . . .		41
Hardman's Study of Cairo . . . . .		42
Struyk's Study of Urban Jordan . . . . .		43
Malpezzi, Tipple and Willis's Study of Kumasi . . . . .		44
Malpezzi and Tewari's Study of Bangalore . . . . .		46
Silveira and Malpezzi's Study of Rio de Janeiro . . . . .		48

Summary of Studies Which Measure Consumer's Surplus of Controls . . . . .	49
Distributional Effects of Controls . . . . .	51
Landlord and Tenant Incomes Compared . . . . .	51
The Distribution of Benefits Among Tenants . . . . .	52
The Effects of Controls on the "Uncontrolled" Submarket . .	53
Rent Control's Effects on Profitability . . . . .	54
Rent Control's Effects on Government Revenue . . . . .	56
Property Taxes . . . . .	56
Income Taxes . . . . .	58
Increases in Other Government Expenditures . . . . .	58
V. IMPLICATIONS FOR POLICY . . . . .	59
A. <u>Desirable Changes in Controls</u> . . . . .	59
Conditions Under Which Controls Could "Work" . . . . .	59
Analysis of Control and Decontrol Options . . . . .	61
Do Nothing . . . . .	63
Blanket Decontrol . . . . .	63
Decontrol for New Tenants . . . . .	64
Decontrol New Construction and Upgraded Units . . . . .	65
Floating Up and Out . . . . .	65
Other Options . . . . .	65
B. <u>Desirable Changes in Other Housing Market Policies</u> . . . . .	66
Regulations . . . . .	67
Land . . . . .	67
Infrastructure . . . . .	68
Finance . . . . .	68
Taxation . . . . .	68
Activist Approaches . . . . .	68
C. <u>A Final Synthesis: Answers to Our Eight Questions</u>	
<u>About Controls</u> . . . . .	69
REFERENCES CITED . . . . .	75

## LIST OF TABLES

2.1:	Estimated Long Run Price Elasticities of Housing Supply . . . . .	8
2.2:	Urban Housing Tenure, Selected Countries . . . . .	11
3.1:	Type of Regime by Per Capita Income . . . . .	23
3.2:	Macro and Housing Indicators by Level of Control . . . . .	26
3.3:	Cross Country Model of Rent Control Regime Strictness . . . . .	28
4.1:	Summary Cost-Benefit Measures From New York, 1968 . . . . .	39
4.2:	Cost-Benefit Measures From Madrid, 1974 . . . . .	40
4.3:	Cost-Benefit Measures From Cairo, 1981 . . . . .	42
4.4:	Cost-Benefit Measures From Urban Jordan, 1986 . . . . .	43
4.5:	Cost-Benefit Measures From Kumasi, 1986 . . . . .	45
4.6:	Cost-Benefit Measures From Bangalore, 1974 . . . . .	46
4.7:	Cost-Benefit Measures From Rio, 1980 . . . . .	49
4.8:	Summary of Cost-Benefit Studies . . . . .	50
4.9:	Summary of Landlord and Tenant Incomes from Three Markets . . . . .	52
4.10:	Summary of Effects of Controls on Profitability: Three Examples . . . . .	55

## LIST OF FIGURES

2.1:	How Housing Markets Work . . . . .	4
2.2:	Cross Country Model of LDC Rental Housing Demand . . . . .	6
2.3:	Housing Investment and GDP Per Capita . . . . .	7
2.4:	House Price to Income and General Distortions . . . . .	8
2.5:	Urban Tenure and Percent Urban . . . . .	9
3.1:	Rent Control and GNP Per Capita . . . . .	28
3.2:	Rent to Income and Controls . . . . .	29
3.3:	Rent Control and House Prices . . . . .	29
3.4:	Rent Control and Housing Investment . . . . .	31
4.1:	Rent Control as Effective Price Control . . . . .	34
4.2:	Rent Control as Expenditure Control . . . . .	35
4.3:	Rent Control and Consumer's Surplus . . . . .	37



## 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.

## 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.

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.

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.<sup>1/</sup>*

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.

---

<sup>1/</sup> Gramp, 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;<sup>2/</sup> Kumasi, Ghana;<sup>3/</sup> Bangalore, India;<sup>4/</sup> and Rio de Janeiro, Brazil.<sup>5/</sup> 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?

---

2/ Malpezzi (1986).

3/ Malpezzi, Tipple and Willis (1990).

4/ Malpezzi and Tewari (1990).

5/ Silveira and Malpezzi (1990).

- (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

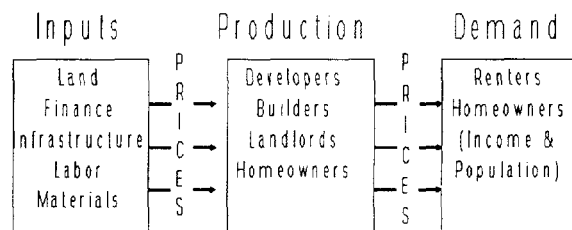
#### How Housing Markets Work

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.<sup>6/</sup> 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

Figure 2.1: How Housing Markets Work



6/ Kahnert (1987).

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,<sup>7/</sup> 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.<sup>8/</sup> 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

---

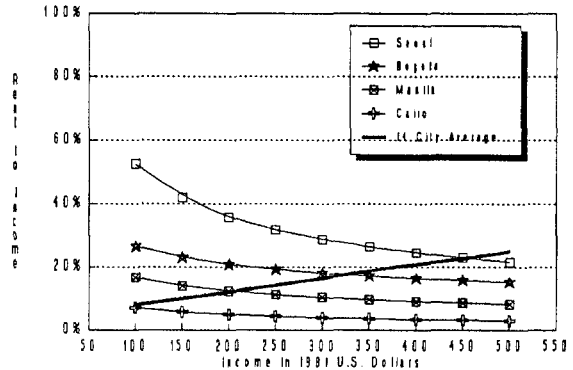
7/ See Mayo, Malpezzi and Gross (1986), and The Urban Edge (1984).

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.

Figure 2.2: Cross Country Model of LDC Rental Housing Demand



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.<sup>9/</sup>

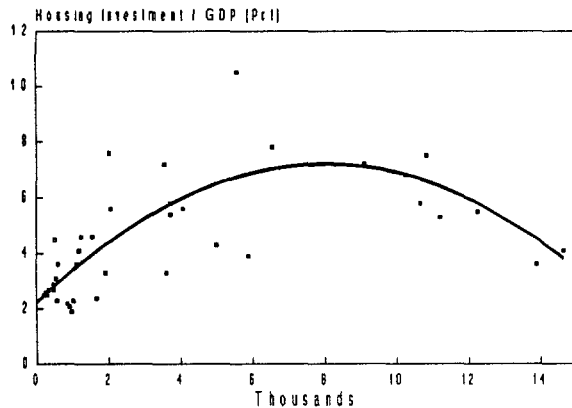
2.13 These particular demand results above are from studies of developing countries, with a range of per capita GNP of roughly \$300 per capita to \$2,500. While the high elasticity across markets is quite robust for this group, analysis of developed country data imply that the long run elasticity is less than 1 over some part of the range between the two groups.<sup>10/</sup> 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).

<sup>9/</sup> Malpezzi and Mayo (1987a,b); Malpezzi et al. (1988).

<sup>10/</sup> Mayo (1981); Malpezzi and Mayo (1985).

Figure 2.3: Housing Investment and GDP Per Capita



### Housing Supply

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.<sup>11/</sup>

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.<sup>12/</sup> 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.<sup>13/</sup> 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.<sup>14/</sup> Table 2.1 supports the hypothesis that elasticities are related to regulatory stringency.

---

<sup>11/</sup> 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).

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

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

<sup>14/</sup> His estimates are contained in Hannah. (1989), pp. 84-90.

Table 2.1: Estimated Long Run Price Elasticities of Housing Supply

Assumption about LR demand elasticity:	$E_Y=1.0$	$E_Y=1.5$	Representative Price/Income Ratio
<u>Restrictive Regulatory Environments</u>			
Korea	0.10	0.40	5.5
Malaysia	0.14	0.46	6.0
<u>Less Restrictive Regulatory Environments</u>			
Thailand	6.64	10.21	2.5
United States	22.03	40.04	2.8

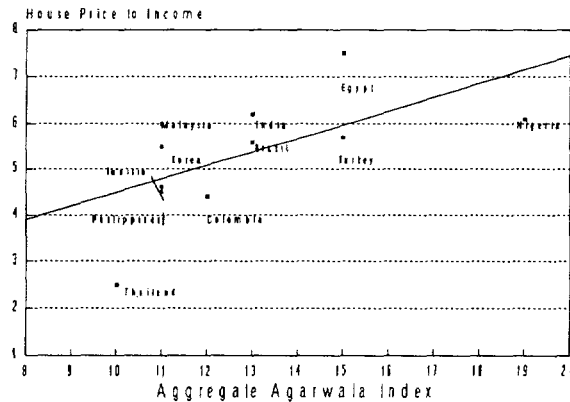
Source: Supply elasticity calculations by Stephen Mayo, Annex 1 of Hannah (1989); house price to income ratios from Malpezzi and Nachrowi (1989). Price elasticity depends on assumptions about long run demand elasticities; estimates are presented for reasonable range of such assumptions. House price to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

Figure 2.4: House Price to Income and General Distortions



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.

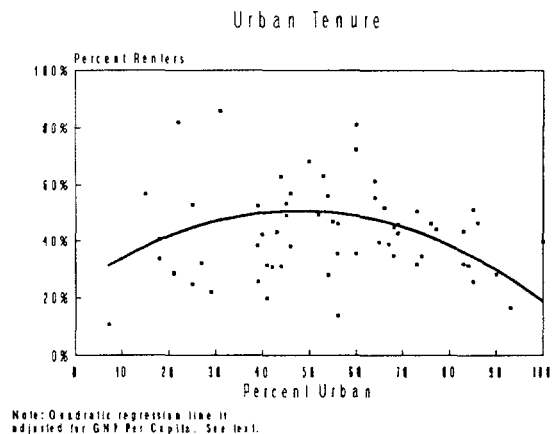
## B. Rental Housing in Developing Countries

### 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.

Figure 2.5: Urban Tenure and Percent Urban



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.<sup>15/</sup> 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.

---

<sup>15/</sup> 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

Country City	Year	Owner Occupants	Renters	Other
Hong Kong	1981	27.9	15.7	56.4
Indonesia	1971	59.2	24.7	16.1
Korea	1969	48.4	50.3	1.3
	1980	42.9	55.5	1.6
Philippines	1967	73.9	19.3	6.8
Singapore	1980	55.0	39.6	5.4
India	1971	47.1	52.9	
Pakistan	1980	67.7	21.9	10.4
Sri Lanka	1971	47.7	47.3	5.0
	1981	57.3	28.6	14.1
Ethiopia				
Addis Ababa	1961	23.3	66.8	9.9
Mauritius	1960	30.6	56.2	13.2
Zaire	1967	47.4	38.3	14.3
Zimbabwe	1962	64.2	32.1	3.7
Egypt	1960	43.0	57.0	
Cairo	1981	31.0	69.0	
Beni Suef	1981	74.0	26.0	
Morocco	1960	32.6	58.8	8.6
	1971	28.9	62.8	8.3
Tunisia	1966	53.4	34.6	12.0
Yugoslavia	1961	47.5	52.5	
	1971	46.6	53.4	
Argentina	1960	38.4	49.4	12.2
Colombia	1964	54.1	38.8	7.1
Valencia	1970	68.9	29.4	1.7
Bogota	1973	44.9	50.7	4.4
Bogota	1977	43.4	56.6	
Valencia	1978	94.9	4.5	0.6
Bogota	1978	62.2	36.4	1.4
Guatemala	1964	69.3	12.5	18.2
	1973	52.0	31.3	16.7
Mexico	1960	43.9	51.9	4.2
Mexico City	1960	19.8	80.2	
Mexico	1978	54.2	45.8	
Mexico City	1978	71.3	12.7	16.0
Panama	1960	27.1	68.3	4.6
Peru	1961	39.4	44.7	15.9
Nigeria				
Lagos Metro	1972	8.8	91.2	
Kano	1973	46.3	53.7	

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.<sup>16/</sup>

#### 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.

---

<sup>16/</sup> 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.<sup>17/</sup> 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.<sup>18/</sup> Despite our best efforts to obtain the most current sources available, some of the information about specific markets may be outdated.<sup>19/</sup> 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

---

<sup>17/</sup> Page and Struyk (1989).

<sup>18/</sup> Raymond Struyk kindly provided us with copies of the spreadsheet containing the results as organized by himself and Douglas Page.

<sup>19/</sup> 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"<sup>20/</sup> 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

---

<sup>20/</sup> 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 attempting 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 landlord's 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.<sup>21/</sup>

Table 3.1: Type of Regime By Per Capita Income

Income	Fair Rents	Increase Controls	Arbitration	Total
Upper Income	5	26	6	37
Upper Middle	1	4	1	6
Lower Middle	9	12	--	21
Lower	8	5	--	13
Total	23	47	7	77

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

3.41 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.

3.42 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

3.43 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

---

<sup>21/</sup> 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.<sup>22/</sup>

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).<sup>23/</sup> Only market and mixed economies are included; Eastern European countries, the Soviet Union, and China are among those excluded.<sup>24/</sup> 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 (1991).

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.



3.47 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.

3.48 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.

3.49 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.

3.50 Numerical values of the index range from 0 to 21. For simplicity, and perhaps to average out errors in the individual country indices,<sup>25/</sup> 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

		GNP Per	Infla-	Percent	Percent	Urban	Typical	Range	Typical	Housing
		Capita	tion	Urban	Urban	Persons	Rent to	Rent to	HP to	Inv. to
					Renters	Per Room	Income	Income	Income	GDP
Strict	(Med)	\$370	10.2%	27%	32%	2.7	7.3%	1.5 to	7.5	2.1%
Controls	(N)	10	10	10	6	3	5	12.0%	5	4
Moderate	(Med)	\$4,860	8.3%	60%	40%	1.0	16.0%	9.9 to	4.8	4.3%
Controls	(N)	27	26	27	16	10	11	21.0%	11	14
Weak/No	(Med)	\$1,530	13.4%	49%	37%	2.1	18.0%	9.0 to	4.5	3.2%
Controls	(N)	14	14	14	10	6	5	27.0%	6	11

---

<sup>25/</sup> 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.<sup>26/</sup>
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.

---

<sup>26/</sup> 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.

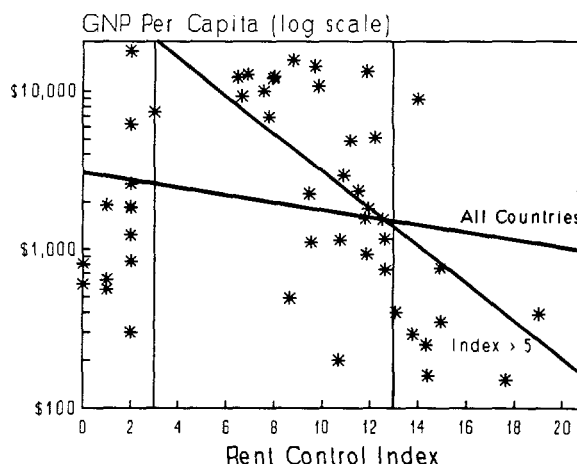
3.52 In Section 3.A it was pointed out that low income countries with controls tended to have stricter regimes. In particular, they were more likely to set fair rents. Figure 3.1 shows that when all seven elements of our index are considered, the pattern is still discernible though less pronounced. Contrast 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

<u>Sample: Countries With Rent Control Index &gt; 5</u>			
<u>Dependent Variable: Rent Control Index</u>			
<u>Adjusted R-Squared: .65</u>			
<u>Degrees of Freedom: 29</u>			
	<u>Coefficient</u>	<u>Standard Error</u>	<u>Prob&gt; T </u>
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



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

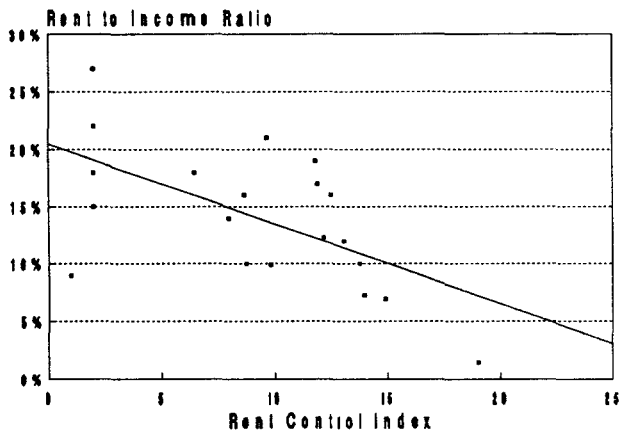
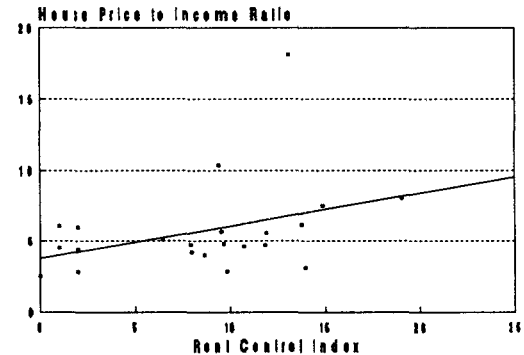


Figure 3.3: Rent Control and House Prices



### 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,<sup>27/</sup> where they flatten out and eventually decline. Following Malpezzi and Mayo's cross country model, we estimate the following:<sup>28/</sup>

$$R/Y = 0.203 + 5.56E-06 * (GNPPC) - 3.66E-10 * (GNPPC^2) - 0.0075 RCINDEX$$

(0.028) (8.78E-06) (5.72E-10) (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.<sup>29/</sup> 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:

$$\text{Housing Price/Income} = 10.85 - 0.92 * \log(\text{GNPPC}) + 0.20 * \text{RCINDEX}$$

(3.59) (0.43) (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.

R-squared: 0.31 (0.24, adjusted)

Again, the ratio decreases with development but increases with controls.

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.<sup>30/</sup> 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.

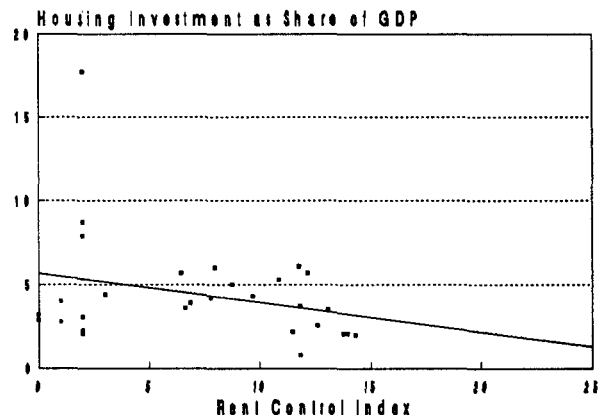
3.64 Simple multivariate models confirm this. Malpezzi (1991) presents several variants; a simple representative example is the following:

$$\text{SHTO} = 4.86 + 0.00058 * \text{GNPPC} - 3.63\text{E-}08 * \text{GNPPC}^2 - 0.197 * \text{RINDEX}$$

(1.23) (0.00040) (2.60E-08) (0.117)

R-squared: 0.15 (0.04, adjusted)

Figure 3.4: Rent Control and Housing Investment



<sup>30/</sup> 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.<sup>31/</sup>

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.

---

<sup>31/</sup> 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.<sup>32/</sup> But within the past two years a number of studies have been completed, some under the World Bank research project<sup>33/</sup> and others independently.<sup>34/</sup> We begin with a review of the economic models underlying these estimates.

---

<sup>32/</sup> 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.

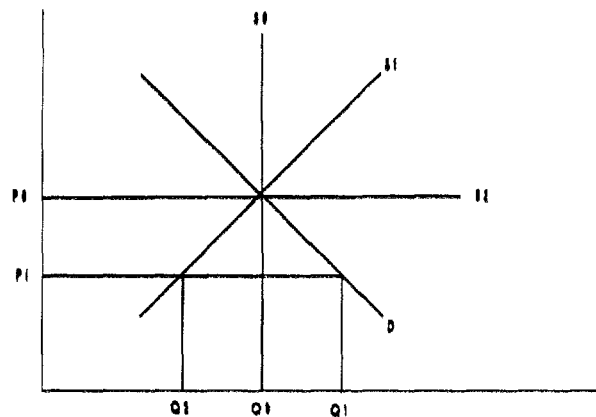
<sup>33/</sup> Malpezzi (1986), Malpezzi, Tipple, and Willis (1990), Malpezzi and Tewari (1990) and Silveira and Malpezzi (1991).

<sup>34/</sup> Notably Hardman (1987) and Struyk (1988).

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 ( $P_0Q_0 - P_1Q_0$ ).

Figure 4.1: Rent Control as Effective Price Control



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.

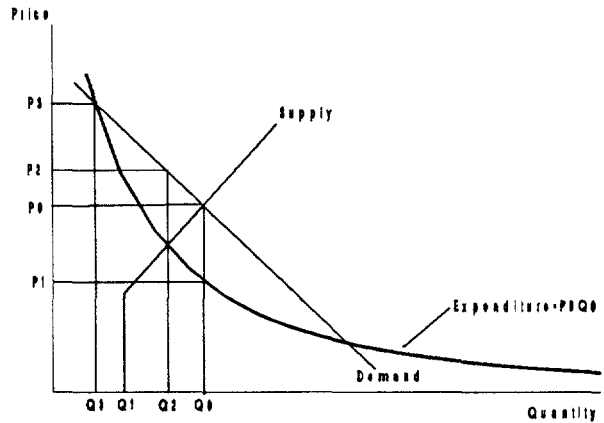
4.7 Suppose that rent control is imposed and initially lowers real rents to  $P_1$ --that is, the supply curve in the immediate market period, which is not shown, is vertical, and the immediate effect of the unanticipated imposition of controls is effectively to reduce the price from  $P_0$  to  $P_1$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

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  $P_2Q_1$ . 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.

Figure 4.2:: Rent Control as Expenditure Control



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.<sup>35/</sup> 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.

---

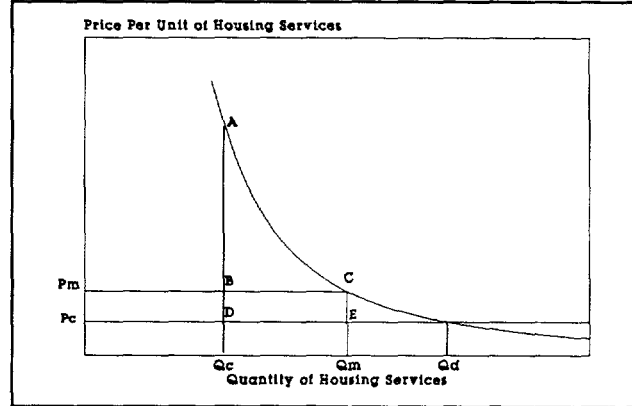
<sup>35/</sup> A number of U.S. jurisdictions with controls have collateral regulations requiring maintenance but fewer attempt to relate rents to maintenance behavior.

### 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.<sup>36/</sup> 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.

Figure 4.3: Rent Control and Consumer's Surplus



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

---

<sup>36/</sup> For convenience we refer to this as the Olsen model because his 1972 paper was (to our knowledge) the first published study to analyze rent controls with this particular model. Olsen cited the work of De Salvo (1970, 1971) and others as antecedents; similar models and extensions have been applied to housing market policies and programs of various kinds, e.g. Murray (1975), Mayo (1986), and Schwab (1985) to name but a few.

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

benefit = cash equivalent value, a measure of change in consumer's surplus

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

$Q_m$  = predicted housing consumption in the absence of rent controls

$Q_c$  = housing consumption under rent controls

$P_m Q_m$  = estimated rent in the absence of controls, also denoted  $R_m$

$P_c Q_c$  = observed controlled rent, also denoted  $R_c$

$b$  = 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:

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

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.<sup>37/</sup> 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,

---

<sup>37/</sup> See Stegman (1985) for a good description.

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.<sup>38/</sup> 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 4.1: Summary Cost-Benefit Measures From New York, 1968  
(in 1986 U.S. dollars)

	Current Cont- rolled Rent $P_c Q_c$	Market Rent for Current Unit $P_m Q_c$	Est. Rent with no Controls $P_m Q_m$	Cost of Rent Control Subsidy $(P_m Q_c - P_c Q_c)$	Tenant Benefits $(E_p = -1)$	Transfer Efficiency, Benefit/Cost
Means	999	1405	1470	406	213	53%
Mean/Mean Income	.160	.226	.236	.065	.034	

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 understate 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

<sup>38/</sup> 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 4.2: Cost-Benefit Measures From Madrid, 1974  
(in 1974 pesos)

	Current Cont- rolled Rent <u>PcQc</u>	Market Rent for Current Unit <u>PmQc</u>	Cost of Rent Control Subsidy ( <u>PmQc-PcQc</u> )
Mean	945	4694	3749
Mean/Mean Income	.052	.257	.205

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)

		Quantity of Housing Service	Price (Norma- lized to One)	Implicit Subsidy	Welfare Cost of Ration	Net Benefit
<u>Sample Statistics</u>						
Based on	Q3*	14.9	0.66	19.94	12.14	10.10
Net Rents	Med	8.2	0.38	8.24	4.78	5.76
(naive model)	Q1	1.4	0.23	2.25	1.06	-0.59
	N	312	297	239	239	239
	Prob >  s			.001	.001	.001
Based on	Q3	29.4	1.46	12.00	20.89	8.11
Gross Rents	Med	17.0	0.71	3.27	5.84	-1.04
(correct model)	Q1	10.1	0.42	-3.76	1.36	-27.66
	N	312	297	237	237	237
	Prob >  s			.001	.001	.001
<u>Representative Consumer **</u>						
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 4.4: Cost-Benefit Measures From Urban Jordan, 1986  
(in 1986 dinars)

	Current Cont- rolled Rent $P_c Q_c$	Market Rent for Current Unit $P_m Q_c$	Est. Rent with no Controls $P_m Q_m$	Cost of Rent Control Subsidy $(P_m Q_c - P_c Q_c)$	Tenant Benefits $(E_p = -1)$	Transfer Efficiency $(E_p = -1)$ (Benefit/Cost)
<u>Amman</u>						
Mean	43.38	61.13	53.75	17.75	11.59	65%
<u>Other Urban</u>						
Mean	32.65	37.25	33.71	4.60	2.34	51%

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<sup>39/</sup> is roughly half the estimated market. Furthermore, while the controlled rents  $PcQc$  hardly vary, the estimated market rents  $PmQc$  vary with size and type of unit. Market demand  $PmQm$  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 ( $PmQm$ ) is over 1,000 cedis in both sectors. Comparing  $PmQc$  and  $PmQm$ , 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 ( $PmQc - PcQc$ ), 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.

---

<sup>39/</sup> 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  
(in 1986 cedis)

	Current Cont- rolled Rent PcQc	Market Rent for Current Unit PmQc	Est.d. Rent with no Controls PmQm	Cost of Rent Control Subsidy (PmQc-PcQc)	Tenant Benefits 1 2 (Ep=-1) (Ep=0.5)		Transfer Efficiency, Ep=-1 (Benefit/Cost)
<u>Tenement Sample</u>							
Mean	290	613	1094	332	106	-264	
Q3	300	580	1220	287	221	125	
Median	300	574	1040	274	135	-76	0.50
Q1	300	570	909	270	14	-415	
N	358	343	328	343	328	328	
Representative Consumer	300	574	1040	274	122	-105	0.45
<u>Indigenous Sample</u>							
Mean	244	563	1105	319	72	-382	
Q3	300	580	1205	370	221	80	
Median	250	574	1044	291	123	-127	0.41
Q1	200	513	910	275	-17	-542	
N	322	319	311	319	310	310	
Representative Consumer	250	574	1044	324	169	-61	0.52

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

4.43 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.

4.44 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 ( $PcQc$ ) is 92 percent of the estimated market rent ( $PmQm$ ) 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)

	Current Cont- rolled Rent $PcQc$	Market Rent for Current Unit $PmQc$	Est. Rent with no Controls $PmQm$	Cost of Rent Control Subsidy $(PmQc-PcQc)$	Tenant Benefit $Ep=-1$	Tenant Benefit $Ep=-0.5$
<u>Ordinary Controlled Renters</u>						
Mean	96	113	165	13	-42	-215
Q3	110	120	198	31	22	10
Median	60	65	133	7	-24	-57
Q1	40	47	90	-15	-72	-179
N	87	75	75	75	75	75
Representative Consumer	60	65	133	5	-22	-66
<u>Strictly Controlled Renters</u>						
Mean	74	111	103	24	2	-31
Q3	90	162	112	40	35	36
Median	45	107	97	26	15	9
Q1	25	47	75	-4	-25	-67
N	25	18	18	18	18	18
Representative Consumer	45	107	97	62	62	61

4.45 The total amount households actually spend on housing was also reduced below uncontrolled levels. Median  $PmQm$  is approximately twice the consumption in the presence of controls for both ordinary and strictly controlled units. Moreover, a comparison of  $PmQc$  and  $PmQm$  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 ( $Qc < Qm$ ). However, a comparison for strictly controlled units finds that  $PmQc$  now exceeds  $PmQm$ ; 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  $Ep=-1$  (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 homeownership landlords. Most landlords hold relatively few units; the ratio of occupied rental units to number of landlords is about 4.

4.52 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

4.53 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.

4.54 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.

4.55 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.

4.56 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.

4.57 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.<sup>40/</sup> 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)

	Current Controlled Rent PcQc	Market Rent for Current Unit PmQc	Estimated Rent with no Controls PmQm	Cost of Rent Control Subsidy to landlords	Benefit to Tenant 1                      2		Net Welfare Change (Ben.1- Cost)
Mean	4,325	3,825	3,503	-447	-850	-1214	-390
Q3	5,310	5,141	4,450	979	745	569	-31
Median	2,800	3,176	3,060	175	-95	-356	-146
Q1	1,500	1,899	2,081	-953	-1,381	-1,762	-445
N	717	705	666	701	648	648	648
Representative Consumer	2,800	3,176	3,060	376	374	372	-2

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

<sup>40/</sup> 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.

Table 4.8: Summary of Cost-Benefit Studies

Study	- Rent Red. as % of -		- Benefit as % of -		Transfer Efficiency	Means or Medians
	Market Rent	Tenant Income	Market Rent	Tenant Income		
New York (Olsen)	28	6.5	14	3.4	52	Means
Madrid (Pena & Ruiz-Castillo)	NA	20.5	NA	NA	NA	Means
Cairo (Malpezzi)	30	5.8	26	5.1	87	Median
Amman (Struyk)	33	NA	22	NA	65	Means
Urban Jordan (Struyk)	14	NA	7	NA	51	Means
Kumasi (Malpezzi, Tipple and Willis)	26	2.3	12	1.0	45	Median
"Ordinary" Bangalore (Malpezzi and Tewari)	4	0.8	Neg Ben	Neg Ben	Neg Ben	Median
"Strict" Bangalore (Malpezzi and Tewari)	64	15.1	64	15.1	100	Median
Rio de Janeiro (Silveira and Malpezzi)	12	2.0	12	2.0	99	Median

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<sup>41/</sup> 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

<sup>41/</sup> 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.

Table 4.9: Summary of Landlord and Tenant Incomes From Three Markets

	Cairo (Egyptian pounds)	Kumasi (cedis)	Bangalore* (rupees)	Bangalore** (rupees)
<u>Renters</u>				
Median	87	11,563	425	425
IQR	71	6,791	420	420
N	252	725	935	935
<u>Landlords</u>				
Median	127	15,668	746	1182
IQR	94	11,024	825	1375
N	21	92	258	258

\* unweighted

\*\* weighted by income from nonresidential property

4.66 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.

4.67 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 ( $P_c Q_c$ ) remained constant at 300 cedis. The price the housing unit would rent for in the absence of controls ( $P_m Q_c$ ) 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 ( $P_m Q_m$ ) 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:

$$\dot{R}_t = -6.25 + .078 \dot{E}_t + 34.09 (1/V_t) + 26.49 (1/V_{t-1})$$

(3.30) (1.64) (4.12) (3.10)

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.<sup>42/</sup>

---

<sup>42/</sup> Precursors of these studies are those carried out by India's National Building Organization -- see NBO 1965, 1966. Several similar studies have been carried out for markets in the United States -- see Turner (1990).

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

Description of Representative Investment	Baseline Regime	Alternative Regime
<u>Kumasi</u>		
New unit, room in a compound house with shared water and sanitation.	Existing regime: rents set at 300 cedis per month, with general price level rising at 20 percent per annum. Internal rate of return: -1%. Affordable to virtually all households.	Revised regime: rents rise to 1200 cedis, and keep pace with inflation thereafter. Internal rate of return: 8%. Unit affordable to top 40% of the income distribution.
Existing (low quality) units.	Same as above, except that rate of return is about zero.	Revised regime: rents rise to 600 cedis, and keep pace with inflation. Internal rate of return: 7%. Unit affordable to all but bottom decile of the income distribution.
<u>Bangalore</u>		
Typical unit in the "strictly controlled" 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.	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.	Rents set at 100 Rs. in 1974 prices, and keep pace with inflation. Internal Rate of return: 4%. Affordable to top 30% of the income distribution.

4.79 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

4.80 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.<sup>43/</sup>

4.81 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.<sup>44/</sup>

4.82 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.

4.83 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.

---

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

<sup>44/</sup> See Rydell and Murray (n.d.), Weitzman (1983), and Schaefer and Kim (1985).



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.

4.89 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.

4.90 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.

4.91 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.

4.92 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.

4.93 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.

4.94 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<sup>45/</sup> 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,<sup>46/</sup> 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

---

<sup>45/</sup> By progressive we mean redistributing real purchasing power from rich to poor.

<sup>46/</sup> All countries, developed or developing, have addressable impediments. See Section B, below, for more details.

for decontrol<sup>47/</sup> 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.<sup>48/</sup> 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

---

<sup>47/</sup> 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).

<sup>48/</sup> 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.<sup>49/</sup>

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.<sup>50/</sup>

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

---

<sup>49/</sup> 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.

<sup>50/</sup> See Sorensen (1983).

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,<sup>51/</sup> 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 ( $PmQc$ ) 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.

---

<sup>51/</sup> Malpezzi, Tipple and Willis evaluated a number of similar scenarios for Ghana; Malpezzi and Tewari for India; and Silveira and Malpezzi for Brazil.

5.18 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.

5.19 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.

5.20 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

5.21 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.

5.22 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 submarket 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.<sup>52/</sup> 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.

---

<sup>52/</sup> See Mayo, Malpezzi and Gross (1986), Hannah et al. (1989) and Malpezzi (1989).

## 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.

## REFERENCES CITED

This is a list of references cited in the text. A fuller list of references on rent control, many of which were consulted during the research project, is available from the authors.

Aaron, Henry. Rent Controls and Urban Development: A Case Study of Mexico City. Social and Economic Studies, 15, 1966, 314-28.

Agarwala, Ramgopal. Price Distortions and Growth in Developing Countries. World Bank Staff Working Paper No. 575, 1983.

Albon, Robert. The Value of Tenancies Due to Rent Control in New South Wales. Australian Economic Review, December 1979, pp. 222-28.

Arnault, Jane. Optimal Maintenance Under Rent Control With Quality Constraints. AREUEA Journal, Summer 1975, pp. 67-82.

Arnott, Richard (with Nigel Johnston). Rent Control and Options for Decontrol in Ontario. Toronto: Ontario Economic Council, 1981.

Arnott, Richard and Jack M. Mintz (eds.). Policy Forum on Rent Controls in Ontario. Queens University (Canada): John Deutsch Institute for the Study of Economic Policy (1987).

Arnott, Richard and Jack M. Mintz (eds.). Rent Control: The International Experience. Queens University (Canada): John Deutsch Institute for the Study of Economic Policy (1987).

Blinder, Alan S. Hard Heads, Soft Hearts: Tough-Minded Economics for a Just Society. Addison-Wesley, Reading Mass, 1987.

Block, Walter and Edgar Olsen. Rent Control: Myths and Realities. The Fraser Institute, 1981.

Bloomberg, Lawrence N. Rent Control and the Housing Shortage: Comments on Roofs or Ceilings by Friedman and Stigler. Journal of Land and Public Utility Economics, 23(2), May 1947.

Boersch-Supan, Axel. On Tenure Discounts and Rent Control. Mimeographed, 1983.

Boersch-Supan, Axel. The Demand for Housing in the United States and West Germany: Discrete Choice Analysis. MIT, PhD Dissertation, 1984.

Bradbury, Katherine and Anthony Downs. Do Housing Allowances Work?. Brookings Institution, 1981.

Brouwer, J. Rent Policy in the Netherlands, 1975-85. Paper delivered to the conference on housing policy, Amsterdam, 1988.

Brueggeman, William and Richard Peiser. Housing Choice and Relative Tenure Prices. Journal of Financial and Quantitative Analysis, 14(4), November 1979, pp. 735-41.

Buckley, Robert and Stephen K. Mayo. Housing and the Macroeconomy. Review of Regional and Development Studies, 1(2), 1989.

Buckley, Robert M. and Ranjana Madhasudhan. The Macroeconomics of Housing's Role in the Economy: An International Analysis. Paper presented to the American Real Estate and Urban Economics Association, December 1984.

Burns, Leland S. and Leo Grebler. Resource Allocation to Housing Investment: A Comparative International Study. Economic Development and Cultural Change, 25(1), October 1976, pp. 95-121.

Burns, Leland S. and Leo Grebler. The Housing of Nations: Advice and Policy in a Comparative Framework. London, Macmillan, 1977.

Caudill, S., R. Ault and R. Saba. Efficient Estimation of the Cost of Rent Controls. Review of Economics and Statistics, 71, 1989, pp. 154-8.

Cheung, Stephen. Roofs or Stars? The Effects of a Rent Control Ordinance. Economic Inquiry, 13(1), 1975, pp. 1-21.

Cheung, Stephen. Rent Control and Housing Reconstruction: The Postwar Experience of Prewar Premises in Hong Kong. Journal of Law and Economics, 22(1), 1979, 27-53.

Clark, W.A.V. and Allan D. Heskin. The Impact of Rent Control on Tenure Discounts and Residential Mobility. Land Economics, 58(1), February 1982, pp. 109-17.

Coleman David. Rent Control: the British Experience and Policy Response. Paper Presented at the Roundtable on "Rent Control: The International Experience," John Deutsch Institute, Queen's University, Kingston, Ontario, September f-4, 1987.

Daniel, Zsuzsa. Public Housing, Personal Income and Central Redistribution in Hungary. Acta Oeconomica, 31(1-2), 1983, pp. 87-104.

De Leeuw, Frank and Larry Ozanne. Housing. H. Aaron and J. Pechman (eds.), How Taxes Affect Economic Behavior, Brookings, 1981.

De Leeuw, Frank and Nkanta Ekanem. The Supply of Rental Housing. American Economic Review, 61, 1971, pp. 806-17.

De Leeuw, Frank and Nkanta Ekanem. Time Lags in the Rental Housing Market. Urban Studies, 10, 1973, pp. 39-68.

De Leeuw, Frank and Raymond Struyk. The Web of Urban Housing. The Urban Institute, 1975.

De Salvo, Joseph. Reforming Rent Control in New York City: An Analysis of Housing Expenditures and Market Rentals. Papers and Proceedings of the Regional Science Association Papers, 27, 1970, pp. 195-227.

De Salvo, Joseph. A Methodology for Evaluating Housing Programs. Journal of Regional Science, 11, 1971, pp. 173-95.

Diamond, Douglas B. Jr. A Note on Inflation and Relative Tenure Prices. Journal of the American Real Estate and Urban Economics Association, 6, 1978, pp. 438-50.

Dillinger, William. Urban Property Taxation in Developing Countries. Working Paper 41, Policy Planning and Research, The World Bank, 1988.

Edwards, Michael. Cities of Tenants: Renting Among the Urban Poor in Latin America. A. Gilbert et al. (eds.), Urbanization in Contemporary Latin America, Wiley 1982.

Fallis, George. Rent Control: The Citizen, the Market and the State. Paper Presented at the Roundtable on Rent Control: The International Experience, John Deutsch Institute for the Study of Economic Policy, Queen's University, Kingston, Ontario, September 1-4, 1987.

Fallis, George and Lawrence B. Smith. Price Effects of Rent Control on Controlled and Uncontrolled Rental Housing in Toronto. Canadian Journal of Economics, 1985, 652-59.

Ferchiou, Ridha. The Indirect Effects of New Housing Construction in Developing Countries. Urban Studies, 19, 1982, pp. 167-76.

Follain, James R. The Price Elasticity of the Long Run Supply of New Housing Construction. Land Economics, 55, 1979, pp. 190-99.

Frankena, Mark. Alternative Models of Rent Control. Urban Studies, 12, 1975, pp. 303-8.

Friedman, Joseph, Emmanuel Jimenez and Stephen K. Mayo. The Demand for Tenure Security in Developing Countries. Journal of Urban Economics, 29, 1988.

Gilbert, Alan. The Tenants of Self Help Housing: Choice and Constraint in the Housing Markets of Developing Countries. Development and Change, 14, 1983.

Gilbert, Alan. Rental Housing in Developing Countries. Report for UNCHS, 1989.

Gilderbloom, John I. Moderate Rent Controls: The Experiences of U.S. Cities. Washington, Conference on Alternative State and Local Policies, 1980.

Gilderbloom, John I. The Impact of Moderate Rent Control in New Jersey: An Empirical Study of 26 Rent Controlled Cities. Urban Analysis, 7, 1983, pp. 135-54.

- Gilderbloom, John I., and Richard Appelbaum. Rent Control: A Source Book. Foundation for National Progress, Santa Barbara, 1981.
- Gramp, William. Some Effects of Rent Control. Southern Economic Journal, 16(4), 1950.
- Griliches, Z. Price Indexes and Quality Change. Harvard University Press. Cambridge, MA 1971.
- Hannah, Lawrence, Alain Bertaud, Stephen Malpezzi and Stephen Mayo. Malaysia: The Housing Sector: Getting the Incentives Right. World Bank Sector Report No. 7292-MA, 1989.
- Harberger, Arnold. The Demand for Durable Goods, University of Chicago Press, 1960.
- Hardman, Anna M. The Role of Side Payments in a Market in Disequilibrium: The Market for Rental Housing in Cairo. Unpublished Ph.D. Dissertation, Massachusetts Institute of Technology, 1987.
- Howenstine, E. Jay. European Experience with Rent Controls. Monthly Labor Review, June 1977, pp. 21-28.
- Ingram, Gregory. Housing Demand in the Developing Metropolis: Estimates from Bogota and Cali, Colombia. Staff Working Paper No. 633, 1984.
- Jimenez, Emmanuel. Tenure Security and Urban Squatting. Review of Economics and Statistics, 66(4), November 1984, pp. 556-67.
- Johnson, D. Gale. Rent Control and the Distribution of Income. American Economic Review, 41(2), May 1951.
- Johnson, Thomas E. Jr. Upward Filtering of the Housing Stock. Habitat International, 11(1), 1987, pp. 173-90.
- Kahnert, F. Improving Urban Employment and Labor Productivity. World Bank Discussion Paper no. 10, 1987.
- Kearl, J.R., Clayne Pope, Gordon Whiting, and Larry Wimmer. A Confusion of Economists?. American Economic Review, 69(2), pp. 28-37.
- Keating, W. Dennis. Dispersion and Adaptation: The California Experience. in Niebanck, Paul L. (ed.), The Rent Control Debate. The University of North Carolina Press, 1985.
- Kenya, Republic of . Urban Housing Survey 1983: Basic Report. Department of Housing, Ministry of Works, Housing and Physical Planning 1983.
- Kiefer, David. Housing Deterioration, Housing Costs and Rent Control. Urban Studies, 17, 1980, pp. 53-62.

Kraft, J. and E.O. Olsen. The Distribution of Benefits from Public Housing. in Juster, The Distribution of Economic Well Being, NBER, 1977.

Kuznets, S. Long Term Trends in Capital Formation. Economic Development and Cultural Change. 1961.

Lemer, Andrew. The Role of Rental Housing: A Need for Balance. UDD No. 104, 1986.

Li, Mingche. A Logit Model of Homeownership. Econometrica, 45(5), July 1977, pp. 1081-1097.

Linneman, Peter. The Effect of Rent Control on the Distribution of Income Among New York City Renters. Journal of Urban Economics, 22, July 1987, pp. 14-34.

Loikkanen, Heikki. On Availability Discrimination under Rent Control. Scandinavian Journal of Economics, 87, 1985, pp. 500-520.

MacLennan, Duncan. The 1974 Rent Act--Some Short Run Supply Effects. The Economic Journal, 88 (June 1978), 331-340.

MacLennan, Duncan. Private Rental Housing: Britain viewed from Abroad. Unpublished Manuscript, University of Glasgow, 1987.

Malpezzi, Stephen. Rent Control and Housing Market Equilibrium: Theory and Evidence from Cairo, Egypt. Unpublished Ph.D. Dissertation, The George Washington University, 1986.

Malpezzi, Stephen. Urban Housing and Financial Markets: An International Comparison. Paper prepared for the Rowntree Trust conference, York, England, June 1989.

Malpezzi, Stephen. Rental Housing in Developing Countries: Issues and Constraints. Paper presented to the UNCHS Expert Group Meeting on Rental Housing in Developing Countries, October 1989. Revised March 1990.

Malpezzi, Stephen. Present Value Analysis of Housing Programs and Policies. A.G. Tipple and K.G. Willis (eds.), Housing the Poor in the Developing World: Methods of Analysis, Case Studies and Policies, Routledge Publishing, Forthcoming.

Malpezzi, Stephen (with Gwendolyn Ball). Cross Country Comparisons of Rent Controls and Market Outcomes: An Exploratory Analysis. Mimeographed, 1991.

Malpezzi, Stephen and C. Peter Rydell. Rent Controls in Developing Countries: A Framework for Analysis. World Bank, Water Supply and Urban Development Department Discussion Paper No. 102, 1986.

Malpezzi, Stephen and Larry Ozanne. Evaluation of FMRs in the Section 8 New Construction Program: An Application of Hedonic Price Indexes. Urban Institute, 1980.

- Malpezzi, Stephen and Stephen K. Mayo. The Demand for Housing in Developing Countries. Economic Development and Cultural Change, 35(4), July 1987a, pp. 687-721.
- Malpezzi, Stephen and Stephen K. Mayo. User Cost and Housing Tenure in Developing Countries. Journal of Development Economics, 25, 1987b, pp. 197-220.
- Malpezzi, Stephen and Stephen K. Mayo (with David J. Gross). Housing Demand In Developing Countries. World Bank Staff Working Paper No. 733, 1985.
- Malpezzi, Stephen and Vinod Tewari. Costs and Benefits of Rent Regulation in Bangalore, India. INURD, Mimeo, 1990.
- Malpezzi, Stephen, Graham Tipple and Kenneth Willis. Costs and Benefits of Rent Control in Kumasi, Ghana. World Bank Discussion Paper No. 74, 1990.
- Malpezzi, Stephen, Larry Ozanne and Thomas Thibodeau. Microeconomic Estimates of Housing Depreciation. Land Economics, 63(4), November 1987, pp. 373-85.
- Malpezzi, Stephen, Larry Ozanne and Thomas Thibodeau. Characteristic Prices of Housing in 59 SMSAs. The Urban Institute, 1980.
- Malpezzi, Stephen, Stephen K. Mayo, Ricardo Silveira and Carmela Quintos. Measuring the Costs and Benefits of Rent Control: Case Study Design. INU Discussion Paper No. 24, 1988.
- Malpezzi, Stephen and Nachrowi. A Simple Cross Country Lotus Database. processed 1989.
- Marcuse, Peter. The Uses and Limits of Rent Regulation. Report to New York State Division of Housing and Community Renewal, 1986.
- Marks, Denton. Public Choice and Rent Control. Atlantic Economic Journal, 11, 1983, pp. 63-9.
- Marks, Denton. The Effect of Rent Control on the Price of Rental Housing: An Hedonic Approach. Land Economics, 60(1), February 1984, pp. 81-94.
- Marks, Denton. On Resolving the Dilemma of Rent Control. Mimeographed, 1989.
- Mayer, Neil S. Rehabilitation Decisions in Rental Housing: An Empirical Analysis. Journal of Urban Economics, 10, 1981, pp. 76-94.
- Mayo, Stephen K. Theory and Estimation in the Economics of Housing Demand. Journal of Urban Economics, 10, January 1981, pp. 95-116.
- Mayo, Stephen K. Sources of Inefficiency in Subsidized Housing Programs: A Comparison of U.S. and German Experience. Journal of Urban Economics, 20, 1986, pp. 229-49.



Mayo, Stephen K. and David J. Gross. Sites and Services -- And Subsidies: The Economics of Low Cost Housing in Developing Countries. World Bank Economic Review, 1(2), 1987, pp. 301-35.

Mayo, Stephen K. and James Stein. Housing and Labor Market Distortions in Poland: Linkages and Policy Implications. INU Discussion Paper No. 25, 1988.

Mayo, Stephen K., Stephen Malpezzi and David J. Gross. Shelter Strategies for the Urban Poor in Developing Countries. World Bank Research Observer, 1(2), July 1986, pp. 183-203.

Mayo, Stephen K., with others. Informal Housing in Egypt. Abt Associates, 1982.

Mehta, Meera and Dinesh Mehta. Metropolitan Housing Market: Housing Supplies, Demand and Residential Behavior in Ahmedabad. Ahmedabad: Centre for Environmental Planning and Technology, 1986.

Minford, Patrick, M. Peel and P. Ashton. The Housing Morass: Regulation, Immobility and Unemployment. Institute of Economic Affairs, Hobart Paperback No. 25, 1987.

Mintz, Jack. Rent Controls in Ontario: An Overview. Richard Arnott and Jack M. Mintz (eds.), Policy Forum on Rent Controls in Ontario. Queens University (Canada): John Deutsch Institute for the Study of Economic Policy (1987).

Moorehouse, John C. Optimal Housing Maintenance Under Rent Control. Southern Economic Journal, 39, July 1972, pp. 93-106.

Muller, R. Andrew. Ontario's Options in the Light of the Canadian Experience with Decontrol. Richard Arnott and Jack M. Mintz (eds.), Policy Forum on Rent Controls in Ontario. Queens University (Canada): John Deutsch Institute for the Study of Economic Policy (1987).

Murray, Michael. The Distribution of Benefits from Public Housing. Econometrica, July 1975, pp. 771-88.

Murray, Michael P. and C. Peter Rydell. "Analyzing Rent Control: The Case of Los Angeles". Paper Presented at the Roundtable on "Rent Control: The International Experience," John Deutsch Institute Queen's University, Muth, Richard F. The Demand for Non-Farm Housing.

Muth, Richard F. The Derived Demand for Urban Residential Land. Urban Studies, 8, 1971, pp. 243-54. Kingston, Ontario, Canada, September 1-4, 1987.

National Building Organization (NBO). Impact of Rent Control on Housing Construction in Calcutta, 1965, India 1965.

National Building Organization (NBO). Rent Control and Housing in Delhi, 1966.

- Niebanck, Paul L. (ed.). The Rent Control Debate. The University of North Carolina Press, 1985.
- Okpala, D. C. I. Rent Control Reconsidered: The Nigerian Situation. Habitat International, Vol 5, No. 5/6, pp. 709-719, 1981.
- Olsen, Edgar O. What Do Economists Know About Rent Control?
- Olsen, Edgar O. A Competitive Theory of the Housing Market. American Economic Review, 1969, pp. 612-622.
- Olsen, Edgar O. The Effects of a Simple Rent Control Scheme in a Competitive Market. Rand Working Paper P-4257, 1969.
- Olsen, Edgar O. An Econometric Analysis of Rent Control. Journal of Political Economy, 80, November/December 1972, pp. 1081-1100.
- Olsen, Edgar O. The Role of Government in the Housing Sector. Herbert Griesch (ed.), Reassessing the Role of Government in the Mixed Economy, Tubingen, Germany: J.C.B. Mohr, 1982.
- Ondiege, Peter. Implicit Benefits in the Rental Public Housing Sector in Nairobi. Paper presented to the International Conference of Urban Shelter in Page, Douglas and Raymond Struyk. Measuring the Housing Sector: Results from the International Housing Market Survey. The Urban Institute, mimeo, 1990 Developing Countries, London, September 1-4, 1986.
- Paish, F.W. The Economics of Rent Restriction. Lloyd's Bank Review, April 1950, pp. 1-17.
- Pena, Daniel and Javier Ruiz-Castillo. Distributional Aspects of Public Rental Housing and Rent Control Policies in Spain. Journal of Urban Economics, 15, 1984, pp. 350-70.
- Porrell, Frank. The Effects of Landlord and Manager Residency on Housing Condition. HUD Small Grant Report H-5401-SG, 1982.
- Prakasarao, V.L.S. and V.K. Tewari. The Structure of an Indian Metropolis: A Study of Bangalore. Allied Publishers Private Ltd., New Delhi, 1979.
- Renaud, Bertrand. Housing and Financial Institutions in Developing Countries. World Bank Staff Working Paper No. 658, 1984.
- Renaud, Bertrand. Affordable Housing, Housing Sector Performance and Behavior of the Price-to-Income Ratio: International Evidence and Theoretical Analysis. Paper Presented to the Center of Urban Studies and Urban Planning, University of Hong Kong, October 1989.
- Rosen, Harvey S. Housing Decisions and the U.S. Income Tax. Journal of Public Economics, February 1979, pp. 1-23.

- Rydell, C. Peter and Kevin Neels. Direct Effects of Undermaintenance and Deterioration. in Niebanck, Paul L. (ed.), The Rent Control Debate. The University of North Carolina Press, 1985.
- Rydell, C. Peter and Michael P. Murray. How Rent Control Affects Property Taxes.
- Rydell, C. Peter, C. Lance Barnett, C.E. Hillstead, Michael P. Murray, Kevin Neels and R.H. Sims. The Impact of Rent Control on the Los Angeles Housing Market. Rand Corporation, 1981.
- Schaeffer, Peter V. and T. John Kim. Empirical Analysis of the Impact of a Landlord-Tenant Ordinance on Property Values. Socio-Econ Planning Science, Vol. 19, No. 1 1985.
- Schwab, Robert. The Estimation of the Benefits of In-Kind Government Programs. Journal of Public Economics, 27, 1985.
- Shefer, Daniel. The Demand for Housing and Housing Characteristics in Indonesia. Center for Urban and Regional Studies, Technion (Haifa), 1983.
- Silveira, Ricardo and Stephen Malpezzi. Costs and Benefits of Rent Control in Rio De Janeiro.
- Smith, Barton. The Supply of Urban Housing. Quarterly Journal of Economics, 1976.
- Sorensen, Baerbel. The Alaska Emergency Residential Rent Regulation and Control Program. Paper Presented at the Lincoln Institute of Land Policy, November 7, 1983.
- Strassman, W. Paul. Housing Priorities in Developing Countries: A Planning Model. Land Economics, 53, August 1977.
- Struyk, Raymond J. The Distribution of Tenant Benefits from Rent Control in Urban Jordan. Land Economics, 64(2), May 1988.
- Struyk, Raymond, Michael Hoffman and Harold Katsura. The Market for Shelter in Indonesian Cities. Urban Institute, 1990.
- Tewari, Vinod K. and T. Krishna Kumar. Rent Control in India: Its Economic Effects and Implementation in Bangalore. UDD Discussion Paper, 1986.
- Thibodeau, Thomas. Rent Regulation and the Market for Rental Housing Services. Urban Institute Research Paper No. 3090-01, November 1981.
- Turner, Bengt. Economic and Political Aspects of Negotiated Rents in the Swedish Housing Market.
- Turner, Margery Austin. Rent Control and the Availability of Affordable Housing in the District of Columbia: A Delicate Balance. The Urban Institute, 1988.

Turner, Margery Austin. Housing Market Impacts of Rent Control: The Washington, D.C. Experience. Urban Institute, 1990.

UNCHS (Habitat). Global Report on Human Settlements 1986.

United Nations. Housing and Structural Adjustment.

Urban Edge, The. Rental Housing: A Rediscovered Priority. World Bank, 8(2), February 1984.

Weitzman, Phillip. Rent Control and the Community Tax Base: A Critique of the Empirical Literature. Paper Delivered at the Lincoln Land Institute Colloquium on Rent Control, 1983.

Willis, Kenneth, Stephen Malpezzi and Graham Tipple. An Econometric and Cultural Analysis of Rent Control in Kumasi, Ghana. Urban Studies, April 1990, 27(2), pp. 241-57.

# Distributors of World Bank Publications

## ARGENTINA

Carlos Hirsch, SRL  
Galeria Cuernes  
Florida 165, 4th Floor-Ofc. 453/465  
1333 Buenos Aires

AUSTRALIA, PAPUA NEW GUINEA,  
FIJI, SOLOMON ISLANDS,  
VANUATU, AND WESTERN SAMOA  
D.A. Books & Journals  
648 Whitehorse Road  
Mitcham 3132  
Victoria

AUSTRIA  
Gerold and Co.  
Graben 31  
A-1011 Wien

BAHRAIN  
Bahrain Research and Consultancy  
Associates Ltd.  
P.O. Box 22103  
Manama Town 317

BANGLADESH  
Micro Industries Development  
Assistance Society (MIDAS)  
House 5, Road 16  
Dhanmondi R/Area  
Dhaka 1209

Branch offices:  
Main Road  
Majidee Court  
Noakhali - 3800

76, K.D.A. Avenue  
Kulna

## BELGIUM

Jean De Lannoy  
Av. du Roi 202  
1060 Brussels

## CANADA

Le Diffuseur  
C.P. 85, 1501 B rue Ampère  
Boucherville, Québec  
J4B 5E6

## CHINA

China Financial & Economic  
Publishing House  
8, Da Fo Si Dong Jie  
Beijing

## COLOMBIA

Infoenlace Ltda.  
Apartado Aereo 34270  
Bogota D.E.

## COTE D'IVOIRE

Centre d'Édition et de Diffusion  
Africaines (CEDA)  
04 B.P. 541  
Abidjan 04 Plateau

## CYPRUS

MEMRB Information Services  
P.O. Box 2098  
Nicosia

## DENMARK

Samfundslitteratur  
Rosenørns Allé 11  
DK-1970 Frederiksberg C

## DOMINICAN REPUBLIC

Editora Taller, C. por A.  
Restauración e Isabel la Católica 309  
Apartado Postal 2190  
Santo Domingo

## EL SALVADOR

Fusades  
Avenida Manuel Enrique Araujo #3530  
Edificio SISA, 1er. Piso  
San Salvador

## EGYPT, ARAB REPUBLIC OF

Al Akhram  
Al Galaa Street  
Cairo

The Middle East Observer  
8 Chawarbi Street  
Cairo

## FINLAND

Akateeminen Kirjakauppa  
P.O. Box 128  
SF-00101  
Helsinki 10

## FRANCE

World Bank Publications  
66, avenue d'Iéna  
75116 Paris

## GERMANY

UNO-Verlag  
Poppeladler Allee 55  
D-5300 Bonn 1

## GREECE

KEME  
24, Ippodamou Street Platia Plastiras  
Athens-11635

## GUATEMALA

Librerías Piedra Santa  
5a. Calle 7-55  
Zona 1  
Guatemala City

## HONG KONG, MACAO

Asia 2000 Ltd.  
48-48 Wyndham Street  
Winning Centre  
2nd Floor  
Central Hong Kong

## INDIA

Allied Publishers Private Ltd.  
751 Mount Road  
Madras - 600 002

### Branch offices:

15 J.N. Heredia Marg  
Ballard Estate  
Bombay - 400 038

13/14 Anaf Ali Road  
New Delhi - 110 002

17 Chittaranjan Avenue  
Calcutta - 700 072

Jayadeva Hostel Building  
5th Main Road Gandhinagar  
Bangalore - 560 009

3-5-1129 Kachiguda Cross Road  
Hyderabad - 500 027

Prarthana Flats, 2nd Floor  
Near Thakore Baug, Navrangpura  
Ahmedabad - 380 009

Patalia House  
16-A Ashok Marg  
Lucknow - 226 001

## INDONESIA

Pt. Indira Limited  
Jl. Sam Ratulangi 37  
P.O. Box 181  
Jakarta Pusat

## ITALY

Licosa Commissionaria Sansoni SPA  
Via Benedetto Fortini, 120/10  
Casella Postale 552  
50125 Florence

## JAPAN

Eastern Book Service  
37-3, Hongo 3-Chome, Bunkyo-ku 113  
Tokyo

## KENYA

Africa Book Service (E.A.) Ltd.  
P.O. Box 45245  
Nairobi

## KOREA, REPUBLIC OF

Pan Korea Book Corporation  
P.O. Box 101, Kwangwhamun  
Seoul

## KUWAIT

MEMRB Information Services  
P.O. Box 5465

## MALAYSIA

University of Malaya Cooperative  
Bookshop, Limited  
P.O. Box 1127, Jalan Pantai Baru  
Kuala Lumpur

## MEXICO

INFOTEC  
Apartado Postal 22-860  
14060 Tlalpan, Mexico D.F.

## MOROCCO

Société d'Études Marketing Marocaine  
12 rue Mozart, Bd. d'Anfa  
Casablanca

## NETHERLANDS

InOr-Publikaties b.v.  
P.O. Box 14  
7240 BA Lochem

## NEW ZEALAND

Hills Library and Information Service  
Private Bag  
New Market  
Auckland

## NIGERIA

University Press Limited  
Three Crowns Building Jericho  
Private Mail Bag 5095  
Ibadan

## NORWAY

Narvesen Information Center  
Book Department  
P.O. Box 6125 Etterstad  
N-0602 Oslo 6

## OMAN

MEMRB Information Services  
P.O. Box 1613, Seeb Airport  
Muscat

## PAKISTAN

Mirza Book Agency  
65, Shahrah-e-Quaid-e-Azam  
P.O. Box No. 729  
Lahore 3

## PERU

Editorial Desarrollo SA  
Apartado 3824  
Lima

## PHILIPPINES

International Book Center  
Fifth Floor, Filipinas Life Building  
Ayala Avenue, Makati  
Metro Manila

## POLAND

ORPAN  
Palac Kultury i Nauki  
00-901 Warszawa

## PORTUGAL

Livraria Portugal  
Rua Do Carmo 70-74  
1200 Lisbon

## SAUDI ARABIA, QATAR

Jarir Book Store  
P.O. Box 3196  
Riyadh 11471

## MEMRB Information Services

### Branch offices:

Al Alsa Street  
Al Dahna Center  
First Floor  
P.O. Box 7188  
Riyadh

Haji Abdullah Alireza Building  
King Khaled Street  
P.O. Box 3969  
Dammam

33, Mohammed Hassan Awad Street  
P.O. Box 5978  
Jeddah

## SINGAPORE, TAIWAN,

MYANMAR, BRUNEI  
Information Publications  
Private, Ltd.  
02-06 1st Fl., Pei-Fu Industrial  
Bldg.  
24 New Industrial Road  
Singapore 1953

## SOUTH AFRICA, BOTSWANA

For single titles:  
Oxford University Press  
Southern Africa  
P.O. Box 1141  
Cape Town 8000

For subscription orders:  
International Subscription Service  
P.O. Box 41095  
Craighall  
Johannesburg 2024

## SPAIN

Mundi-Prensa Libros, S.A.  
Castello 37  
28001 Madrid

Librería Internacional AEDOS  
Consell de Cent, 391  
08009 Barcelona

## SRI LANKA AND THE MALDIVES

Lake House Bookshop  
P.O. Box 244  
100, Sir Chittampalam A.  
Gardiner Mawatha  
Colombo 2

## SWEDEN

For single titles:  
Fritzes Fackboksföretaget  
Regeringsgatan 12, Box 16356  
S-103 27 Stockholm

For subscription orders:  
Wennergren-Williams AB  
Box 30004  
S-104 25 Stockholm

## SWITZERLAND

For single titles:  
Librairie Payot  
4, rue Grenus  
Case postale 381  
CH 1211 Geneva 11

## For subscription orders:

Librairie Payot  
Service des Abonnements  
Case postale 3312  
CH 1002 Lausanne

## TANZANIA

Oxford University Press  
P.O. Box 5299  
Dar es Salaam

## THAILAND

Central Department Store  
306 Silom Road  
Bangkok

## TRINIDAD & TOBAGO, ANTIGUA

BARBUDA, BARBADOS,  
DOMINICA, GRENADA, GUYANA,  
JAMAICA, MONTSERRAT, ST.  
KITTS & NEVIS, ST. LUCIA,  
ST. VINCENT & GRENADINES  
Systematics Studies Unit  
#9 Watts Street  
Curepe  
Trinidad, West Indies

## UNITED ARAB EMIRATES

MEMRB Gulf Co.  
P.O. Box 6097  
Sharjah

## UNITED KINGDOM

Microinfo Ltd.  
P.O. Box 3  
Alton, Hampshire GU34 2PG  
England

## VENEZUELA

Librería del Este  
Aptdo. 60-337  
Caracas 1060-A

## YUGOSLAVIA

Jugoslovenska Knjiga  
P.O. Box 36  
Trg Republike  
YU-11000 Belgrade



**Recent World Bank Discussion Papers** (*continued*)

- No. 99 *Public Sector Management Issues in Structural Adjustment Lending*. Barbara Nunberg
- No. 100 *The European Communities' Single Market: The Challenge of 1992 for Sub-Saharan Africa*. Alfred Tovas
- No. 101 *International Migration and Development in Sub-Saharan Africa. Volume I: Overview*. Sharon Stanton Russell, Karen Jacobsen, and William Deane Stanley
- No. 102 *International Migration and Development in Sub-Saharan Africa. Volume II: Country Analyses*. Sharon Stanton Russell, Karen Jacobsen, and William Deane Stanley
- No. 103 *Agricultural Extension for Women Farmers in Africa*. Katrine Saito and C. Jean Weidemann
- No. 104 *Enterprise Reform and Privatization in Socialist Economies*. Barbara Lee and John Nellis
- No. 105 *Redefining the Role of Government in Agriculture for the 1990s*. Odin Knudsen, John Nash, and others
- No. 106 *Social Spending in Latin America: The Story of the 1980s*. Margaret E. Grosh
- No. 107 *Kenya at the Demographic Turning Point? Hypotheses and a Proposed Research Agenda*. Allen C. Kelley and Charles E. Nobbe
- No. 108 *Debt Management Systems*. Debt and International Finance Division
- No. 109 *Indian Women: Their Health and Economic Productivity*. Meera Chatterjee
- No. 110 *Social Security in Latin America: Issues and Options for the World Bank*. William McGreevey
- No. 111 *Household Consequences of High Fertility in Pakistan*. Susan Cochrane, Valerie Kozel, and Harold Alderman
- No. 112 *Strengthening Protection of Intellectual Property in Developing Countries: A Survey of the Literature*. Wolfgang Siebeck, editor, with Robert E. Evenson, William Lesser, and Carlos A. Primo Braga
- No. 113 *World Bank Lending for Small and Medium Enterprises*. Leila Webster
- No. 114 *Using Knowledge from Social Science in Development Projects*. Michael M. Cernea
- No. 115 *Designing Major Policy Reform: Lessons from the Transport Sector*. Ian G. Heggie
- No. 116 *Women's Work, Education, and Family Welfare in Peru*. Barbara K. Herz and Shahidur R. Khandker, editors
- No. 117 *Developing Financial Institutions for the Poor and Reducing Barriers to Access for Women*. Sharon L. Holt and Helena Ribe
- No. 118 *Improving the Performance of Soviet Enterprises*. John Nellis
- No. 119 *Public Enterprise Reform: Lessons from the Past and Issues for the Future*. Ahmed Galal
- No. 120 *The Information Technology Revolution and Economic Development*. Nagy K. Hanna
- No. 121 *Promoting Rural Cooperatives in Developing Countries: The Case of Sub-Saharan Africa*. Avishay Braverman, J. Luis Guasch, Monika Huppi, and Lorenz Pohlmeier
- No. 122 *Performance Evaluation for Public Enterprises*. Leroy P. Jones
- No. 123 *Urban Housing Reform in China: An Economic Analysis*. George S. Tolley
- No. 124 *The New Fiscal Federalism in Brazil*. Anwar Shah
- No. 125 *Housing Reform in Socialist Economies*. Bertrand Renaud
- No. 126 *Agricultural Technology in Sub-Saharan Africa: A Workshop on Research Issues*. Suzanne Gnaegy and Jock R. Anderson, editors
- No. 127 *Using Indigenous Knowledge in Agricultural Development*. D. Michael Warren
- No. 128 *Research on Irrigation and Drainage Technologies: Fifteen Years of World Bank Experience*. Raed Safadi and Hervé Plusquellec

**The World Bank**

**Headquarters**

1818 H Street, N.W.  
Washington, D.C. 20433, U.S.A.

Telephone: (202) 477-1234

Facsimile: (202) 477-6391

Telex: WUI 64145 WORLDBANK  
RCA 248423 WORLD BK

Cable Address: INTBAFRAD  
WASHINGTONDC

**European Office**

66, avenue d'Iéna  
75116 Paris, France

Telephone: (1) 40.69.30.00

Facsimile: (1) 40.69.30.66

Telex: 842-640651

**Tokyo Office**

Kokusai Building  
1-1 Marunouchi 3-chome  
Chiyoda-ku, Tokyo 100, Japan

Telephone: (3) 3214-5001

Facsimile: (3) 3214-3657

Telex: 781-26838

