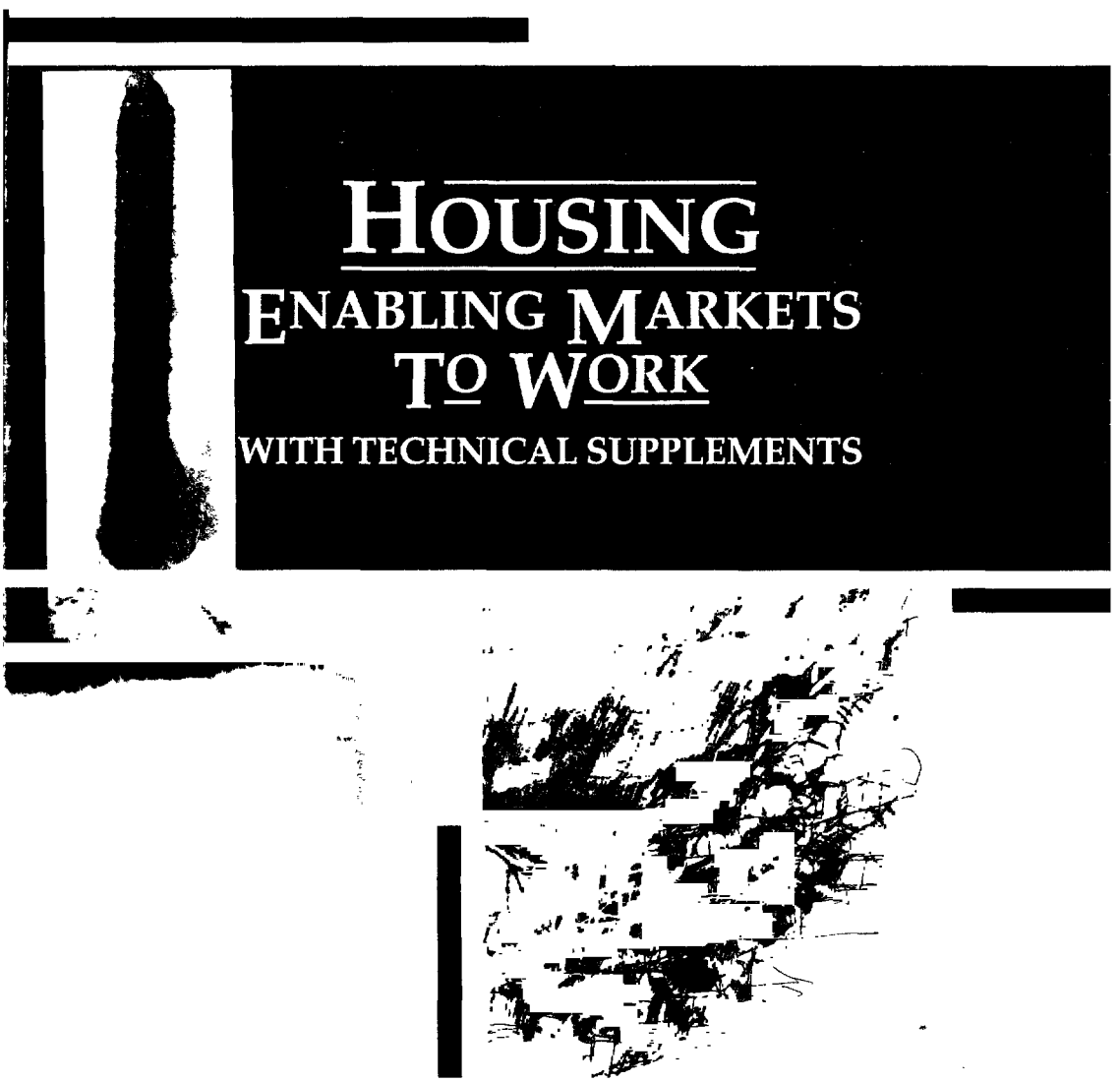
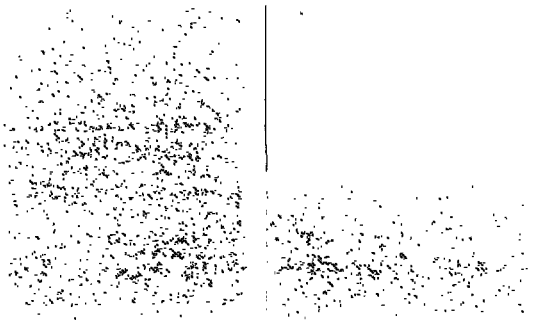


HOUSING

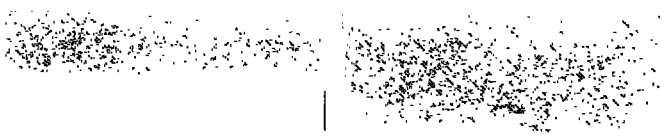
ENABLING MARKETS TO WORK

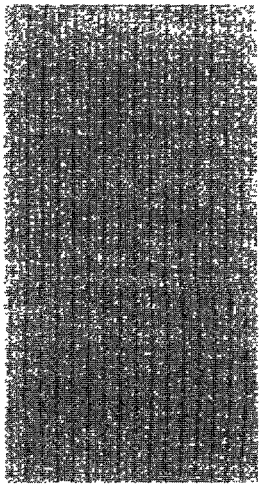
WITH TECHNICAL SUPPLEMENTS

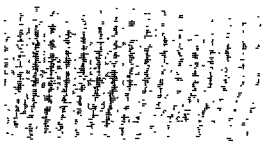


Housing

Enabling Markets to Work







Housing

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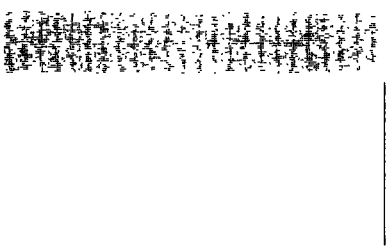


with Technical Supplements

The World Bank
Washington, D.C.

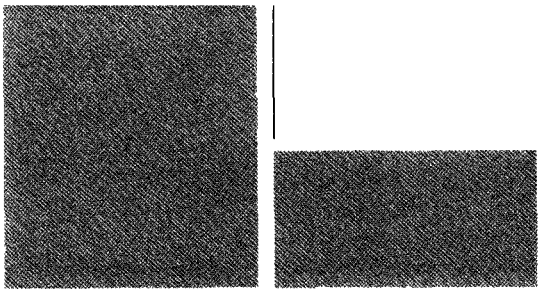
The drawing on the cover is by Miguel Menendez-Tannenbaum.

Photographs by Alain Bertand (p. 23); John M. Courtney (pp. 28, 33, 35, 67); and Catherine Farvacque (pp. 14, 25).

Design by Walton Rosenquist and Beni Chibber-Rao.

Library of Congress Cataloging-in-Publication Data

Housing : enabling markets to work.
p. cm. — (A World Bank policy paper. ISSN 1014-8124)
Includes bibliographical references.
ISBN 0-8213-2434-9
1. Housing—Developing countries—Finance. 2. Housing policy—Developing countries. 3. World Bank—Developing countries.
I. International Bank for Reconstruction and Development.
II. Series.
HD7391.H67 1993
363.5'09172'4—dc20 93-1131
CIP



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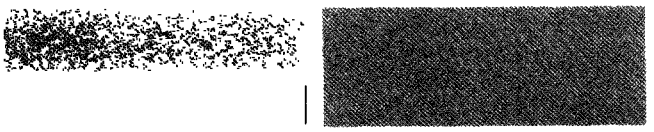


Acknowledgments

This paper was written by Stephen K. Mayo, principal economist, and Shlomo Angel, housing policy consultant, both in the Urban Development Division, Transport, Water, and Urban Development Department, with contributions by Michael Heller, William Stephens, and Gwendolyn Ball. Particularly helpful comments were made concerning various drafts by Joanne Salop and by Alain Bertaud, Robert Buckley, Michael Cohen, Lawrence Hannah, Arturo Israel, Johannes Linn, Mary McNeil, Louis Pouliquen, and Bertrand Renaud. The paper further benefited from several reviews by Bank operational staff. Drafts of the paper were produced by Vinodhini David, Demetra Relos, and Luisa Victorio. Alfred Imhoff edited the paper.

Executive Summary

Toward a New Housing Policy Agenda

This paper articulates the housing policy of the World Bank as it has evolved during the 1980s and early 1990s and proposes a number of important new policy directions for both the Bank and its borrowers. It advocates the reform of government policies, institutions, and regulations to enable housing markets to work more efficiently, and a move away from the limited, project-based support of public agencies engaged in the production and financing of housing. Governments are advised to abandon their earlier role as producers of housing and to adopt an enabling role of managing the housing sector as a whole. This fundamental shift is necessary if housing problems are to be addressed at a scale commensurate with their magnitude—to improve substantially the housing conditions of the poor—and if the housing sector is to be managed as a major economic sector.

While the paper endorses many of the policies that have been supported in the first two decades of Bank-financed housing projects, especially the necessity of adopting appropriate standards for housing and residential infrastructure and appropriate pricing and cost recovery, it suggests that these policies by themselves are not enough. Although many elements of an enabling strategy have been present in the Bank's approach to housing, increased emphasis on treating the housing sector as a whole is needed. In addition, past policies which have emphasized investments in residential infrastructure and housing finance must be complemented with policies that emphasize the need to rationalize the broad regulatory framework within which the sector operates. The scale of the Bank's interven-

tions in the past has been too narrow to have a major effect on the performance of the housing sector in developing countries.

The stakes of adopting appropriate enabling strategies for the housing sector are considerable. Housing investment typically accounts for 2 percent to 8 percent of gross national product (GNP), and the flow of housing services for an additional 5 percent to 10 percent of GNP. Annual spending on housing, therefore, accounts for between 7 percent and 18 percent of GNP. Such magnitudes, however, fail to convey fully the many ways in which the performance of the housing sector is intertwined with that of the broader economy through real, financial, and fiscal circuits. Government housing policies have an important impact on the performance of the housing sector, and thus a significant effect on the economy as a whole. At the same time, government macroeconomic policies often affect the performance of the housing sector in more powerful ways than direct housing actions by government.

Moreover, there are strong links between housing policy reform and the Bank's concerns with reducing poverty and with reversing the deterioration of the urban environment. Slums, dilapidated urban neighborhoods, and squatter settlements which provide housing to the majority of the urban poor are very often the places of lowest environmental quality. Polluted water, inadequate sanitation and garbage disposal, and indoor pollution caused by wood-burning stoves are major causes of disease in the cities. It is the poor that are most disadvantaged by poorly functioning housing markets, and who suffer the most when governments fail to address the environmental concerns of urban settlements. Indeed, the focus of this review is on urban housing, where most investment in the housing sector now takes place and where housing problems are generally most acute.

How the Housing Sector Works

Housing sector performance is fundamentally shaped by market forces. The interplay of supply and demand determines what people pay for housing and what they receive for their money. Empirical regularities characterize expenditures on housing and suggest that housing conditions should systematically improve with economic growth and development. However, largely reflecting policy differences across cities and countries, rising expenditures for housing are translated into housing outcomes at different rates in different cities and countries.

A number of policies affect housing. The provision of infrastructure, the regulation of land and housing development, the organiza-

tion of the construction and materials industry, and the involvement of the public sector in housing production all have direct bearing on the production of housing and its responsiveness to shifts in demand. But other policies—which, for example, affect the security of tenure of housing real estate and the ability to use it as an asset in securing long-term financing—affect the desirability of, and demand for, real estate and housing as an asset; they accordingly affect the amount of housing investors want to build. In turn, these policies affect the quantity of housing available to meet the needs of final consumers of housing services, and the prices and hence the affordability of housing. Many of these policies heavily influence the costs, availability, quality, and production of informal housing, which accommodates most of the population in many developing-country cities.

The importance of policy differences in shaping housing sector outcomes is supported by recent data on 52 countries collected by the Housing Indicators Program, a joint program of the United Nations Centre for Human Settlements and the World Bank. Among the most important of these indicators are physical measures, such as crowding or structural durability, and house prices, rents, and the house price-to-income ratio, which often reflect the relative efficiency of housing markets. Comparisons of such measures indicate, for example, that the responsive housing market in Bangkok provides better, more affordable housing, even for the poor, than the heavily regulated market in Kuala Lumpur. Supply-side distortions in these and other countries arise largely from policies affecting the inputs for housing: land, finance, building materials, or infrastructure—with the legal and regulatory framework affecting housing suppliers exercising a dominant effect on the price and quality of housing. In Thailand, for example, where regulation is simple and efficient, housing supply is more than 30 times as responsive to shifts in demand than in either the Republic of Korea or Malaysia, where regulation is complicated and cumbersome. This is reflected in striking differences in housing affordability, measured by house price-to-income ratios, among the three countries. Policies affecting the responsiveness of the supply side of the market to changes in demand, therefore, often offer the greatest potential for improvement in sector performance.

Policies which constrain market efficiency and the responsiveness of the housing supply system result in reduced investment, housing which is less affordable and of lower quality, and a lower-quality residential environment. Moreover, when housing markets fail, it is the poor who tend to bear the brunt of the failure. In part, this reflects the fact that policies are often inimical to the functioning of the rental housing sector, which houses the majority of urban populations

throughout much of the developing world. While housing costs and prices have been higher than necessary, they have also had negative macroeconomic consequences, affecting investments in other sectors, savings rates, budgetary deficits, inflation, interest rates, labor markets, productivity, and even the balance of payments. Housing policymaking must thus move away from its previously narrow focus on a limited engagement of government in the direct production of low-cost housing. It must now guide the performance of the housing sector as a whole, including that of the formal and informal private sector, with a stronger emphasis on its overall role in national economic development.

The Instruments of an Enabling Housing Policy

Governments should be encouraged to adopt policies that enable housing markets to work. Governments have at their disposal seven major enabling instruments, three that address demand-side constraints, three that address supply-side constraints, and one that improves the management of the housing sector as a whole. The three demand-side instruments are: (i) developing property rights: ensuring that rights to own and freely exchange housing are established by law and enforced, and administering programs of land and house registration and regularization of insecure tenure; (ii) developing mortgage finance: creating healthy and competitive mortgage lending institutions, and fostering innovative arrangements for providing greater access to housing finance by the poor; and (iii) rationalizing subsidies: ensuring that subsidy programs are of an appropriate and affordable scale, well-targeted, measurable, and transparent, and avoid distorting housing markets.

The three supply-side instruments are: (i) providing infrastructure for residential land development: coordinating the agencies responsible for provision of residential infrastructure (roads, drainage, water, sewerage, and electricity) to focus on servicing existing and undeveloped urban land for efficient residential development; (ii) regulating land and housing development: balancing the costs and the benefits of regulations that influence urban land and housing markets, especially land use and building, and removing regulations which unnecessarily hinder housing supply; and (iii) organizing the building industry: creating greater competition in the building industry, removing constraints to the development and use of local building materials, and reducing trade barriers that apply to housing inputs.

These instruments are to be supported and guided by developing the institutional framework for managing the housing sector:

strengthening institutions which can oversee and manage the performance of the sector as a whole; bringing together all the major public agencies, private sector, and representatives of nongovernmental organizations (NGOs) and community-based organizations; and ensuring that policies and programs benefit the poor and elicit their participation.

These seven enabling instruments are applicable to a greater or lesser degree in all World Bank borrower countries. Priorities for use of these instruments, however, vary across countries. In low-income countries, priorities are to develop market-oriented systems of property rights, facilitate the housing supply by increasing infrastructure investment, and enhance building industry competition. In highly indebted middle-income countries, priorities are fiscal and financial policy reform, particularly improving housing finance institutions and reducing budgetary transfers to the housing sector, and expanding infrastructure investment. In centrally planned and formerly centrally planned countries, priorities for reform are property rights, housing finance, subsidies, land and building regulations, land development, materials production and distribution, and the residential construction industry. In other middle-income countries, priorities are regulatory reform in land use and building, facilitating transition to a more responsive system of housing supply, and development of mortgage finance.

A Framework for World Bank Assistance

Housing policy at the World Bank has evolved considerably over the past 20 years. During this time, motivated both by rising interest among borrowers in the housing sector and by a growing recognition of the stakes of good housing policy, the Bank's lending program and its programs of policy research and technical assistance have expanded. Bank lending for housing and related residential infrastructure has, for example, made up from about 3.5 to 7 percent of the Bank's annual lending within the past several years—approximately US$900 million. Housing will continue to be a growing sector within the Bank, reflecting increasing requests from borrowers.

From 1972 to 1990, the World Bank was involved in 116 shelter projects (sites-and-services and slum upgrading) in 55 countries, with an average project size of US$26 million. These projects achieved some improvements in housing policies in the developing world, mostly in physical design and cost reduction. However, while these projects achieved their physical objectives, they generally failed to meet two other key objectives: cost recovery from beneficiaries to

reduce or eliminate housing subsidies, and replicability by the private sector. A significant shift in Bank practice occurred during the early 1980s, as lending moved away from sites-and-services and upgrading projects into lending to housing finance institutions. This shift supported expanded housing finance operations by both public and private institutions, with the International Finance Corporation (IFC) also playing a particularly important role with respect to the latter. The objectives of housing finance operations, which addressed financial, fiscal, and housing sector concerns, have, to a considerable degree, been met at the country level, and have led to increased scope and leverage of World Bank Group operations in the housing sector. Average project size grew from US$19 million in the 1972–75 period to US$95 million in the 1985–90 period (in constant 1973–74 dollars, or to US$211 million in current dollars), and the average per capita income of countries receiving Bank housing loans has more than doubled, in constant dollars, from the 1970s to the 1980s. This change is largely a reflection of a shift in the issues addressed in projects, mainly toward financial sector development, which has been a particular concern of middle-income developing countries. The approach advocated in this paper will help to broaden the range of countries that benefit from Bank operations in the housing sector and to address the needs of low-income countries.

The past two decades of experience with lending have taught seven main lessons. First, project success has proven largely dependent on the level of overall distortions in the housing sector and in the economy: unless projects improved the regulatory environment, they have had a negligible impact on housing conditions. Second, the informal housing sector has an important contribution to make in the provision and improvement of housing—indeed, it is mainly the activities of the informal sector that are most likely to benefit from enabling strategies. Third, typical projects have usually been too small to affect the housing sector as a whole. Fourth, because governments focused on projects, they may have been diverted from regulatory reform and from creating government institutions with enabling, facilitating, and coordinating roles. Fifth, desirable shifts have occurred in the focus of Bank lending, from housing projects with largely physical objectives to those that focus on broad institutional reform at the national as well as the municipal level, and which deal increasingly with those institutions best suited to make institutional and regulatory changes. Sixth, a rich variety of approaches to lending for housing, by the Bank as well as by other donors, has begun to emerge; these approaches need to be further developed and refined in coordination with other donors. Seventh, the past focus of Bank

lending on the poor in the housing sector has been important and should continue.

Five principles will guide the Bank's future assistance in the housing sector. First, the Bank will encourage governments to play an enabling role: to move away from producing, financing, and maintaining housing, and toward improving housing market efficiency and the housing conditions of the poor. Second, Bank housing assistance will have a sectoral rather than a single project focus: projects, especially investment projects aimed at improving the housing conditions of a limited number of beneficiaries, will be designed and evaluated in terms of their impact on the sector as a whole. Third, the Bank will seek to assist counterpart institutions that have regulatory roles and to focus its lending for housing on borrowers willing and able to remove market distortions. Fourth, the Bank will support innovative models of lending for housing; many aspects of housing project design necessary to undertake an effective enabling strategy in the housing sector require further refinement. Fifth, the Bank will seek greater government commitment to improved collection and analysis of housing data to assess housing sector performance and improve the process of policy formulation and implementation.

The Bank will support policy reform—property rights and financial market development, regulatory reform, and a shift from general subsidies to targeted subsidies; investments—large-scale trunk infrastructure projects, infrastructure upgrading in slum and squatter settlements, and infrastructure provision in sites-and-services projects; and institutional reform. It will support these initiatives through adjustment lending, investment lending, and technical assistance operations. For low-income countries these will often be in the form of slum upgrading and other infrastructure projects. For middle-income countries, where the financial sector may be more robust, these will more often take the form of financial intermediary operations. In general, policy reform in the housing sector will require a country-specific approach of applying the appropriate instruments to the conditions, challenges, and constraints in each country.

Housing loans and housing-related loans promise to be of continuing importance in the Bank's overall lending portfolio. Over the next five years, approximately one-third will be for housing per se, and about three-quarters of total urban lending volume will be for housing, related residential infrastructure, and projects that include housing. Thus the majority of Bank urban lending contemplated within the next five years is expected to fall within the scope of this policy paper.

The shift of Bank assistance to a sectoral, enabling approach will be

accompanied by a new agenda for housing policy research and development of tools to strengthen the basis for sectoral policy management: the use of sectoral performance indicators; the evaluation of the effects of policy differences on sectoral performance; and the development of operational tools for sectoral analysis and policy design such as regulatory audits, land market assessments, computerized packages for mortgage instrument design, and urban housing survey packages. Implementation of the research agenda by the Bank and others, as well as in-house training for operational staff, has already commenced.

The stakes of moving toward an enabling approach to housing are high. Strengthening the policy content of Bank housing assistance will enhance housing sector performance in member countries, have beneficial consequences for the poor and the urban environment, and strengthen the positive contribution of the housing sector to macroeconomic performance.

1

An Overview of the Housing Sector

This policy paper discusses the evolving role of the World Bank in the housing sector and provides a new agenda for housing policy and institutional reform in developing countries. The paper thus fits within the broader urban agenda outlined in the recent Bank urban policy paper, *Urban Policy and Economic Development: An Agenda for the 1990s*. It updates earlier housing policy papers issued in 1975 and 1980.

Urban Policy and Economic Development addresses the need to influence broad policies and institutions governing the urban economy, and outlines a strategy for doing so through Bank operations. It shows how a well-functioning urban economy is able to address broader objectives of economic development and macroeconomic performance. The paper focuses on the need to leverage scarce public resources to unlock the energies of households, community organizations, and businesses. It outlines four major goals:

- Improving the productivity of the urban economy
- Addressing growing problems of urban poverty, in part by improving access to basic infrastructure and social services
- Reversing the deterioration of the urban environment
- Improving understanding of urban issues through research and evaluation.

The principal objectives for a new and better urban policy are also those for a new and better housing policy, as are the strategies designed to achieve them—focusing on policies and institutions rather than on isolated projects and attempting to leverage public resources to facilitate productive activities in the urban economy. Just as the urban policy paper emphasized moving beyond a view of cities

as vast seas of social problems and a drain on the overall economy, this paper suggests that perceptions of the housing sector must similarly shift. The key problem is one of managing an important economic sector with crucial links to overall economic performance, and not simply one of managing a component of the social welfare system. These links, through the real, fiscal, and financial circuits of the economy, are becoming increasingly well understood. As these become more transparent, the stakes of good housing policy become more and more apparent.

At the same time, more is becoming known about the components of the housing market—land, building materials, residential construction, and finance. Knowing how markets work and how they fail gives governments a powerful set of levers that can be used to improve the performance of the housing sector and to allow it to serve broader economic and social development objectives.

This chapter explains the rationale for a new housing policy statement, presents a conceptual and analytical framework for understanding the housing sector, and defines the broad characteristics of a well-functioning housing sector.

Chapter 2 discusses what has been learned about how the housing sector actually works—housing demand, housing supply, the determination of key outcomes in the sector, and the linkages between the housing sector, poverty, the environment, and the broader economy. A more complete and detailed discussion of these issues appears in Technical Supplement 1: How the Housing Sector Works.

Chapter 3 outlines the key elements of an enabling strategy, which is necessary for governments to adopt in order to leverage their resources in bringing about a well-functioning housing sector. Seven key instruments of an enabling strategy are discussed—three to stimulate the demand for housing, three to facilitate housing supply, and one to manage the sector in a manner that ensures that markets provide adequate and affordable housing for all. These are presented and discussed at greater length in Technical Supplement 2: Enabling the Housing Sector to Work.

Chapter 4 reviews the experience of the Bank in the housing sector over the past two decades and the evolution of Bank housing policy during this period. It articulates the major lessons learned and the implications of these lessons for future Bank lending and technical assistance.

Housing as an Economic Sector

The housing sector is a key component of the urban economy. Housing investment typically comprises 2 to 8 percent of GNP and from 10

to 30 percent of gross capital formation in developing countries, and provides a flow of services equal to another 5 to 10 percent of GNP. Combining housing investment and housing services, the share of GNP originating in the sector is usually between 7 and 18 percent. As an asset, housing is even more important, making up from 20 to 50 percent of the reproducible wealth in most countries. It is a major motivation for household saving and significantly influences household consumption. In addition, it affects inflation, financial depth, labor mobility, and the balance of payments, as well as government budgets through taxes and subsidies.

The housing sector must thus be seen and managed as a key part of the overall economy. Unfortunately, in the great majority of developing countries, this perception has yet to take hold. Governments too often perceive housing solely as a welfare issue, requiring the transfer of physical or financial resources to households unable to house themselves adequately. Available resources, however, are rarely adequate. As a result, government housing agencies limit their activities to providing housing to a small minority, ignoring most of the population. By focusing on a small and limited housing agenda, these agencies fail to perceive or manage the housing sector as a whole.

To reform both government and World Bank activities, two perceptions must be changed. First, the housing agenda should not be seen as one of shelter per se or only as an element of welfare policy, but rather as one of managing the housing sector as a whole, while still contributing to the provision of a safety net. Second, the housing sector must be seen as an important and productive sector, in which policies have serious repercussions for overall economic performance, and not, as is a common view, as a drain on productive resources.

The Demographic Dimension of the Housing Challenge

Housing production is one of the most important economic activities in the urbanization process. Since 1950, the urban population of the developing countries has more than quadrupled, growing from 300 million to 1.3 billion (billion here means 1,000 million) people in 1990. Two billion people are expected to be living in urban areas by the end of the decade, 2.7 billion by 2010, and 3.5 billion by 2020. Each year, some 12 to 15 million new households, requiring an equivalent number of dwellings, are added to the cities of the developing world. The high costs of land, infrastructure, and building materials in the cities, relative to such costs in rural areas, ensure that the economic dimension of the housing challenge will, for the foreseeable future, continue to be concentrated in urban areas.

Urban growth patterns vary significantly between continents. In the heavily urbanized countries of Latin America, such as Argentina, Brazil, and Chile, more than 75 percent of the population already lives in urban areas. Urban growth rates will continue to decrease, and most urban growth will be attributable to natural increase rather than to migration. In these countries, growth rates will be about 2 percent per year, attributable in part to increased household formation resulting from falling household size. In recently urbanizing countries of North Africa (such as Egypt, Morocco, and Tunisia) and Southeast Asia (such as Malaysia and the Philippines), where from 40 to 60 percent of the population lives in urban areas, growth rates will have peaked and are likely to slow down, reaching 3–4 percent per year. In the larger, mostly rural Asian countries, such as India and Indonesia, migration pressures will tend to maintain urban growth rates at 3–4 percent as well. In the rapidly urbanizing countries of Sub-Saharan Africa, however, urban growth rates will continue to be on the order of 4–7 percent per year. Many cities will double or even triple their populations in 10 to 20 years.

Many of the people swelling the ranks of urban dwellers will be poor, presenting a special challenge to those who provide housing and public services. In 1988, nearly 25 percent of developing-country urban dwellers were estimated to be poor—some 330 million people. And despite the generally good record of urban income growth that accompanies economic development, the proportion of poor urban families is not expected to change appreciably within the next two decades. Many of these families will be housed in slum and squatter settlements, creating pressure on governments to devise solutions for housing the poor.

At the same time, population growth will jeopardize urban environmental quality. Water resources will be taxed, inadequate waste disposal will cause environmental health problems, and open spaces will be under severe pressure for commercial and residential development. As with housing, the growing seriousness of urban environmental problems will put pressure on governments to make difficult choices among competing objectives.

Viewing the Housing Sector as a Market

Urban growth in developing countries appears daunting, particularly for policymakers concerned with ensuring adequate housing, services, and environmental quality. While the rates of urban population growth in developing countries have been high in the past, the numbers of people added each year, and the numbers of them that are

poor, are unprecedented. Yet despite this growth, many of the growing urban populations' housing needs are already being met.

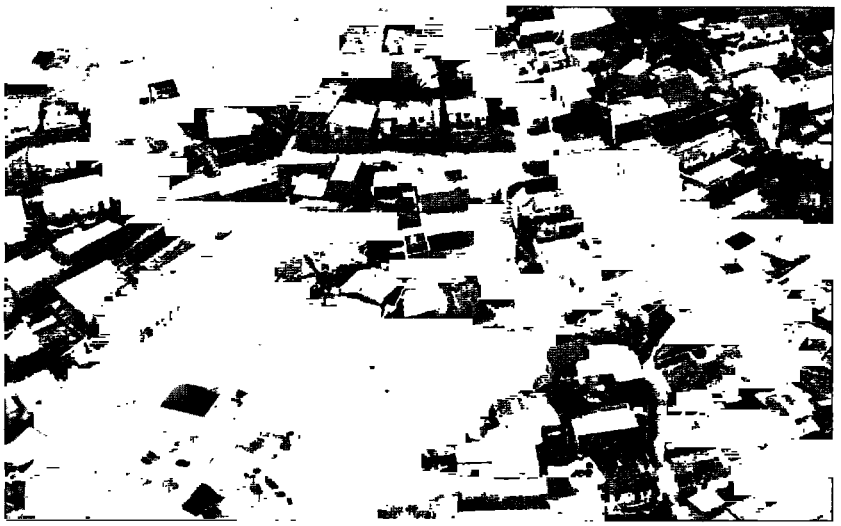
In most developing countries, housing production has provided rudimentary shelter for growing urban populations. The vast majority of people are housed, and, despite the very real problems of homelessness in some cities, the percentage of the population without any kind of shelter is typically small. Yet housing conditions vary considerably and are often needlessly bad. Many people live in overcrowded quarters or in unsafe shanties. Housing prices are too high. Safe drinking water, adequate sanitation, and access to transportation are not necessarily assured, even in some better-off developing countries. But in most countries, not only do most urban dwellers have a place to live but also, for a significant majority, housing conditions improve over time.

The bulk of housing is, moreover, produced without direct government assistance, often by a vigorous informal sector that frequently operates in spite of government policies. Markets, for the most part, govern housing production. People need shelter and are thus willing to invest their labor and savings in housing and to risk living with even unsafe structures, unsanitary environments, or the threat of imminent eviction. Housing suppliers in the formal and informal sectors are willing to produce a variety of housing types at all levels of affordability, often taking advantage of lax enforcement of regulations in the process.

Even in centrally planned and formerly centrally planned economies, policymakers increasingly view housing as a commodity with an exchange value rather than as a good to be produced and allocated outside of the marketplace. Governments increasingly understand that the housing sector is driven by a variety of market forces, by supply and demand, and that these forces exert powerful influences throughout all parts of the sector.

Recognition of the pervasiveness of market forces has led to the view that even though responsible housing policy must be sufficiently differentiated to deal with particular submarkets such as high-rise condominiums, public housing rentals, and squatter settlements, it is still useful to look at the housing sector as a single market. Trends in one part of a housing market will, over time, be closely linked to those in other parts. Policies designed to affect only the low-, middle-, or high-income submarkets will almost inevitably affect the performance of other submarkets.

Prices and thus housing affordability are determined by supply and demand. Housing demand is determined by demographic conditions, such as the rate of urbanization and new household formation,



Informal housing in Belo Horizonte, Brazil.

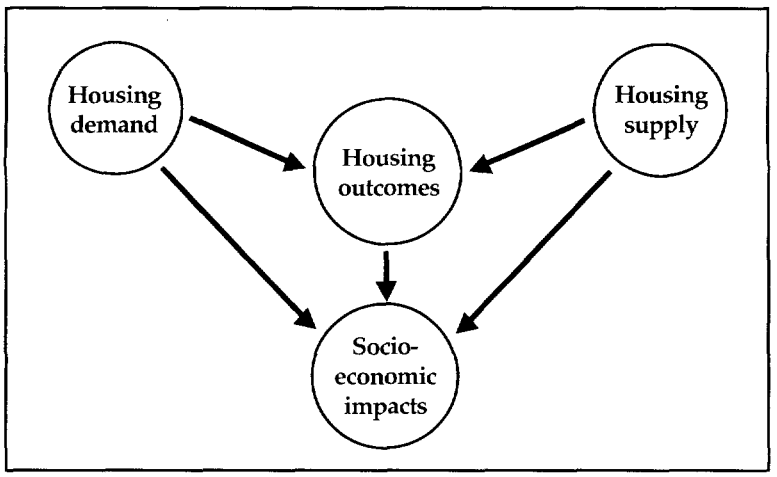
as well as by macroeconomic conditions that affect household incomes. It is also influenced by property rights, by the availability of housing finance, and by government fiscal policies, such as taxation and subsidies, particularly those subsidies targeted to the poor.

Housing supply is affected by the availability of resources such as residential land, infrastructure, and construction materials. It is also affected by the organization of the construction industry, the availability of skilled and productive construction labor, and the degree of dependence on imports. Both the demand and supply sides of housing are affected by regulatory, institutional, and policy conditions.

Housing outcomes, including prices, physical conditions, levels of investment, tenure choice, and residential mobility, are determined by the interplay of supply and demand forces, each of which is affected by housing policies. Housing policies may in turn affect broader social and economic conditions, such as the child mortality rate, the rate of inflation, the household savings rate, manufacturing wage and productivity levels, capital formation, the balance of payments, and the government budget deficit.

Figure 1 presents a highly simplified model of the housing sector as it has just been described. Demand and supply factors determine housing sector outcomes and these, in turn, influence broader social and economic outcomes. Improving housing policy requires an understanding of how this simple model works.

Figure 1. A Model of the Housing Sector



The Well-Functioning Housing Sector

While largely private housing markets produce most of the housing in developing countries, this does not necessarily mean that these markets are either efficient or equitable. Nor does it mean that these markets completely satisfy all housing needs or help attain broader development goals. Housing sector policies must be based on a positive view of how the sector actually works in a given context, and, as well, with specific notions of how it could work better.

To develop a normative view of the housing sector, one must look at how the sector performs from a number of different perspectives. The five most important perspectives are those of housing consumers, housing producers, housing finance institutions, local governments, and central governments.[1]

Each of these perspectives focuses on different qualitative norms that represent desired outcomes of each of the key actors. Such desired outcomes, while neither universally attainable nor entirely compatible, may be expected to exert an influence both on the behavior of the key actors and on the way that they perceive the efficacy and responsiveness of government policies and programs. These desired outcomes are:

- *For housing consumers:* Everyone is housed, with a separate unit

for every household. Housing does not take up an undue portion of household income. House prices are not subject to undue variability. Living space is adequate. Structures are safe and provide adequate protection from the elements, fire, and natural disasters. Services and amenities are available and reliable. Location provides good access to employment. Tenure is secure and protected by due process of law. Households may freely choose among different housing options and tenures (owning versus renting). Finance is available to smooth expense over time and allow households to save and invest. Adequate information is available to ensure efficient choice. Housing consumers are able to participate in policy decisions that affect their housing and neighborhoods.

- *For housing producers:* Adequate supply of residential land is available at reasonable prices. Infrastructure networks are adequate and do not hold back residential development. Building materials and equipment and sufficient skilled labor power are available at reasonable prices. Entry of new firms into the residential construction sector is not impeded. The residential construction sector is not discriminated against by special tariffs or controls. Adequate financing is available. Housing production and investment can respond to changes in demand without undue delay. Contracts are enforceable. Regulations concerning land development, land use, building, land tenure, taxation, or special programs are well-defined and predictable, and government application of these is efficient, timely, and uniform. Adequate information exists to enable producers to forecast housing demand with reasonable certainty. Rates of return on all types of housing investment, including rental housing, are sufficient to maintain incentives for investment.
- *For housing finance institutions:* These institutions are permitted to compete for deposits on equal terms with other financial institutions; the role of directed credit is minimized. Housing finance institutions are not forced to compete unfairly with subsidized finance. Lending is at positive real interest rates with a sufficient margin to maintain institutional health. There are sufficient deposits of an appropriate term structure for long-term mortgage lending. Mortgage lending instruments that are in demand by households, and that provide adequate protection for the institution, are permitted. Systems of property rights, tenure security, and foreclosure are such that the financial interests of lenders can be protected. Appropriate institutions exist that protect financial institutions against undue mortgage lending risk.

- *For local governments:* Housing and associated infrastructures are of adequate quality to maintain public health, safety standards, and environmental quality. Infrastructure networks and services are extended in a timely fashion to all communities. Communities can participate effectively in decisions affecting their well-being. The location of new communities is in close proximity to existing main networks. Land use is productive and efficient. Sufficient land can be obtained for laying infrastructure networks and providing local amenities and public services. Housing provides a major source of municipal revenues for building and maintaining infrastructure services and neighborhood amenities.
- *For central governments:* Adequate, affordable housing is available to all. Targeted subsidies are available to assist households that cannot afford minimum housing. Housing sector policy is integrated into national social and economic planning. Housing sector performance is monitored regularly. The housing sector contributes toward broad social and economic objectives: (i) alleviating poverty; (ii) controlling inflation; (iii) generating household savings and mobilizing household productive resources; (iv) generating employment and income growth; (v) enabling social and spatial mobility; (vi) increasing productivity; (vii) generating investment growth; (viii) accumulating national wealth; (ix) reducing the balance of payments deficit; (x) reducing the government budget deficit; (xi) developing the financial system; and (xii) protecting the environment.

While the above list may be incomplete, it does provide a broad normative view of a well-functioning housing sector from the perspectives of its key actors. Needless to say, these perspectives are not necessarily mutually consistent. What may benefit one may damage another. Rent control, for example, may benefit families already housed, but may prevent further investment in rental housing and discriminate against new residents. Reducing house prices may benefit housing seekers but reduce the asset value of those owning houses. Increasing land supply may be at the expense of environmental amenities. Stronger foreclosure laws may increase mortgage financing for all at the expense of evictions for some. Resolving these incompatible interests is one of the most fundamental tasks of an effective housing policy.

The housing sector cannot attain many of the stated norms without appropriate interventions by public authorities. However, intervention can be a two-edged sword. Appropriate housing policies can help achieve the goals of a well-functioning housing sector. Inap-

propriate interventions stifle the sector, block supply and frustrate demand, reduce quality and choice, increase costs, and damage the economy as a whole. But without a better positive understanding of the way the housing sector actually works, there will continue to be confusion about which instruments work and which do not, and difficulty in establishing an objective basis for reconciling the interests of different housing sector participants. The next chapter summarizes much of what has been learned about how the housing sector actually works.

2

Understanding How the Housing Sector Works

During the 1970s and 1980s, it became increasingly clear that governments could not maintain a role as direct producers of housing, and that this role must necessarily be performed by the formal or informal private sector.[1] Governments have retreated from ambitious public housing programs that demanded heavy yet unsustainable subsidies and have increasingly opted for programs focusing on assistance, rather than direct production. Some governments have moved from producing low-cost apartments to providing serviced sites on which people could build their own houses, for example. Other governments have abandoned housing projects altogether and concentrated instead on arranging for mortgage financing. In general, the move has been away from the role of government as producer, to a new role as enabler, facilitating and encouraging housing activities by the private sector.

This move has been given an official mandate with the endorsement of the *Global Shelter Strategy for the Year 2000* (U.N. Centre for Human Settlements 1988) by the General Assembly of the United Nations in 1988. The strategy recognizes the important contribution of the private formal and informal sectors to housing, and focuses specifically on enabling the private sector to meet housing needs more effectively in the future. Making the concept of an enabling strategy concrete requires a better understanding of how the housing sector functions, and of the influence of policies on housing sector performance. These are taken up in the following sections.

Choosing appropriate interventions in the housing sector—those that enable and facilitate the private sector in addressing the needs of the poor—requires understanding how housing markets operate; the

overall effect of policies, regulations, and institutions on these markets; and the interactions between the housing sector and the broader economy. At the heart of an enabling strategy are two key goals:

- To improve the performance of the housing sector as a whole
- In doing so, to leverage limited public resources to the greatest extent possible.

As discussed above, and as illustrated by figure 1, public actions that affect housing supply and demand represent the levers governments manipulate to influence housing outcomes, and these in turn affect broader socioeconomic outcomes. Knowing what actions to choose, and the circumstances under which they should be applied, requires understanding the housing sector and the way in which these levers can move it in one direction or another.

When knowledge of these relationships is imperfect, public action may impede sector performance. By contrast, well-designed housing policies are able to use information on how demand and supply are affected by key policies to influence sectoral outcomes and leverage private housing sector activities. Box 1 presents a highly simplified model of housing market behavior which describes some of the key parameters of housing demand and supply, gives examples of how these are influenced by certain types of policy interventions, and suggests in economic terms the meaning of "good" policy.

Despite very different conditions of supply and demand among the countries of the world, a number of regularities in housing markets have been revealed by extensive research, much of it conducted within the past decade. Most recently, the Housing Indicators Program, a joint program of the U.N. Centre for Human Settlements and the World Bank investigating housing sector performance in more than 50 countries, has produced important insights into the linkages between housing policy and key housing sector outcomes. The following sections summarize a number of important findings from recent research concerning the workings of the housing sector, which help to establish the analytical underpinnings for an enabling strategy for housing.

Housing Demand

The most striking finding about expenditures for housing is their regularity across countries. Spending for housing, like that for most commodities, increases with household income in every urban society.[2] Moreover, as economic development proceeds, the average fraction of income spent on housing in countries at different levels of

Box 1. A Simple Model of Housing Market Behavior

Most important aspects of housing sector performance can be modeled in terms of housing demand and supply in a way illustrated simply, but abstractly, by figure 1. The key actors responsible for establishing the parameters of demand and supply are consumers, producers, financiers, and governments. Each of these actors has a set of objectives which it pursues subject to available resources and natural conditions such as climate and topography. Consumers try to get the most and best quality housing at the lowest price. Producers in market economies try to maximize profits, as do financiers. Governments have a variety of objectives concerning both housing outcomes per se and other outcomes that are affected by housing outcomes, such as income distributional goals, environmental impacts, and fiscal soundness, all of which they try to attain subject to their revenues and regulatory powers.

While many different housing outcomes are simultaneously determined by supply and demand interactions, it is useful initially to simplify the underlying complexity of housing markets by thinking of housing as having a single dimension, the "quantity of housing," and a single price, the "price per unit of housing." (It is possible to analyze the housing market in terms of the demand for and supply of the flow of housing services, or in terms of the demand for and supply of the stock of housing. Except when the discussion specifically refers to the rental market or to income-housing expenditure relationships, the analysis in this paper is presented mainly in terms of the market for the stock of housing.) While this simplification may appear to be abstract, there are, in fact, empirical counterparts to each of these terms, and considerable research which focuses on estimating key supply and demand parameters defined with reference to the quantity of housing. Of the key parameters, those of greatest interest in understanding housing market behavior are (i) price and income elasticities of housing demand (which measure the sensitivity of demand to price and income changes), (ii) average propensities to spend on housing (which measure the share of consumer budgets devoted to housing), (iii) price elasticities of housing supply (which measure the sensitivity of supply to price shifts), and (iv) average supply costs of housing. In the case of both demand and supply, these parameters influence the level and the shape of demand and supply curves. In general, housing prices and quantities are determined where supply is equal to demand.

Demand and supply parameters are influenced by background fac-

(Box continues on the following page.)

Box 1 (*continued*)

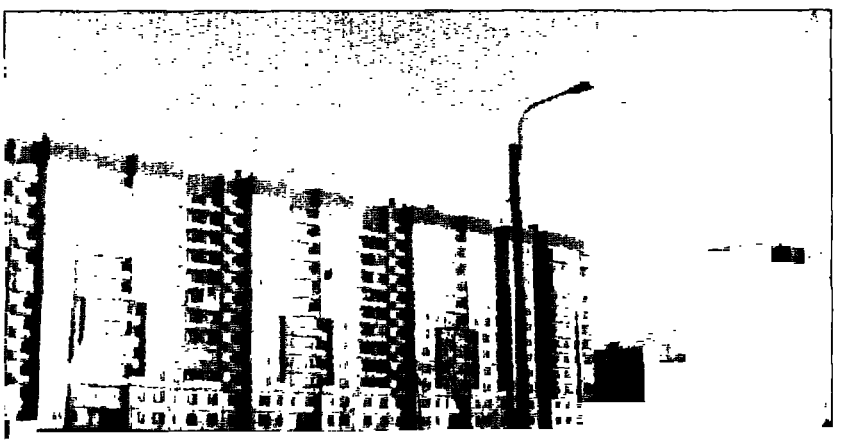
tors which are fixed in the short run, such as, in the case of demand, income, demographic factors, and cultural preferences, and, in the case of supply, climate, topography, and technology. In addition, they are influenced by a variety of policy instruments, some of which shift demand and supply curves up or down, and some of which change their shape and, hence, the responsiveness of demand and supply to market conditions. Examples of the way in which policies may influence housing outcomes are as follows: (i) more secure and freely exchangeable property rights and availability of housing finance increase demand by either increasing overall willingness to pay for housing, changing the sensitivity of demand to income and wealth changes, or both; (ii) housing subsidies may increase demand for housing services among beneficiaries by increasing their ability to pay; (iii) infrastructure improvements increase supply by lowering housing supply costs, increasing the responsiveness of housing supply to demand shifts, or both; (iv) land use and building regulations decrease supply by raising housing supply costs, decreasing the responsiveness of housing supply to demand shifts, or both; and (v) increasing the degree of competition in the supply of land and housing increases the responsiveness of supply to demand and is likely to lower prices. Unavailability of alternative secure assets in the economy may also increase demand for housing as a store of wealth. Policies that stimulate demand, in the presence of responsive supply systems, unambiguously increase the amount of housing services (and might or might not increase the price of housing); policies that facilitate supply unambiguously lower prices as well as increase the amount of housing services.

economic development increases from about 5 percent to about 30 percent, before beginning to decrease again. This is, to a considerable degree, because households give increased priority to housing as incomes increase and as food becomes less of a problem. This shift of expenditures toward housing creates the possibility of rapid improvement in housing conditions as economic development proceeds. Other factors which influence demand for housing can also have significant impact on housing conditions. Among the most important of these are: tenure security and property rights, the availability of housing finance, and, in some cases, taxes and subsidies.

Restricted property rights are a particular feature of centrally

planned economies, in which the state has generally attempted to replace private demand for housing with public demand for social housing. Most often, this has resulted in less aggregate demand for housing, as subsidized public expenditures for housing fail to make up for the deficit in private spending caused by restrictions on the right to own or exchange land and housing.[3] Similarly, in the market economies of developing countries, insecure tenure leads to underinvestment in housing and to reduced housing quality. Conversely, provision of secure tenure is associated with increasing property values, the ability to tap the often considerable collateral value of housing through formal housing finance, and higher rates of investment in housing construction and improvements.

The availability of housing finance further increases the ability of households to accelerate their purchase or construction of housing and permits a better allocation of household resources between housing, other goods, and savings over the family life cycle. Taxes and subsidies, which are in a sense mirror images of each other, also influence the willingness of households to spend on housing. And while housing subsidies generally, though not always, tend to increase housing demand by their beneficiaries, their overall impact on housing demand may be either positive or negative depending on the way they are financed and the form in which they are distributed. Thus they are often inefficient in achieving their objectives and may, in some instances, actually result in beneficiaries occupying worse housing than would otherwise have been the case.[4]



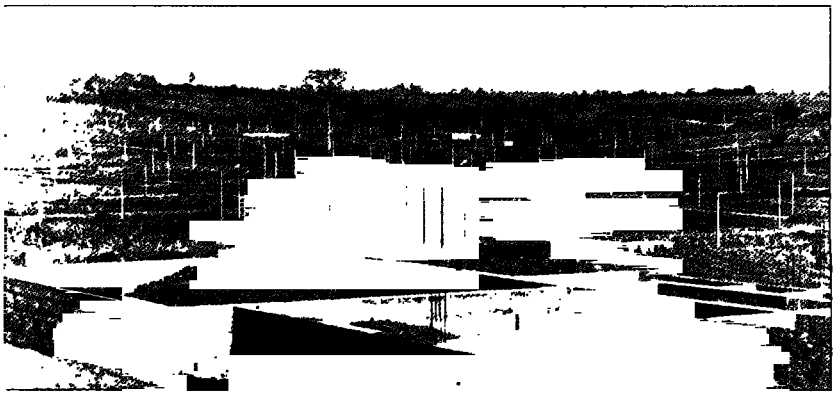
Saint Petersburg, Russia. Heavily subsidized public housing is often neither equitable nor economically efficient.

Housing Supply

Unlike housing demand, housing supply responsiveness is highly idiosyncratic between countries and often offers the greatest scope for reform. This responsiveness is strongly influenced by public sector action in the provision of infrastructure, the regulation of the housing sector, and the organization of the construction industry (for example, the degree to which housing is directly produced by public agencies). The responsiveness of housing supply affects its ability to act as a countercyclical tool. In Chile, for example, a flexible housing supply system helped the housing sector to pull the economy out of a deep recession, while in Malaysia the effects of a rigid supply system and a delayed supply response frustrated the attempt by the government to use housing subsidies to stimulate the economy.

Nothing influences the efficiency and responsiveness of housing supply more than the legal and regulatory framework within which housing suppliers operate. All housing markets are influenced by a wide range of regulations dealing with building codes, infrastructure standards, and land use. Despite the obvious advantages of well-designed and enforced land and housing regulations, they may also have a number of inadvertent consequences that both impose large costs on society and subvert their original intent. In Peru, for example, cumbersome regulations and bureaucratic delays create a situation in which it takes almost seven years from project inception to occupation of the units in new developments. Similarly, estimates of housing supply parameters in Thailand, where regulation is simple and efficient, suggest that supply is more than 30 times as responsive to shifts in demand, as is the case in either the Republic of Korea or Malaysia, where regulation is complicated and cumbersome (See Technical Supplement 1). This is reflected in striking differences in average house price-to-income ratios among the three countries, and, in the countries with higher prices, to needlessly lower housing quality.

Besides regulations, infrastructure supply policies have major influences on the performance of housing markets. When infrastructure is adequately provided in response to expanding demand for serviced land, the price of serviced land remains low, which is reflected in lower housing prices. Underinvestment in residential infrastructure such as roads, water, sanitation, and drainage may, however, result in higher costs of serviced land, delays in housing construction, and higher housing prices. Moreover, inadequate infrastructure planning and investment can lead to spatial distortions in cities which are costly in terms of commuting time and expense,



Abidjan, Côte d'Ivoire. Inappropriately high infrastructure standards and building regulations lead to a slow pace of development and unaffordable housing.

increased congestion and air pollution, more energy-intensive transport systems, and encroachment into environmentally sensitive areas.

Finally, a number of aspects of the organization of the residential construction and building materials industries can have important implications for the costs of housing and the responsiveness of the supply system. One important aspect of industrial organization is the degree to which the public sector participates in the production of housing. Studies in both industrial and developing countries have noted widespread inefficiencies in public sector housing production, which have resulted in higher production costs, reduced quality relative to that of privately produced housing, and displacement or crowding out of private construction by publicly produced housing. In addition, numerous elements of monopoly have been observed in both the building materials and residential construction industries. Such monopolies, whether public or private, tend to be associated with higher housing costs and less responsive housing supply systems.

Housing Quality, Quantity, and Prices

Housing space and quality both improve systematically as economic development proceeds. In general, higher incomes associated with economic development permit greater spending on housing, which is in turn reflected in better housing—more spacious, more durable, with more secure tenure, and with better facilities. Evaluation of dif-

ferences among countries in housing outcomes, however, suggests that even for countries at the same level of economic development, housing outcomes vary considerably. This suggests that resources are being translated into better quality housing at very different rates, and that poor quality housing is likely to be as much the result of housing policy as of poverty per se. Technical Supplement 1, for example, compares a number of specific housing attributes—space, durability, tenure security, affordability, and so on—in Bangkok, Thailand, and Kuala Lumpur, Malaysia, and finds that, despite having considerably lower incomes, households in Bangkok enjoy better housing on average than do those in Kuala Lumpur. Some countries, generally those with effective housing policies and efficient delivery systems, realize many of the same quality and quantity outcomes as countries with levels of per capita income up to five times higher.[5]

Many of the differences in housing outcomes appear to be the result of wide variations in the relative cost of housing, as measured by either rents or housing values. These variations, in turn, appear to be heavily influenced by housing policies. For example, urban households in Hong Kong and Athens, Greece, have similar incomes but quite different housing conditions and costs. In 1990, median dwellings in Hong Kong and Athens respectively had 26 and 70 square meters of floor area and were valued at US$112,000 and US$54,000. Differences in costs are attributable to differences in both land and construction costs, both of which are higher in Hong Kong than in Athens. These differences, in turn, are the result of both demand and supply factors, but particularly the latter, where a combination of policies regarding land use, zoning, tax, and competition in the building industry have brought about a relatively unresponsive system of land and housing supply in Hong Kong as compared with Athens.

Differences in the unit cost of housing such as those indicated for Hong Kong and Athens are evident for many other countries at similar levels of economic development. The differences in the house price-to-income ratios between industrial and developing countries indicate that housing is relatively more expensive in countries with low levels of economic development than in industrial countries. In the industrial countries, the median ratio of house price-to-income was 3.9, while the median for developing countries was 5.5. Preliminary investigations suggest that centrally planned economies have the most expensive sale prices relative to household incomes, evidently as a result of systematic and pervasive underinvestment in housing. The lowest such estimated range of housing price-to-income ratios was in the former Soviet Union (7–10) and the highest was in China (15–25).

Preliminary analysis of the relationship between housing price distortions and housing outcomes suggests that price distortions, many of which are the direct result of inappropriate housing policies, critically influence physical housing outcomes. Correcting price distortions through policy reform has the potential to dramatically improve housing conditions. Reductions in housing price distortions by comparatively modest amounts appear, for example, to be associated with an improvement in dwelling unit size that corresponds to an increase in per capita income by a factor of five.[6]

Housing and Urban Poverty

Poor housing conditions are clearly a reflection of poverty; all indicators of housing quality improve with higher incomes and with economic development. Even in countries with similar incomes, however, the housing conditions of the poor may be very different, often because of differences in housing policy and its application.

Inadequate housing, moreover, has a direct influence on poverty. If housing is too crowded, poorly built, located in unsafe areas, or inadequately serviced with water and sanitation, it can lead to increased incidence of sickness and death; conversely, good housing can lead to better health and higher rates of labor force participation. Improved housing also influences the alleviation of poverty in indirect ways. Residential space can be rented out to either residential or commercial users, generating income in the process. Moreover, a house is often the most important asset owned by households; as such it is subject to capital appreciation and, if legal and financial systems are adequately developed, it can be used as a source of collateral for either increased consumption or investment.

Low incomes may be reflected in worse housing sector outcomes, which are still worse for the poor, in a number of ways: (i) higher than expected housing prices coupled with low incomes force households to double up, and result in high levels of overcrowding, low vacancy rates, and, under extreme conditions, homelessness; (ii) housing is of poor quality, and houses are constructed of impermanent, fire-prone building materials, or are old, dilapidated, and undermaintained; (iii) residential infrastructure is lacking, water supply is unsafe or intermittent, and sewerage, drainage, and garbage disposal are nonexistent; (iv) land tenure is insecure, households are threatened with eviction, and houses are subject to demolition; and (v) housing is poorly located, either far away from economic opportunities or in unsafe locations subject to floods and landslides.

Despite the clear connection between poverty and poor housing

Calcutta, India. Policies that constrain land and housing supply are reflected in the growing slums of large Asian cities.

conditions, the overwhelming majority of the urban population throughout the developing world is housed. In many developing countries, low-quality housing is available and is often cheap, allowing poor households to spend a relatively low proportion of their household income on housing, leaving greater amounts for expenditures on food and other necessities. Demand for housing units and for housing space is comparatively inelastic with respect to both income and price, and the housing stock tends to increase in direct proportion to population changes over long periods. Reported homelessness is thus remarkably small, with a median of only 0.04 percent for 29 developing-country cities.[7] The widespread availability of shelter has often been possible because of accommodating or lax enforcement of government regulatory policies, or because of effective policies that have opened up adequate land for residential development and ensured the supply of low-cost building materials.

Policies that affect the performance of the housing sector as a whole tend to affect the housing conditions of the poor in a more pronounced fashion. In broad terms, when housing policies are designed to enable housing markets to function well, limited resources are effectively translated into housing improvements. When markets are not functioning well, access to good-quality, affordable housing and infrastructure will be in short supply, with the inevitable result that better-off households will capture most of the benefits of housing and infrastructure improvements. In such cases, subsidies, which are sometimes instituted with the stated objective of improving the housing conditions of the poor, will often also be captured by better-off households. The targeting of housing subsidies appears to be consid-

erably worse in countries with the worst housing conditions. Moreover, when land and housing are in short supply, housing prices are high and subsidies to help house the poor are much higher than they need to be. Box 2, for example, illustrates the consequences of the Urban Land Ceiling Act in India, a case of what can happen when policies nominally intended to benefit the poor are instituted without regard for their consequences for the overall workings of the market.

Box 2. The Indian Urban Land Ceiling Act

Poorly designed policies aimed at improving the access of the poor to urban land might not only fail to help but can actually prove counterproductive. The Indian Urban Land Ceiling and Regulation Act of 1976 (ULCA) was intended to reduce land speculation and to distribute land to the poor more equitably in urban areas by imposing a ceiling on the amount of vacant land that could be owned by an individual. Land in excess of the ceiling was to be sold to the government, primarily to provide sites for affordable housing, for not more than 10 rupees per square meter (about US$1.30 at that time). This was significantly less than the market price that the Land Acquisition Act of 1894 required the public sector to pay.

The government estimated that there were approximately 166,000 hectares of "excess" land. By 1987, the government had taken physical possession of 3,852 hectares and constructed housing on 621 hectares (0.37 percent of the estimated total excess). In addition, the majority of the resulting housing was not aimed at low-income households.

The ULCA effectively froze the urban land market as property owners took advantage of its slow appeal process. As a result of this contraction in the supply of land, the price of land remaining on the market, primarily small parcels and land outside the municipal limits, significantly increased. In the city of Ahmadabad, land prices in 1975 ranged from Rs55 to Rs300 (US$7 to US$39) per square meter. In 1980, they were Rs110 to Rs1,800 ($14 to $234) per square meter. These increases are well in excess of the annual inflation rate of approximately 7.7 percent. By contrast, the minimum price for land in Madras in 1981, where a different, less stringent version of the ULCA was implemented, was still only Rs4 ($0.50) per square meter. This is in spite of the fact that the city's population had increased 120 percent in twenty years. As an Indian member of a Regional Policy Seminar Expert Group observed, "The ULCA has been a disaster in terms of implementation, and has resulted in the single largest increase in the cost of housing."

Source: U.S. Agency for International Development (1990).

In order best to serve the interests of the poor, it is essential to formulate policies that improve the overall functioning of housing markets, and, at the same time, to ensure that policies and regulations (for example, building and land use standards) do not discriminate against the lower end of the housing market.

In addressing the needs of the lower end of the market, the role of rental housing is particularly important. Rental housing represents the predominant type of housing in low-income developing countries (67 percent), and renters are in the majority in Sub-Saharan Africa, South Asia, and in Europe, the Middle East, and North Africa.[8] Rental accommodation is often the voluntary choice of low-income households, such as the many households in African cities who retain strong links to, and family homes in, rural areas. In developing-country cities, rental accommodation can be of better quality, with better access to urban services, and more centrally located than is owner-occupied housing, thus often providing a rational alternative to the latter.

Yet often a wide range of government policies discriminate against the rental housing sector. For example, centrally planned economies have traditionally placed even more severe restrictions on property rights regarding rental housing than owner-occupied housing, virtually eliminating a private rental housing sector. Other policies that affect the performance of the rental housing sector in both planned and market economies include rent control (which dampens incentives to invest in and maintain rental housing), underinvestment in infrastructure or inappropriately high standards (which may still permit costlier lower-density, single-family housing but not more efficient, higher-density rental housing), government-controlled housing schemes that encourage ownership but which may prohibit subletting, government housing finance that is available only for owner-occupied housing, and zoning and land use regulations that proscribe development densities which would be suitable for higher-density rental housing. Together, these policies and regulations make rental housing, and hence the housing of the majority of the urban poor, more expensive and depress its quality throughout the developing world.

In many instances, moreover, inappropriate policies have removed large segments of both rental and owner-occupied housing which have served the poor, often in the name of orderly development. The demolition of 120,000 dwelling units and the eviction of 700,000 squatters from New Delhi in 1976, for example, was justified on the grounds of moving them to more hygienic neighborhoods on the outskirts of the city.[9] When government has eliminated cheap hous-

ing through regulations, the poor have involuntarily had to spend larger portions of their income on housing. When it has recognized squatters' rights, removed the threat of eviction, and provided basic infrastructure, the poor have invested in improving their houses and in maintaining their communities.

Finally, subsidy systems in most developing countries, including centrally planned economies, are generally poorly targeted and often highly regressive. In countries with the most poorly functioning housing sectors, those with comparatively high-priced and unresponsive supply systems, housing subsidies are particularly badly distributed, tending to be largely captured by better-off households.

Almost all developing countries have considerable scope for improving policies focused on providing better housing conditions for the poor—policies that encourage the marketplace to provide more, better, and cheaper housing; enable the poor to house themselves; and improve the effectiveness of subsidy systems. The principal task of housing policy regarding the poor is to ensure that resources are translated as effectively as possible into improvements in their housing conditions, and that improved housing conditions, in turn, contribute to the extent possible to real improvements in the well-being of the poor. Specific policy guidance concerning housing policies for the poor is discussed extensively in Technical Supplement 1.

Housing and the Urban Environment

The quality of the urban environment and the performance of the housing sector are inextricably linked. The urban environment in general, and the residential environment in particular, comprise important elements of the quality of housing. Water quality, sewerage and drainage facilities, solid waste disposal, and the spatial distribution of housing all affect the quality of housing or its price, as well as having consequences for the sustainability of the urban environment. And, as was noted in chapter 1, the combination of demographic pressures and limited resources has placed the urban environment under extreme stress in many developing countries. For example, despite the expansion of water supply and sanitation facilities during the 1980s, the absolute number of urban dwellers without sanitation services in developing countries has grown by 70 million, and those without a nearby source of potable water by 170 million.[10]

Examination of housing outcomes in cities also exposes the strong link between poverty and environmental quality. Slums, dilapidated urban neighborhoods, and squatter settlements which provide hous-

ing to the majority of the urban poor are very often the places of lowest environmental quality. Polluted water, inadequate sanitation and garbage disposal, and indoor pollution caused by wood-burning stoves are major causes of diseases in cities. Diarrheal deaths are, for example, 60 percent higher among children with inadequate water and sanitation facilities.[11] Poor environmental health is a consequence of both inadequate infrastructure provision and insecure tenure. Illegal neighborhoods are less likely to be adequately serviced by residential infrastructure, and households uncertain of their physical security are not only less likely to invest in improving their housing but less likely to invest in improving the quality of their local environments. Housing policies that pay inadequate attention to the housing conditions of the poor are, therefore, associated with worse environmental conditions in cities. As a result, there are strong complementarities in policy changes necessary to address the problems of the urban poor and the major environmental problems associated with poor housing sector performance.

Other housing policies may have broader impacts on the urban environment. Publicly sponsored housing schemes sometimes have major influences on the choice of building technologies, usage of open space, and the spatial arrangement of cities. This is particularly true in the centrally planned countries, in which state housing projects have relied heavily on costly, energy-intensive construction techniques such as large, prefabricated masonry panels when traditional construction methods and materials would be preferred on either economic or environmental grounds. In other countries, building codes and fire regulations have similar effects, necessitating the use of expensive and energy-intensive concrete when cheap lumber, from renewable forests, is available. Land use regulations and infrastructure investment policies have important incentive effects as well as direct effects on the spatial layout of cities. In some cases, the resulting outcomes may diminish access to open space, parks, and playgrounds; aggravate air pollution associated with commuting on congested roads; and lead to energy wastage from unnecessarily long commutes. In other cases, environmental and housing goals can be addressed simultaneously by good housing policies. Granting of relatively secure property rights in the *kampungs* of Bandung, Indonesia, has, for example, tripled investment in sanitation facilities, with favorable implications for environmental health and for incentives of households to invest in upgrading of their houses.[12]

Unfortunately, environmental considerations and the need for developing efficient and equitable housing markets have often been in conflict. Despite good reasons for protecting local environments, and the best of intentions, implementation of certain "environmen-

The Kampung Improvement Program in Jakarta, Indonesia, shows how widespread, modest investments in infrastructure both benefit the community and stimulate private investment.

tally friendly'' regulations has not always been friendly to the operation of urban land and housing markets, and has, too often, been less effective than hoped for in meeting environmental objectives. Greenbelt regulations have often unnecessarily restricted the supply of residential land, leading to high land and house prices and often, because of high development pressure, to the elimination of accessible parks and open spaces within the metropolitan area. Unenforceable zoning of large green areas has often been an open invitation to squatting, and has thus led to the disappearance of open space. Similarly, when artificial shortages of land have been created through inappropriate land use regulations, environmentally fragile areas have sometimes been assaulted by housing developers. Still, housing development and environmental protection are, and should be, a common concern. Adequate green spaces must be protected and preserved, while not artificially restricting residential land development. There is a clear need for greater understanding of the consequences of environmental regulations as they affect land and housing markets, but also a need to understand better the environmental consequences of housing policies. The significance of harmonizing environmental concerns with other important housing sector objectives is high, so it must be done in an integrated fashion.

Housing and the Macroeconomy

The circular nature of the relationship between macroeconomic performance and the performance of the housing sector has become increasingly evident. Macroeconomic policies that influence eco-

nomic growth and national income levels have clear impacts on the quantity and quality of housing. Inflation rates and interest rates influence households, firms, and financial institutions in making decisions about demand, supply, and price of housing. Taxes and subsidies have further influences on the performance of the housing sector.

The connections running from the macroeconomy to the housing sector tell only part of the story regarding the linkages between the housing sector and the broader economy. The performance of the housing sector has important implications for broad economic performance, some of which are only beginning to be understood and documented. The stakes of good housing policy often far transcend their implications for the sector alone.

The housing sector is connected to the broader economy through a number of different circuits—the real, fiscal, and financial sides of the economy. Real effects of the housing sector are those associated with investment, output, employment, and prices. Financial effects are those associated with the financing of housing and related residential infrastructure through financial intermediaries. Fiscal effects are those associated with taxation and subsidization of housing.

Much of the recent research into the housing sector's impacts on the broader economy has suggested that it is government policies that are "off-the-books," as described below, rather than "on-the-books" that matter most. Direct government spending on the housing sector, for example, averages only about 2 percent of government budgets in developing countries, a tiny fraction of the resources flowing into the sector. Yet government policies that affect housing prices and characteristics by laws, regulations, and other means can have vast and pervasive impacts not only on the performance of the sector but on the performance of the broader economy as well.

Studies show that each dollar invested in the housing sector gives rise to about two dollars of economic activity in other sectors. Similarly, employment in the residential construction industry, which comprises from 1 to 3 percent of the economically active population in developing countries, is associated with employment in other industries in about the same ratio: one additional job in residential construction gives rise to about two other jobs. Yet it is not, in many cases, the existence of these linkages that matters most to the housing sector's real-side impacts on the economy. Income and employment multipliers are not so different for the housing sector and other investment sectors; thus, in conditions of close to full employment, shifting of resources toward or away from the housing sector is of no particular benefit. But housing can have a major influence on the

economy through its overall price level and rate of change (by contributing importantly to inflation rates, levels of personal savings, and levels of household wealth), and through price differentials from place to place (which can significantly impede labor mobility and increase unemployment). Macroeconomic distortions induced by inappropriate housing policies which disrupt housing supply systems have been shown, in both industrial and developing countries, to be extremely costly. Consequently, there should be greater concern with putting policies in place that ensure stable and responsive supply systems and foster low and affordable housing prices, rather than those that artificially stimulate housing production to generate income and employment.

Financial and fiscal linkages between the housing sector and the broader economy are also important. Residential mortgage loans as a proportion of the consolidated assets of the financial system grow from next to nothing to more than 25 percent at moderate levels of economic development, and up to 40 percent in industrial countries. In some countries with rapid economic growth and expanding urban populations, mortgage loans are the most rapidly growing portion of the portfolios of commercial banking institutions, contributing importantly to financial sector development. In addition, in some countries, for example, Colombia, financial innovations undertaken with respect to mortgage lending, particularly with respect to indexing provisions, have spread quickly to other parts of the financial system, resulting in increasing financial depth. In other countries, for example, Brazil and the United States, poorly performing housing finance

Bangkok, Thailand. Innovative mortgage lending by the Government Housing Bank has facilitated high-volume, low-cost housing production in Thailand.

institutions have disrupted the broader financial system and have required costly fiscal measures to redress the financial failures of the housing finance system.

Housing subsidies sometimes constitute a significant portion of government expenditures, and may lead to budget deficits and considerable inflationary pressure. On-budget housing subsidies have been a particularly prominent feature in centrally planned, or formerly centrally planned, economies. In Poland, for example, housing subsidies in the late 1980s comprised some 34 percent of all government budgetary subsidies, 13 percent of the government budget, and about 3 percent of GNP. Reduction and restructuring of subsidies in such countries is an important part of the agenda for housing policy reform, with implications for both social equity and macroeconomic efficiency.

The Costs of Policy Failures

When housing markets fail to work well, they sometimes fail spectacularly. In the United States, the cost of compensating the depositors of failed savings and loan institutions is estimated to be about US$300 billion. In Argentina, some 25 percent of that country's sometimes explosive inflation rate is estimated to be attributable to a badly functioning housing finance system. In the United Kingdom, rigidities in the housing supply system coupled with the liberalization of housing finance appear to have resulted in a major drop in the rate of household saving, higher interest and inflation rates, and a major structural increase in unemployment. In Poland and other centrally planned economies, housing shortages are translated into a variety of labor market distortions, resulting in reduced labor mobility and higher than necessary wages.[13]

When housing markets fail, it is often the poor that bear the brunt of that failure. As this chapter demonstrates, there are vast differences in the effectiveness of the housing supply systems in different countries. In some, housing supply responds quickly and flexibly to changes in demand. In others, it hardly responds at all. Inflexible response can raise already high housing prices and diminish housing quantity and the quality of the residential environment. One result is seen in burgeoning squatter settlements, which are as much the product of failure in the housing delivery system as they are the product of poverty.

Moreover, dysfunctional housing supply systems tend to produce their own pathology of policy responses—rent control, slum clearance, public provision of heavily subsidized housing, below-market

interest rates for housing loans, and a host of other policies—to deal with the symptoms of the original policy failures. These, in turn, further distort markets, generally resulting in large benefits for a lucky few—the winners of a sort of housing lottery—and widespread costs for everyone else. In many cases the biggest losers are exactly those groups whom housing policies were nominally intended to benefit. And frequently, these costs are amplified through the broader economic system, as they begin to affect investments in other sectors, savings rates, budgetary deficits, inflation, interest rates, labor markets and labor productivity, and even the balance of payments. The housing sector is a major loser when housing policies fail, and the economy is a major loser when the housing sector fails.

3

An Enabling Strategy for Housing

If the interests of all of the participants in the housing sector are to be served, and if the interests of the broader society are to be served, housing policies must be crafted in a way that draws on and uses knowledge about the way housing markets work and that addresses the causes rather than the symptoms of policy failures.[1] Too often housing policies are based on either misunderstanding or wishful thinking about markets. As argued above, the best way to exploit information on how markets work is through enabling strategies, which permit limited, but critical, public interventions in housing markets to leverage the activities of the private sector.

Left to themselves, markets for housing can go a considerable way toward meeting housing needs, but they do not always do so effectively. Housing demand may languish because there are no effective institutions for creating and preserving private property rights, no effective system for recording ownership, and no system for providing stable, long-term sources of housing finance. Housing supply may be unresponsive to demand as a result of underinvestment in trunk infrastructure or because of the existence of monopolies which control the availability of land, building materials, or residential construction. Each of these types of failures is usually at the expense of the poor. Expansion of the stock of housing may be at the expense of the environment, impinging on environmentally sensitive areas, using land wastefully, or creating waste disposal and pollution problems.

Dealing with these sorts of market failures creates a legitimate role on the part of governments to ensure that the housing sector functions well. Eliminating or mitigating the effects of market failures is a

key feature of government's enabling role in the housing sector, a role that deals with the causes of many urban housing problems. At the same time, governments have an obligation to avoid intervening in ways that disrupt markets and deal only with the symptoms, interventions that are frequently counterproductive. This chapter takes up the key operational instruments that constitute an enabling strategy and looks at how they can be applied in different types of countries.

Operational Instruments of Housing Policy

Governments can enable the housing sector to function well by focusing on seven operational instruments: three to stimulate housing demand, three to facilitate the process of housing supply, and one to create an overall institutional framework for managing the housing sector and ensuring adequate access to housing by the poor. Each of these instruments has the capacity both to increase the efficiency of housing markets and to improve directly housing outcomes for the poor. (These effects, which are discussed below, are elaborated on in Technical Supplement 2).

Developing Property Rights

Systems of private, tradable, and enforceable property rights should be developed. Programs of land registration and regularization of insecure tenure should be undertaken. Whenever possible, programs for regularizing tenure should go hand in hand with infrastructure improvement in slum and squatter settlements, and should seek to recover costs. Governments should seek to transfer publicly owned housing to residents and should involve the private sector in the administration and maintenance of public housing.

Developing Mortgage Finance

Development of mortgage lending must go hand in hand with overall financial sector development. Financial policies should permit institutions to borrow and lend at positive real interest rates and on equal terms with other institutions. Competition should be encouraged to improve efficiency. Mortgage instrument designs should permit the interests of both borrowers and lenders to be realized through appropriate terms, especially indexing provisions. Collateral security should be fostered by well-designed and enforced systems of titling and foreclosure. Innovative institutional arrangements for promoting greater access to housing finance by the poor, such as mutual guaran-

tees and flexible payment schedules, should be encouraged. Lending for the provision of rental housing, which houses the majority of the poor in many developing-country cities, should be facilitated.

Rationalizing Subsidies

Governments should see subsidies as either transitional or as a last resort. They should first try other methods for improving access to housing, such as regularizing insecure tenure, improving access to market-rate housing finance, removing barriers to the production of rental housing, or improving housing supply markets to reduce prices. If subsidies are necessary they must be well-targeted, measurable, and transparent, and should avoid distorting housing markets. Subsidies in the form of rent control, which have been shown to be inequitable and to distort markets and reduce housing supply, should be avoided. One-time capital grants and housing allowances are usually more appropriate than rent control and production subsidies.

Providing Infrastructure for Residential Land Development

Continued attention should be given to both improving residential infrastructure in slum and squatter settlements and extending it to new areas. The agencies responsible for provision of residential infrastructure (roads, drainage, water, sewerage, and electricity) should focus less on narrow physical objectives and more on opening up urban land for residential development. This involves greater coordination in planning and possibly joint acquisition of rights of way, joint financing, and joint cost recovery. Infrastructure agencies should devote greater attention to local demand for infrastructure. Existing communities should be encouraged to participate in the process of planning and building of infrastructure projects, to ensure accountability and smooth implementation. Cost recovery mechanisms need to be improved and opportunities for privatizing infrastructure provision and maintenance sought.

Regulating Land and Housing Development

Regulatory environments need to provide an appropriate balance between the costs and the benefits of regulations that influence urban land and housing markets, especially land use and building. Regulations need to be established in a way that benefits rather than penalizes the poor, as is now often the case. To accomplish this, audits need to identify key urban regulations; to establish their impacts on housing demand, supply, and prices; and to set priorities for regula-

tory reform. Alternative, affordable standards that do not compromise environmental, health, and safety concerns should be considered. Financial regulations must be established that facilitate rather than hinder development of mortgage lending. See box 3 for an illustration of how initiatives in regulatory reform have been undertaken recently in Mexico.

Organizing the Building Industry

Governments should seek to create greater competition in the building industry by eliminating regulatory barriers to entry, breaking up monopolies, facilitating equal access of small firms to markets and

Box 3. Regulatory Reform Initiatives in Mexico

The government of Mexico has taken the lead in identifying key regulatory bottlenecks at the local level and designing reforms that structure local incentives to remove those bottlenecks. On the new construction side, key bottlenecks include unnecessarily high building standards for electrical and sanitary connections, large minimum lot sizes and oversized roads, arbitrary development exactions, building licenses, and titling procedures. Currently, the burden of misregulation is heavy: estimates are that an average of 25 percent of the cost of new residential construction is attributable to clearly excessive local regulation. In addition, rent controls and lengthy eviction procedures discourage rental market development.

To encourage states to reform inappropriate standards, FOVI—a housing trust fund in the Central Bank of Mexico—has been signing agreements with state governors to identify and reduce bureaucratic bottlenecks. The agreements set out specific targets for reasonable standards, time limits for approving permits, and a schedule to reduce overall bureaucratic costs. In addition, FOVI offers financing and technical assistance to participating states to computerize their land registration systems.

To ensure that sector reforms mean more than just signing agreements or passing legislation, FOVI has begun to do follow-up tracking of certain indicators of housing sector performance on a state-by-state basis. These "regulatory audits" identify and describe the direct bureaucratic costs levied on construction of housing projects by government agencies. FOVI plans to expand these audits to include indirect measure of bureaucratic costs, including those caused by land market distortions and rent controls. The audits will be used to evaluate state performance and encourage further reforms.

inputs, removing constraints to the development and use of local building materials and construction methods, and reducing trade barriers that apply to housing inputs.

Developing the Institutional Framework for Managing the Housing Sector

A new institutional framework should make it possible for government, with its limited resources, to manage the housing sector in a manner that provides adequate and affordable housing for all. In most countries, an institutional mechanism is needed for overseeing the performance of the sector as a whole and coordinating the major public agencies that influence housing sector performance. Few countries now have such coordinating mechanisms. Institutional mechanisms should be devised to collect, analyze, interpret, and publish data on the performance of the housing sector, particularly concerning its outcomes with respect to the poor; provide an institutional linkage between housing and macroeconomic planning; generate long-term plans for housing sector development in conjunction with the central planning agency; provide a forum for participation of the private sector, NGOs, community-based organizations, and the general public in housing policy formulation at both the national and municipal levels; review the effects of regulations on housing; initiate regulatory reforms; engage in housing policy research; and influence decisionmakers in housing-related agencies and local counterpart institutions to improve housing sector performance. Box 4 illustrates recent efforts of the governments of Thailand and Jamaica to institute such arrangements.

In addition to the functions of policy formulation, coordination, and monitoring, other institutional responsibilities, which correspond to elements of an enabling strategy, must also be addressed by a variety of institutions. The most pressing of these functions are (i) establishing and overseeing the regulatory framework for the delivery of housing finance by the private sector, for developing effective instruments for directing mortgage lending to the poor and for providing an institutional linkage to the Ministry of Finance and the Central Bank; (ii) administering housing subsidies for the needy, focusing on beneficiaries rather than on dwelling units; (iii) establishing and broadening property rights, especially through regularizing tenure in squatter settlements; (iv) providing infrastructure in slums and squatter settlements; (v) bringing together infrastructure agencies to coordinate infrastructure provision to create an adequate supply of serviced land, and to review the impact of various regulations

Box 4. Coordinating National Housing Policy in Thailand and Jamaica

The National Housing Authority of Thailand was created in 1973 by amalgamating all government departments that had responsibilities for welfare housing. The authority was charged with coordinating government activities in the housing sector but in its first years of operation focused mainly on producing low-cost, subsidized rental housing. In the late 1970s and early 1980s, the authority moved toward sites-and-services projects supported by World Bank loans. Still, by the late 1980s, public housing formed less than 5 percent of the total housing stock in Bangkok, where the great majority of public housing delivery took place.

The need to oversee the development of the housing sector as a whole, and to integrate the housing sector into overall social and economic development planning, resulted in the formation of the National Housing Sub-Committee in the early 1980s. This committee is charged with monitoring the housing sector and with the preparation of the housing sector plan in the five-year plan of the National Economic and Social Development Board. It is, in effect, a committee of the board, which is in the office of the prime minister.

The committee has a wide membership from the public sector, including the governors of the National Housing Authority and the government Housing Bank, as well as Director Generals from the Land Department and several infrastructure departments. It has representatives from the Ministry of Finance and from the Bangkok Metropolitan Administration. Significantly, it has representatives from the private sector, as well as from nongovernmental organizations.

During the past few years, the committee has been effective in creating a monitoring system for the housing sector, in assembling up-to-date information on the overall performance of the sector (including a major air-photo house count in 1989), in reviewing the regulatory environment of the sector, and in providing various government agencies with recommendations on how to best contribute to overall sector development.

A similar interagency Sector Coordinating Committee has been established by the government of Jamaica. The committee is charged with overseeing the housing sector as a whole and with accelerating the implementation of a broad National Shelter Strategy. This strategy, initiated by the minister of construction, drafted by a committee set up in preparation for the International Year of Shelter for the Homeless in 1986, and later approved by the cabinet, focuses on (i)

(Box continues on the following page.)

Box 4 (*continued*)

increasing the flow of resources into the housing sector; (ii) concentrating on the upgrading of existing housing, rather than on new construction; (iii) facilitating low-cost housing solutions through extensions of infrastructure to unserviced lands; and (iv) encouraging more private sector, and less public sector, production of housing units.

on the performance of the housing sector, and propose new legislation to improve sector performance. Recommendations concerning operational instruments that are necessary to enable housing markets to work effectively are summarized in table 1.

Strategic Priorities for Different Types of Countries

In moving from a general enabling strategy toward country-specific strategies, it is useful to recognize differences in strategic priorities, depending on a country's level of economic and institutional development and on its specific economic conditions. While the basic enabling strategy will apply in every country, experience suggests that the impediments to an effective approach differ systematically from place to place.

This section discusses strategic priorities for four different types of countries: (i) low-income countries, such as Bangladesh or Tanzania; (ii) highly indebted middle-income countries, such as Argentina or Brazil; (iii) centrally planned or formerly centrally planned economies, such as the Czech Republic or Poland; and (iv) other middle-income countries, such as the Republic of Korea or Malaysia. Within each type of country, housing problems and reform priorities are likely to be broadly similar, while across types there are likely to be more systematic differences. The key problems in these types of countries and the major areas for policy reform are as follows.

Priorities for Low-Income Countries

Low-income countries often experience rapid urban growth, which puts enormous strains on services and the urban environment. Institutions for the supply and maintenance of the urban infrastructure

are typically not well developed, and financing for needed expansion lags behind demand. Property rights systems are often based on customary or tribal practices, and formal systems of property registration are overburdened. The combination of lack of infrastructure and lack of secure tenure discourages household efforts to upgrade their housing conditions. Government involvement in the housing sector often consists mainly of direct provision of housing for groups such as civil servants and the military. Building materials production and distribution is frequently highly monopolized or controlled directly by the government. Land use and building regulations are frequently unaffordable for the majority of the population. Formal housing finance is rarely available, even for higher income households.

While these problems suggest that productive reforms may be taken on both the supply and demand sides, the most important are on the supply side, in particular: (i) providing adequate infrastructure and enacting the systems of cost recovery necessary for its financing; (ii) relaxing standards for land use and building;[2] and (iii) promoting competition in the building materials industry, in part through liberalizing construction imports.

There are also several demand-side priorities: (i) promoting mutual credit associations for the purpose of financing housing; instituting policies to encourage the emergence of market-based mortgage lending by commercial banking institutions, and avoiding subsidized and directed credit toward housing; (ii) minimizing housing subsidies, and in no circumstances providing them in the form of interest rate subsidies; and (iii) upgrading systems of land registration and titling.

Priorities for Highly Indebted Middle-Income Countries

Highly indebted middle-income countries face severe structural adjustment problems. In most instances this involves reducing distortions, encompassing fiscal, monetary, and financial reforms, exchange rate and trade policy, and a variety of sector-specific reforms. The housing sector in many of these countries does not function well, and is characterized by high prices and low output. Housing finance systems are frequently burdened with subsidies, which represent heavy taxes on profitability and discourage domestic resource mobilization. Nonexistent or inappropriate systems of mortgage indexation threaten the viability of financial institutions. In addition, direct subsidies for housing and residential infrastructure are regressive and tend to aggravate persistent inflation.

These problems suggest that the most important priorities for housing reform involve fiscal and financial policy. There are two particular

Table 1. The Do's and Don'ts in Enabling Housing Markets to Work

Instrument	*Do*	*Don't*
Developing property rights	✓ Regularize land tenure	x Engage in mass evictions
	✓ Expand land registration	x Institute costly titling systems
	✓ Privatize public housing stock	x Nationalize land
	✓ Establish property taxation	x Discourage land transactions
Developing mortgage finance	✓ Allow private sector to lend	x Allow interest-rate subsidies
	✓ Lend at positive/market rates	x Discriminate against rental housing investment
	✓ Enforce foreclosure laws	x Neglect resource mobilization
	✓ Ensure prudential regulation	x Allow high default rates
	✓ Introduce better loan instruments	
Rationalizing subsidies	✓ Make subsidies transparent	x Build subsidized public housing
	✓ Target subsidies to the poor	x Allow for hidden subsidies
	✓ Subsidize people, not houses	x Let subsidies distort prices
	✓ Subject subsidies to review	x Use rent control as a subsidy

Providing infrastructure	✓ Coordinate land development ✓ Emphasize cost recovery ✓ Base provision on demand ✓ Improve slum infrastructure	x Allow bias against infrastructure investments x Use environmental concerns as reason for slum clearance
Regulating land and housing development	✓ Reduce regulatory complexity ✓ Assess costs of regulation ✓ Remove price distortions ✓ Remove artificial shortages	x Impose unaffordable standards x Maintain unenforceable rules x Design projects without link to regulatory/ institutional reform
Organizing the building industry	✓ Eliminate monopoly practices ✓ Encourage small-firm entry ✓ Reduce import controls ✓ Support building research	x Allow long permit delays x Institute regulations inhibiting competition x Continue public monopolies
Developing a policy and institutional framework	✓ Balance public/private sector roles ✓ Create a forum for managing the housing sector as a whole ✓ Develop enabling strategies ✓ Monitor sector performance	x Engage in direct public housing delivery x Neglect local government role x Retain financially unsustainable institutions

areas of emphasis. One, governments should concentrate on improving the financial soundness of institutions providing housing finance, particularly by providing incentives to increase the depository base of such institutions and by developing appropriate mortgage instruments, such as the dual-indexed mortgage that has been successfully applied in Mexico (see box S-8). Two, governments should reduce fiscal housing sector transfers, which are frequently interwoven with unsound financial practices. This involves replacing tax-based funds for housing finance with commercially viable mortgage lending; measuring and controlling contingent public liabilities associated with long-term finance; and reducing and restructuring explicit housing subsidies (for example, by instituting one-time capital grants for housing, as Chile has done, rather than by providing subsidies through the financial system).

In these countries, the macroeconomic stakes of housing policy reform are sufficiently high that creating an appropriate institutional framework for coordinating macroeconomic and sectoral policy is particularly critical. Hence another important priority in such countries is to create appropriate institutional arrangements for ensuring that the housing sector is able to best serve both sectoral and macroeconomic objectives.

Priorities for Formerly Centrally Planned Countries

Housing policies, and indeed the broader social and economic policies, of these countries have been based on the perception that housing is a welfare sector rather than a productive sector of the economy. Decisions about the type of housing to be produced, who produces it, its location, its price, and its allocation are or have been heavily influenced by the state. This has, in general, created not only pervasive housing shortages, with serious costs in human terms, but also enormous, broader economic costs. Housing policy failures touch practically every aspect of the economic life of such countries, adversely affecting labor mobility, wages, inflation, savings rates, and industrial productivity. Consequently, reform of the sector must be seen as a fundamental component of broader economic reform, and not simply as a way of providing more housing.

The economic potential of the housing sector in such countries is considerable, but to realize it major changes are required in practically every aspect of housing policy and its associated institutional framework. The two major directions for change are to restructure the financing of the sector and to reorganize the housing delivery system. Among the specific priorities are the following.[3]

On the demand side: (i) Property rights reforms should permit private ownership and free sales and exchanges. (ii) Rent levels on existing state-owned housing should be raised to a point that at least permits the recovery of operating costs, and eventually to the level of full economic rent. (iii) Subsidy systems should be revised to target benefits on the neediest households, with special consideration given to systems based on one-time capital grants and housing allowances, along with the elimination of credit subsidies and supply-side subsidies (for example, subsidized land or building materials). (iv) Financial institutions should increase resource mobilization and ensure financial soundness; this will involve, among other things, offering depositors positive real interest rates and providing mortgage instruments that are appropriately indexed to balance the interests of both lenders and borrowers (such as the dual-rate indexed mortgage).

On the supply side: (i) The supply of housing available for private exchange should be increased by selective sales of the public stock. (ii) Government participation in the building materials and residential construction industries should be eliminated; concrete efforts should be undertaken to increase competition. (iii) Land use and building regulations should be streamlined and made more dependent upon economic considerations, such as the population's ability to pay and the costs of alternative standards.

In addition to these specific reforms, major institutional changes are required. During the period of transition to market-oriented housing delivery systems, government entities responsible for managing the transition must have a broad enough mandate to cover all important aspects of reform, and those reforms must be carefully coordinated with broader economic and social reforms to ensure both that the housing sector is able to contribute to economic and social goals and that it benefits from reforms outside the sector.

Priorities for Middle-Income Countries

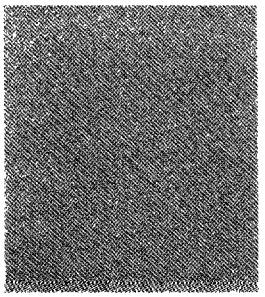
In many of the most successful middle-income developing countries, well-meaning policies and regulations have turned out to be costly impediments to housing sector performance. Many of these have made housing supply systems rigid and inflexible, with the result that rapid gains in income coupled with increasing population pressures have led to rapid increases in land and housing prices and less expansion of housing output than might have been expected. This outcome excluded much of the population, especially the urban poor, from realizing the full benefits of expanding economies. Policy responses to rapid price increases, moreover, have often taken the

form of government interventions in providing subsidized finance and a cascade of regulatory and price controls that have further distorted markets.

A particularly troublesome feature of reform in these countries is the many significant beneficiaries of ineffective housing policies, most particularly the existing owners of land and housing. It is the poor, renters, squatters, recent migrants, and younger members of society who are most severely disadvantaged by the existing situation, but these groups are often without significant political representation and rarely constitute an effective lobby in support of reform. Nevertheless, the penalties paid by society for failing to create well-functioning housing markets are borne not only by the poor but by the broader society as well. Thus reform of housing sector policies, particularly those that sustain inflexible systems of housing supply, is a high priority in these countries.

The most important reforms in such countries are on the supply side. Regulations that affect land use, subdivision, rural-to-urban land conversion, infrastructure standards, building requirements, and the preservation of open land through greenbelts should be carefully reviewed, with an eye toward reducing unnecessary regulation and creating a more responsive system of land and housing supply. Also, planning of trunk infrastructure should be demand-based and should aim at providing opportunities for private development of adequate quantities of accessible land.

In addition to these reforms, greater efforts should be made to encourage the development of formal systems of mortgage finance through policies such as permitting commercial financial institutions to compete on equal terms with public institutions for funds that could be lent for housing and eliminating the use of tax funds for housing and subsidies through the financial system, especially interest rate subsidies. Moreover, as with other types of countries, institutional reforms are necessary to coordinate economic policies so that the housing sector will function well and contribute toward the achievement of broader social and economic goals.



4 The Role of the World Bank

The World Bank will play an expanded role in enabling housing markets to work better in developing countries. This chapter reviews the evolution of the Bank's housing policy and practice, and outlines a number of important new policy directions necessary to facilitate this role. The proposed changes build on the experience of two decades of lending for housing and urban development as well as a wealth of sector work, project-financed studies, basic research, and the new conceptual framework and empirical evidence summarized above. The Bank will advocate the reform of government policies, institutions, and regulations to enable housing markets to work more efficiently, moving away from the limited, project-based support of public agencies engaged in the production and financing of housing. Governments will be advised to abandon their earlier role as producers of housing and to adopt an enabling role of managing the housing sector as a whole. This fundamental shift is necessary if housing problems are to be addressed at a scale commensurate with their magnitude—at a scale adequate to improve substantially the housing conditions of the poor—and if the housing sector is to be managed as a major economic sector.

While it endorses many of the policies that have been embodied in the first two decades of Bank-financed housing projects, especially the necessity of adopting appropriate standards for housing and residential infrastructure and appropriate pricing and cost recovery, this paper suggests that these past policies by themselves are not enough. Although many elements of an enabling strategy have been present in the Bank's approach to housing, this paper places particular emphasis on treating the housing sector as a whole and on comple-

menting past policies which have emphasized investments in residential infrastructure and housing finance with policies that stress the need to rationalize the broad regulatory framework within which the sector operates. The scale of the Bank's interventions in the past has been too narrow to have a major effect on the performance of the housing sector in developing countries. From this perspective, the chapter addresses two basic questions:

- What is the appropriate role of the Bank in the housing sector?
- What are the priorities for Bank lending, technical assistance, and research in the sector?

The Evolution of the Bank's Housing Policy

The evolution of the World Bank's housing policy through two decades can be divided into three stages. The first decade of Bank housing policy focused mainly on "sites-and-services" and slum-upgrading projects; the second gradually shifted the emphasis to housing finance development; and recently there has been a third gradual shift to "housing policy development" loans, which embody many of the sorts of policy changes suggested here. Some of the key dimensions of the evolution of the Bank's housing policies are illustrated in box 5.

Box 5. World Bank Housing Policy, 1970s–90s

Objectives

1970s	Implement projects to provide *affordable* land and housing for the poor; achieve *cost recovery*; create conditions for large-scale *replicability* of projects.
1980s	Create *self-supporting* financial intermediaries capable of making long-term mortgage loans to low- and moderate-income households; *reduce and restructure housing subsidies.*
1992	Create a *well-functioning housing sector* that serves the needs of consumers, producers, financiers, and local and central governments; and that enhances economic development, alleviates poverty, and supports a sustainable environment.

Role of government

1970s	Emphasis on *direct provision* by government of land, housing, and finance to facilitate progressive development of housing conditions by *project beneficiaries*.
1980s	Emphasis on *provision of housing finance*, mainly by public institutions; *rationalization of housing subsidies* (reduction, improved targeting, and shift from financial to fiscal).
1992	Adoption by government agencies with policymaking, coordination, and regulatory responsibilities of an *enabling role* to facilitate provision of land and housing by the private sector; improved *coordination* of sector and macroeconomic policy.

Policy and lending instruments

1970s	Sites-and-services demonstration projects emphasizing *affordable housing and infrastructure standards; tenure security;* and *internal cross-subsidies*.
1980s	Housing finance projects emphasizing *interest rate reform* (to enhance resource mobilization and improve mortgage instrument design); *subsidy design*; and improved *institutional financial performance* of government agencies involved in direct provision of land, infrastructure, and housing.
1992	*Integrated array* of policy and lending instruments to *stimulate demand* (property rights development, housing finance, and targeted subsidies); *facilitate supply* (infrastructure provision, regulatory reform; and building industry organization); and *manage the housing sector as a whole* (institutional reform and coordination with macroeconomic policy).

Sites-and-services and slum upgrading projects, initiated in Senegal in 1972, signaled the first fundamental shift in housing policy in the postwar years—the shift from total public housing provision to public assistance in private housing construction. This shift was based on the realization that in most developing countries legal housing produced by the private sector was not affordable for most urban residents; that mass production of enough high-standard housing to

meet urban needs required massive subsidies that most governments in market-oriented economies were either unwilling or unable to afford; that low-income households in developing countries were building affordable housing through an evolutionary process, with self-help and self-management of the building process; and that providing secure land tenure and basic infrastructure services increased the incentive of households themselves to invest their savings, labor, and management skills in housing.

Sites-and-services and slum upgrading projects sought to translate these observations into practical solutions by implementing more affordable building standards and providing basic infrastructure services or core-housing units instead of finished units. In this manner, the serviced sites, with secure titles or long-term leases, would provide households with an affordable foothold in the housing sector without requiring subsidies. These projects, although in some cases relatively large, were conceived as experimental demonstration projects seeking to meet three primary objectives: the provision of affordable adequate housing for low-income families; cost recovery from beneficiaries resulting in the elimination of public subsidies; and replicability of such projects by the private sector, demonstrating that it could move down-market to produce affordable housing in large numbers.

Between 1972 and 1990, the Bank was involved in 116 sites-and-services and slum upgrading projects in 55 countries. The average size of these projects was US$26 million (US$42 million if land acquisition costs are added). Sites-and-services projects, including slum upgrading, formed 30 percent of all urban projects and amounted to 28 percent of total urban lending (45 percent if land acquisition is counted), and 1.8 percent of total Bank lending during this period (2.9 percent if land acquisition costs are added). These projects yielded economic returns[1] of between 19 and 22 percent and demonstrated the feasibility of producing affordable and adequate housing for the poor.

The first objective of these projects, physical provision of low-cost housing units, was broadly achieved. Unfortunately, the large majority of projects met neither the second nor the third objectives. A detailed 1987 Bank study on subsidies in sites-and-services projects observed substantial interest-rate subsidies in 78 projects carried out between 1972 and 1984.[2] A detailed study of subsidies in Bank-assisted projects in seven countries (Botswana, Côte d'Ivoire, India, Indonesia, Jamaica, Senegal, and Tanzania) yielded estimates of subsidies ranging from 50 to 75 percent of the true economic cost of projects for five of the seven projects, and 18 to 20 percent for the

remaining two, not including high rates of defaults on mortgages. Of the seven, only one project, in Madras, India, did not involve direct financial subsidies and enabled the public authority to recover fully its initial investments.

The third objective, replicability, was seen as the key contribution of these projects toward the housing sector as a whole. As such, projects were considered learning experiences for both governments and private-sector developers, concerning the possibilities inherent in evolutionary housing and in more affordable housing standards. However, the evidence is that replicability goals were generally not met, largely because key features of these projects were not replicable on a large scale. The waiver of zoning, land use, and building regulations, availability of foreign and domestic expertise, access to government land at below-market prices, and interest rate subsidies were important aspects of such projects that either were not or could not be replicated.

Slum upgrading projects, such as the massive Kampung Improvement Program carried out in Indonesian cities with Bank assistance, were, conversely, able to satisfy the replicability criterion, and to distribute subsidies more widely to the urban poor. Slum upgrading projects had rates of return comparable to Bank-assisted sites-and-services projects—around 20 percent. Although loans for such projects were smaller and more difficult to administer than housing finance loans, they will remain a critical component of Bank lending in the shelter sector in the years to come.

A significant shift in housing policy and practice within the Bank took place during the early 1980s. Lending gradually moved away from sites-and-services toward lending to housing finance institutions. This shift was motivated by two broad objectives. First, there was a perceived opportunity for the Bank to address broader economic issues in the borrowing countries. A well-functioning housing finance system was seen as contributing to financial sector objectives through improved domestic resource mobilization, and to fiscal objectives by making subsidies more transparent and better targeted.

The second, and perhaps more immediate, objective was to affect overall policies and performance of the housing sector through the broad instrument of housing finance system development. In part, the shift to housing finance operations was a recognition that the previous approach, which emphasized individual sites-and-services and upgrading projects, could not by itself address the growing shelter needs of poor urban dwellers, because of its generally limited scope.

Bank lending for housing finance has been relatively successful. A

1988 assessment of the Bank's housing finance operations suggests that a number of financial, fiscal, and real objectives of housing finance lending had been attained.[3] Regarding financial objectives, more than 40 percent of the housing finance institutions that received loans had been able to mobilize most of their resources domestically, and 80 percent had instituted programs to promote savings mobilization. In each case these results are far more favorable than has been the Bank's general experience with lending to development finance institutions. Inflation-adjusted interest rates for funds mobilized were generally positive, and interest-rate spreads for mortgage loans averaged 3 percent; moreover, most projects have decreased the risk-exposure of governments to contingent liabilities associated with potential insolvency of financial intermediaries. Regarding fiscal policy objectives, target beneficiaries of housing finance projects have been below-median-income households rather than the very poor, but more than half of the projects associated with housing finance lending provided cross-subsidies to low-income borrowers; subsidy transparency was estimated to have been improved for two-thirds of institutions that provided subsidized credit. Per-unit subsidies were estimated to have been reduced in about 80 percent of cases, allowing subsidies to be distributed more broadly among eligible populations. Finally, regarding housing sector objectives, programs had been instituted to increase participation of private institutions in mortgage lending, to increase resource mobilization among low-income households, and to address such real-side constraints on the housing sector as overly stringent land and building regulations, although in most cases it was too early to reach definitive conclusions on the results.

In tandem with Bank lending for housing finance to government institutions, considerable experience in housing finance has been accumulated by the International Finance Corporation (IFC) of the World Bank Group, through its Capital Markets Department. The IFC has helped found housing finance companies in Bolivia, Botswana, Colombia, Indonesia, Lebanon, and Senegal, as well as the Housing Development Finance Corporation in India (see box S-9). Dealing directly with the private sector, the IFC has successfully contributed to creating a level playing field for private finance institutions to compete effectively with the public sector, and to reforming the regulatory environment for primary as well as secondary mortgage markets.

Accompanying the shift in emphasis from project-oriented lending to lending for housing finance, the size distribution of loans has changed dramatically along with this shift in housing policy. The average housing project size went from US$19 million in the 1972–75

period to US$211 million in the 1985–90 period. This has mirrored the change in the composition of Bank lending in the housing sector, reducing lending for sites-and-services and slum upgrading and increasing both the number of loans and the overall share of lending for housing finance and municipal development projects. The proportion of the total value of housing loans for sites-and-services dropped from 100 percent in 1972 to less than 5 percent in 1990. From 1986 to 1991, Bank lending for housing and related residential infrastructure (which when combined represent some 70 percent of Bank urban lending) ranged from about 3.5 to 7 percent of Bank lending—an average of more than US$900 million annually.

This significant change in the type of loans has also led to a change in the composition of countries obtaining them. The per capita income of countries receiving Bank housing loans increased over the 1972–90 period, from an average of US$436 in the 1972–80 period, to an average of US$938 in the 1981–90 period (these figures are in constant dollars). This change did not reflect a conscious Bank decision to shift operations to high-income countries, but is a direct consequence of the issues addressed in projects, mainly financial sector development. Significantly, countries where loans to develop housing finance institutions were feasible and in demand had different profiles than those in need of sites-and-services projects.

Recent loans in the housing sector, such as a housing policy development loan to the Republic of Korea and an approved housing sector loan to Mexico, represent a third generation of housing loans. They address broader sectoral issues than simply housing finance and focus to a considerable degree on the performance of the housing sector as a whole. The Korea loan is linked to a monitoring program that seeks to evaluate the impact of specific actions in the sector on key indicators of housing sector performance. The Mexico loan seeks to help the federal government link the participation of local authorities in federal programs to their willingness to engage in reducing the cost of regulations affecting the performance of the housing sector. In each, a broad range of institutional counterparts involved with physical construction, regulation, finance, and fiscal matters has been engaged in discussion concerning sectoral policy and physical design. Such loans, along with other recent sector investment loans, demonstrate that a broad range of policy issues can be addressed successfully within the context of investment lending.

Housing loans and housing-related loans promise to be of continuing importance in the Bank's overall lending portfolio. Of an indicative urban lending program during the next five years, approximately one-third will be for housing per se and about three-quarters of total

urban lending volume will be for housing, related residential infrastructure, and projects that include housing. Thus a majority of Bank urban lending contemplated within the next five years is expected to fall within the scope of this policy paper.

The Main Lessons Learned

As the Bank gained experience in working with developing-country governments over the past two decades, several basic lessons have been learned:

- *The macroeconomic and regulatory environment is important.* Project success is now recognized to be largely dependent on overall distortions in the economy that affect supply and demand in the housing sector. Broad policies governing interest rates, directed credit, taxation, tariffs, government investments, and property rights all have major impacts on housing sector performance. Projects that have been unable to deal with the overall regulatory, institutional, and economic environment have had a small or negligible impact on overall housing conditions. The linkages of the housing sector and the macroeconomy are being given greater prominence in Bank project design.
- *The informal housing sector has a significant contribution to make.* Developing-country governments seek to continue to meet urban housing needs, while many face serious external debts, stagnant economies, and environmental degradation. Proclaiming housing to be a welfare good or a basic human right cannot command the resources necessary to provide decent housing for everyone. Neither can the outright demolition of slums and squatter settlements, because they are substandard or present environmental hazards, be justified. Slums and squatter settlements, once seen as symptoms of a dysfunctional land and housing market, are now perceived as an important submarket where houses usually improve over time. In most cities, slums and squatter settlements no longer seem to pose an immediate threat to the established order. The Bank now expects the housing sector, both formal and informal, to contribute to economic growth and public revenues, rather than to be a drain on limited public resources.
- *Projects have limited impact.* Despite a largely successful record, Bank assistance to specific housing projects, through sites-and-services, slum upgrading, or housing finance development, has usually been too small to affect significantly the housing sector as

a whole. Affordability, for example, a key concern for the Bank, has been observed to be a sectorwide parameter; that is, rent levels and selling prices of houses are established in response to broad market forces. Even within projects where the construction costs and sales prices were kept low, actual house prices tended to reflect overall market conditions. As long as there were serious supply shortages in the market, prices within projects have usually climbed quickly to levels unaffordable by the poor. It is now evident that housing projects, especially investment projects aimed at improving the housing conditions of a limited number of beneficiaries, without an accompanying and significant contribution to housing policy reform and to overall housing sector performance can no longer be justified.

- *Attention should continue to shift to the housing sector as a whole.* In the great majority of cities, most housing continues to be produced outside of government-assisted projects. The participation of the World Bank in sites-and-services projects has lent them undue importance and focused attention away from the bulk of the housing produced by sectors outside government. Bank-assisted projects can no longer focus attention on government-provided housing or housing services or help maintain the high profile of multipurpose housing agencies, if such projects draw attention away from regulatory reform and from institutions concerned with the performance of the housing sector as a whole.
- *Emphasis should continue to shift from projects to institutional reform.* Significantly, only a handful of countries have undertaken any serious adjustment of land use and building regulations to increase housing affordability, even though this was the Bank's major message to governments engaged in sites-and-services projects. The Bank recognizes the need to focus more directly on policy, regulatory, and institutional reforms, and to link projects to such reforms. This necessarily raises an important issue: Bank loans and policy conditionality will be targeted at the appropriate institutions—those capable of regulatory and policy reforms. By implication, more Bank loans will be targeted at local authorities, where the bulk of regulations affecting the housing sector are administered. In addition, loans for housing finance must continue to focus on policy and institutional development to improve the efficiency of financial intermediation, rationalize fiscal and financial policies, and stimulate broader private sector participation in mortgage lending.
- *A variety of approaches is needed.* Some countries cannot benefit from large-scale mortgage financing because of overall under-

development of their financial sectors or the existence of serious supply constraints in the sector. Others continue to require smaller-scale loans for slum upgrading and other infrastructure projects. Given the varied typology of countries requiring housing assistance, the Bank will support housing policy reforms and institutional development through different kinds of lending operations.

- *Past emphasis of Bank housing lending on the poor is important and should continue.* The first generation of Bank loans, mainly sites-and-services and slum upgrading projects, focused directly on benefiting poorer urban households, and the second generation, mainly loans to financial intermediaries for long-term mortgage finance, have made concerted attempts to broaden the access to finance of low- and moderate-income households. Relative to pre-existing government policies and programs, the distributional impacts of Bank-financed projects have been highly favorable although, as noted above, limited in scale. Future lending should support policy reform and specific programs that directly benefit the poor, as well as those that create favorable overall market conditions likely to have indirect, though no less important, benefits for the poor.

These important lessons, coupled with housing sector experience in a large number of countries described in earlier chapters, prescribe a new and important enabling role for the Bank in the housing sector.

The Evolving Role of the Bank in the Housing Sector

In line with the analysis of the housing sector and the policy framework summarized in chapter 1, this paper outlines a new and challenging role for the World Bank in assisting developing countries to address major housing problems. Future Bank assistance will be predicated on understanding the performance of the housing sector, and on perceiving the roles the public sector in general, and the Bank in particular, can play in mobilizing resources to meet critical housing needs.

Four basic objectives for Bank lending may be directly derived from the preceding analysis. They are:

- Assisting governments to view the housing sector as a whole, and to understand its critical role in macroeconomic performance
- Assisting governments to transform their role from direct producer to that of an enabler
- Targeting assistance to countries and institutions with potential

for reform, and predicating it on the removal of market distortions
- Maintaining a high level of innovation within the Bank itself, both in sector operations and in measuring and monitoring housing sector performance.

Achieving these objectives will require changing the perception of the housing sector both within the Bank and by its borrowers. These changes will involve:

- *Focusing on the housing sector as a whole.* The Bank will predicate future assistance on a broader perspective of the housing sector, rather than on a limited perspective of a single housing project or finance institution. Bank assistance, especially for investment projects aimed at a limited number of beneficiaries, will be evaluated with respect to its impact on the sector as a whole.
- *Sequencing discussions of lending operations and sectoral reforms.* A country-specific approach, taking into account its special conditions, objectives, and constraints, is called for in diagnosing sectoral problems and proposing necessary reforms. Discussions with borrowers concerning Bank support will be initiated with a broad review of the performance of the housing sector, incorporating a diagnosis of key housing indicators, a critical review of the institutional framework and the regulatory environment of the housing sector, and an evaluation of its effectiveness in delivering housing services to the poor. In tandem, efforts will be initiated to bring together all the key actors in the sector to discuss sector performance, priorities, and strategies, and to coordinate broad policy, regulatory, and institutional reforms. Discussions on specific lending instruments should then be initiated, based on a broader understanding of problems and possibilities and linked to the institutional arrangements with the greatest capacity for reform. The sequencing of sectoral reforms should be informed directly by the results of such reviews of sector performance and of the regulatory and institutional framework.
- *Introducing housing into macroeconomic planning.* The Bank will seek to end the isolation of housing institutions as marginal channels of public welfare and to bring the dialogue on the housing sector to key decisionmaking bodies charged with macroeconomic planning. The backward and forward linkages of the sector with the macroeconomy will need to be studied, measured, and taken into account in key macroeconomic decisions. Reforms in the housing sector will need to be coordinated with macroeconomic reforms. Housing finance liberalization, for

example, will need to be coordinated with the overall liberalization of the financial sector. Similarly, privatization of housing production should go hand in hand with the overall privatization of public sector enterprises. In this context, the Bank will promote mechanisms for coordinating public agencies and private interest groups with a stake in the housing sector, which can develop a broad view of the housing sector and its role in the macroeconomy. These new mechanisms should bring together all the key actors in the sector, be the locus of sectorwide information gathering and analysis, and provide the country's overall sector strategy. (See box 4 for examples of such institutions.)

The new role of the public sector in the housing system emerges as a key concern for the Bank. There are two parts to this concern, one emphasizing what the public sector should do and one what it should not do (see table 1):

- *Assisting the public sector in enabling activities.* The Bank will assist the public sector in the developing countries in seven key enabling activities: property rights development, mortgage finance, targeted subsidies, infrastructure for urban land development, regulatory reform, organization of the building industry, and institutional development. None of these can be effectively performed alone by the private sector. (These were summarized in chapter 3 and are discussed in more detail in Technical Supplement 2.)
- *Limiting assistance to the public sector in direct housing delivery.* The Bank will seek to redirect developing-country governments from engaging in building, marketing, financing, and maintenance of housing units toward facilitating expansion of the private sector's role in such activities. This prescription extends to government production of apartment units, as well as to sites-and-services projects. It calls for the expansion of the private sector in all aspects of materials production, residential land development, and housing construction. It also calls for the expansion of private-sector financial institutions, and, particularly for reforming centrally planned economies' building maintenance services.

The Bank will choose its partners with attention to the implementing institution's ability to advance the agenda for reform. Two key strategies for moving in this direction are:

- *Targeting assistance to institutions with potential for reform.* The Bank will focus special attention on choosing its institutional counterparts in administering Bank loans. Traditional counterparts such

as infrastructure delivery agencies and housing finance institutions, whose roles continue to be important, will continue to be important partners. Institutions that have regulatory roles or can implement regulatory reform merit special attention, however, particularly as recipients of technical assistance to plan and implement better regulatory systems. In assisting such institutions, the Bank seeks to encourage study of the effects of regulations on housing sector performance to identify needs for reform.

- *Requiring commitment to reform and removal of major distortions as a criterion for assistance.* The Bank will allocate its resources to borrowers who are willing to commit themselves to improving sector performance, including removal, over time, of distortions affecting the performance of the housing sector. Commitment must be judged on a country-by-country basis, depending on an evaluation of a country's willingness to make significant progress toward reform. In many cases, the Bank will need to allocate resources for technical assistance to assist countries in undertaking sectoral data collection and analysis necessary to identify policy distortions and reforms necessary to address them.

Finally, inside the Bank there is also the need for innovation to respond to the demands for housing sector reform. Two areas for future housing sector activity are:

- *Developing new models of housing sector assistance.* Many of the policy and institutional instruments necessary to undertake an effective enabling strategy in the housing sector are still in the early stages of development. There is a critical need for better models of appropriate land use and building regulation, of timely large-scale urban land development, and of targeted subsidies; and for better models of financial instruments for lending to low-income households, for rental housing, and for house improvements. There is also a need to refine and adjust existing models for infrastructure provision in slums and squatter settlements, tenure regularization and land registration, and privatization of the public housing stock. Finally, there is a need to experiment with new institutional reforms, such as those discussed in chapter 3 under "Operational Instruments of Housing Policy."
- *Increasing assistance for measuring and monitoring housing sector performance.* Bank assistance in the housing sector will be based on improved collection of data on key housing indicators, which should in turn help monitor housing sector performance. Broadening the perspective of the Bank and of governments from

housing projects to sectorwide assistance must go hand in hand with the development of relevant data to allow monitoring of the sector, as well as broad cross-country comparisons. Such data will allow the Bank to develop a common yardstick for deciding on critical priorities for housing assistance, as well as to improve its understanding of key relationships between regulations, demand factors, and supply constraints on the one hand, and housing sector outcomes and macro economic outcomes on the other.

Emerging Priorities for Bank Lending in the Housing Sector

The Bank will support policy reform—property rights and financial market development, regulatory reform, and a shift from general subsidies to targeted subsidies; investments—large-scale trunk infrastructure projects, infrastructure upgrading in slum and squatter settlements, and infrastructure provision in sites-and-services projects; and institutional reform. It will support these initiatives through adjustment lending, investment lending, and technical assistance. The following paragraphs elaborate on the measures the Bank will support.

Property Rights Development

The Bank will support improvements in urban property rights development through the conduct of cadastral surveys and creation of mechanisms for issuing land documents on a large scale. It is quite clear that there are important economic benefits of such actions, and that they generate high rates of return. The Bank will also support administering land tenure regularization in squatter settlements and carrying out the privatization of the public housing stock, particularly in formerly centrally planned economies. Project designs should include the recovery of the cost of administering such programs through sales of leases or titles or through the institution of property taxation.

Enhancement of Housing Finance

The Bank will support the housing sector through specialized housing finance institutions or general banking institutions with a capacity for mortgage lending, in association with measures to reform or develop markets for housing finance and to reform sectoral policies, in accordance with existing policies for financial sector operations.

Emphasis will be placed on supporting competitive and market-oriented institutions. Care will be taken not to create excess demand for housing in locations where supply is severely restricted, and to couple housing finance development with support for the removal of serious supply constraints. Care will also be taken to improve the access of low-income households to housing credit, and to remove biases against lending for rental housing and for housing improvements. Bank support will be predicated on the creation of adequate mechanisms to ensure cost recovery from beneficiaries.

Rationalization of Subsidies

The Bank will encourage governments to eliminate subsidy programs that create a heavy fiscal burden without helping the needy. Phasing out such subsidies may, however, warrant their replacement with new—more precisely targeted—subsidy programs. Such subsidy programs should target low-income households, be transparent, and be the most cost-effective way of achieving the desired social goal. The choice of subsidy instrument is important. Lump-sum grants to purchasers of housing or, in some cases, ongoing housing allowances for renters, tend to be preferred to long-term loans at subsidized interest rates. One-time infrastructure subsidies in slums and squatter settlements tend to be preferable to construction or building materials subsidies, because in general the former result in higher benefit/cost ratios and in better leveraging of public resources. In general, subsidies which tend to distort market prices—such as rent control, which tends to reduce the availability of rental housing—should be avoided.

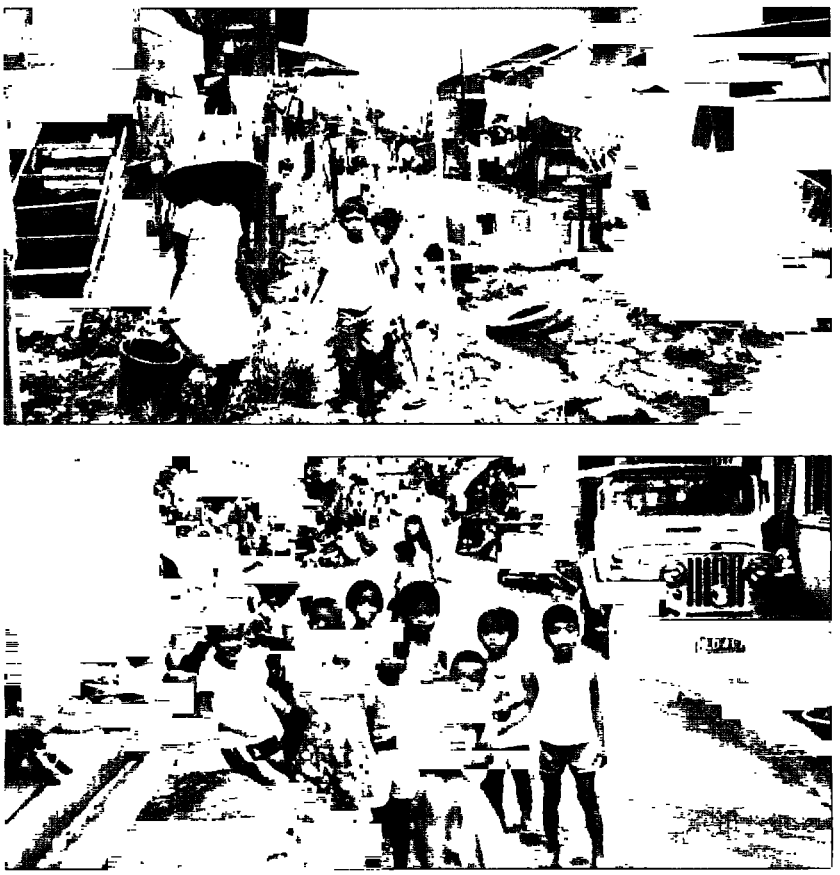
Infrastructure for Residential Land Development

The Bank will support provision of infrastructure for the housing sector along the following lines:

- *Large-scale trunk infrastructure projects.* The most important of these are projects required for the orderly expansion of urban residential land through the coordinated extension of trunk infrastructure networks, including roads and public transport, water supply, sewerage, drainage networks, and electricity. The emphasis will be on projects that coordinate infrastructure provision in a specific geographical area, enabling the private sector to increase the supply of land for development. The key measure of success in such projects will be their value added in terms of the

amount and location of serviced land they generate and their effect on land and house prices, rather than the length of roads, pipes, or electricity lines added. Whenever possible, mechanisms for recouping costs through taxation or user charges will be integrated into such projects. These projects are particularly important in cities with acute shortages of land for housing, reflected in high land prices or in exceptionally large price premiums for land converted from agricultural to urban use. It should be noted that such infrastructure projects often exhibit very high internal rates of return and are considerably easier to undertake before massive urban expansion takes place. The requirement for often substantial advance purchases of land to facilitate major urban infrastructure schemes needs to be taken into account in the design and financing for such projects. Lending for infrastructure projects as a whole should always contain as explicit conditionality the mechanism for cost recovery, with a special emphasis on valorization charges, rates, or property-linked taxes.

- *Infrastructure upgrading in slums and squatter settlements.* A second important type of infrastructure support will be to upgrade infrastructure in slums and squatter settlements. Such loans are important because they tend to generate greater tenure security and hence increased levels of domestic investment in housing. They tend to preserve a key component of the housing stock, one which directly serves low-income households. They may include some element of subsidy to low-income households, one capable of spreading benefits extensively rather than concentrating on a small number of households. Such projects will, however, seek to achieve a substantial degree of cost recovery, so that limited subsidy budgets can be spread as broadly as possible.
- *Infrastructure provision in sites-and-services projects.* In contrast to past practice, the direct provision of serviced sites or core houses on serviced sites by governments will, in general, be discouraged. Whenever appropriate, the Bank will support private sector involvement in such projects. In some cases, the government may be in a position to accelerate the production of low-priced serviced sites by the private sector by acting as an intermediary between buyers and sellers, or by guaranteeing sales. In exceptional cases, where no private sector developers are available, reliance on public sector agencies for project execution is inevitable. In these cases, special care should be taken to avoid the pitfalls encountered in earlier sites-and-services projects.



A street in the Tondo Foreshore district of Manila, the Philippines, before (top) and after (bottom) investment in infrastructure and granting of secure tenure in squatter settlements.

Enhancing the Efficiency of the Building Industry

Some countries, particularly centrally planned and formerly centrally planned economies, have pursued policies that have concentrated the production of materials and residential construction within a small number of large firms. Encouraging the emergence of a more competitive environment is a high priority in such countries, and can be supported by adjustment and investment operations. In other developing countries, the key to a well-functioning building industry is

often found in the removal of constraints to the development and use of local building materials, the reduction of export controls, and the simplification of licensing requirements for small producers, transporters, contractors, and developers. In addition to supporting such activities by the Bank, the International Finance Corporation will provide direct support for private sector activities in the building sector.

Regulatory Reform

The Bank will support regulatory reforms in the housing sector through investment and adjustment lending. Such lending, whenever possible, will directly involve the institutions that have power to initiate or implement such reforms, and will often include technical assistance. In the majority of cases, the Bank's support for regulatory reforms will be based on a detailed regulatory audit which will seek to pinpoint those regulations that create the most severe distortions in sector performance. Often, these are administered by local authorities. In such cases, loans extended to central governments should seek to involve such authorities directly. Housing finance loans or project loans in support of institutional reforms should also support regulatory reforms.[4]

Institutional Reform

Complementing the policy recommendations discussed above, the Bank will support the specific objective of initiating institutional reform in the housing sector. Such lending will support general reforms affecting overall housing sector performance and specific reforms regarding cost recovery through appropriate pricing and taxation mechanisms, implementation of reform within a broad context of national and local shelter strategies, and regular monitoring of sector performance using quantitative indicators. Specifically, such loans will focus on supporting and improving the performance of institutions responsible for:

- Bringing together all the major public agencies that influence housing sector performance through their policies and actions, as well as representatives of the private sector, NGOs, and community-based organizations
- Accelerating the development of property rights, with a special mandate to regularize tenure in squatter settlements
- Overseeing the regulatory environment for the delivery of housing finance by the private sector, for developing effective instru-

ments for directing mortgage lending to the poor, and for providing an institutional linkage between housing finance, the ministry of finance, and the central bank
- Administering housing subsidies to the needy, focusing on beneficiaries rather than dwelling units
- Providing infrastructure in slums and squatter settlements
- Bringing together infrastructure agencies to coordinate infrastructure provision in a manner that ensures an adequate supply of developed land
- Reviewing the impact of regulations on the performance of the housing sector, and proposing new legislation to improve sector performance.

Emerging Priorities for Housing Research

Implementing the enabling strategies called for above requires more and better information on housing sector performance, its relationship to policy, and its connection with broader economic and social goals. There is a need for both better diagnosis of sectoral problems and better prescription of policy remedies on the part of the Bank and its borrowers. Achieving this will mean, as has been the case during the Bank's 20 years of involvement in the housing sector, not only research financed by and conducted at the Bank but also participation in collaborative research funded by the U.N. Development Programme, the U.N. Centre for Human Settlements, and other organizations. Work will be undertaken in four broad areas:

- *Collecting and disseminating best-practice information* on a number of topics important for effective housing policies, such as (i) appropriate land use and building regulations; (ii) large-scale integrated land development; (iii) targeted subsidies; (iv) financial instruments for lending to low-income households; (v) means of recovering infrastructure investments through taxation and user fees; (vi) efficient tenure regularization programs; (vii) low-cost land registration systems; (viii) innovative housing institutions; and (ix) managing the transition from a planned housing sector to a housing market.
- *Developing practical tools* based on research insights and findings that will be used to improve the quality of policy analysis, policy formulation, and implementation. Among the tools that show promise are the following: (i) regulatory audits for identifying the costs and benefits associated with key regulations influencing urban land and housing markets; (ii) land market assess-

ments to examine the performance of urban land markets and the factors that inhibit their performance; (iii) housing indicators for policymaking, which could help to focus attention on key aspects of sector performance among policymakers; (iv) standard protocols for the evaluation of the incidence of taxes, regulations, and subsidies within the housing sector; (v) computerized packages to aid in mortgage instrument design; (vi) standardized packages for the design and conduct of urban housing surveys; and (vii) protocols for the design and implementation of national shelter strategies. Some of these tools are currently being developed under the auspices of the Urban Management Program, a joint undertaking of the World Bank, the U.N. Centre for Human Settlements, and the U.N. Development Programme.

- *Improving the amount and quality of data* available on the housing sector. Many areas of housing sector performance and housing policy analysis are largely unexplored, in part because of the poor quality of data available on the housing sector, especially data that permit cross-country comparisons to be made. The joint U.N. Centre for Human Settlements / World Bank Housing Indicators Program is a first step in designing a system to collect internationally comparable data on the performance of the housing sector and on policy differences that may influence housing and other socioeconomic outcomes. Results of this effort to collect and analyze data on the housing sector in more than 50 countries will be carefully evaluated and attempts made to move from the first, demonstration phase of the program toward a permanent program for all countries.
- *Expanding substantive research* concerning (i) land and housing supply, particularly on the impacts of the policy and regulatory framework; (ii) the performance of the housing finance system and its relationship to broader financial sector performance; (iii) linkages between the housing sector and the broader economy, especially concerning the impacts of macroeconomic policies on the housing sector and the influence of housing sector policies on macroeconomic performance; (iv) policy differences that are responsible for differences in housing sector performance from one country to another; (v) the impacts of alternative infrastructure policies, including technology choice, level of investment, spatial distribution, regulation of usage, and pricing on the performance of land and housing markets; (vi) the political economy of housing policy change, especially the identification of the winners and losers and the identification of successful strategies for implementing changes; and (vii) the effectiveness of different approaches toward the sequencing of housing sector reforms.

Technical Supplement 1: How the Housing Sector Works

Choosing appropriate interventions in the housing sector—those that enable and facilitate the private sector in addressing the needs of the poor—requires understanding how housing markets operate; the overall effect of policies, regulations, and institutions on these markets; and the interactions between the housing sector and the broader economy. At the heart of an enabling strategy are two key goals:

- To improve the performance of the housing sector as a whole
- In doing so, to leverage limited public resources to the greatest extent possible.

Chapter 1 suggested the broad outlines of an enabling strategy that captures these principles. As discussed in chapter 1, and as illustrated by figure 1, public actions that affect housing supply and demand represent the levers governments manipulate to influence housing outcomes, and these in turn affect broader socioeconomic outcomes. Knowing what actions to choose, and the circumstances under which they should be applied, requires understanding the housing sector and the way in which these levers can move it in one direction or another.

When knowledge of these relationships is imperfect, public action may impede sector performance. By contrast, well-designed housing policies are able to use information on how demand and supply are affected by key policies to influence sectoral outcomes and leverage private housing sector activities.

Our understanding of how the housing sector works has improved

dramatically over the past decade, most recently from the Housing Indicators Program (see box S-16 below), which has collected data on housing sector performance in over 50 countries. This supplement presents this new information about housing sector performance and lays the foundation for the detailed discussion of housing policy priorities presented in Technical Supplement 2.

Among the key findings presented in this supplement are the following:

- Housing demand follows highly regular and predictable patterns within and among developing countries, patterns implying that overall economic development leads to considerable improvement in housing conditions.[1]
- Although demand appears regular, spending patterns are influenced by several key policies, particularly those affecting tenure security, property rights, housing subsidies (including rent control), taxes, and the availability of mortgage finance.[2]
- Housing supply relationships are far more idiosyncratic from one country to another, and indeed within countries, than are demand relationships. While this variability is in part attributable to differences in infrastructure supply and to the role of the public sector in housing production, the key factor is the housing sector's regulatory environment, particularly land use and building regulations.[3]
- Interactions between relatively predictable housing demand and idiosyncratic housing supply produce major differences in the cost, and hence the affordability, of housing among and within countries. Cost differences are in turn reflected in differences in the physical conditions of housing, with areas of higher housing prices clearly associated with lower housing quality. As a result, countries with similar economic development often have quite different housing outcomes, with some countries able to perform as if their incomes were five times as high as is in fact the case. Within countries, higher housing prices are inevitably reflected in worse housing for the poor. This is mainly the result of differences in housing policies, particularly those that affect housing supply.
- The housing sector's impact on broad economic performance is felt in a number of different ways, through the real side of the economy (prices, investment, and employment), the financial side, and the fiscal side. These pervasive effects suggest that the stakes of good housing policy are high.[4]

Housing Demand

The Relationship between Household Income and Housing Expenditures

During the past decade, comparative analyses of housing demand in developing countries have revealed the stability and regularity of housing expenditures. Box S-1 and figure S-1 illustrate some of the

Box S-1. Regularities in Housing Demand

Figure S-1 illustrates graphically what we have learned about spending patterns in four of the fourteen cities that were the focus of a World Bank research project in the mid-1980s: Cairo, Manila, Bogotá, and Seoul. These cities span a wide range of household incomes. Monthly incomes in Seoul, the highest-income city, were about five times what they were in the lowest income city, Cairo, at the time of the study. The figure illustrates how the percentage of household income devoted to housing varies with household income in each city.

Patterns of spending on housing are remarkably similar in each city. The percentage of income spent on housing declined systematically at relatively similar rates in each city as household income increased. In economic terms, this suggests that in the short to intermediate term, housing demand is *inelastic*, meaning that spending for housing does not increase proportionately with income. In Cairo, low-income families may spend 10 percent of their incomes on housing, while more prosperous families spend only 5 or 6 percent. In the Republic of Korea, low-income families may spend 30 percent of their incomes on housing, while higher-income families spend 15 to 20 percent. The figure also suggests, however, that long-run patterns of housing demand differ sharply from short-run and intermediate patterns. The upward-sloping line in the figure shows the relationship between the *average* percentage of income spent on housing as it relates to the *average* household income in each city.

The illustration suggests that as economic development proceeds, households allocate systematically higher fractions of their incomes to housing. This relative shift toward housing from other goods is a result in part of the decreasing food budgets as a percentage of income that accompany higher levels of economic development. As households satisfy their most basic needs, they turn increasingly toward

(Box continues on the following page.)

Box S-1 (*continued*)

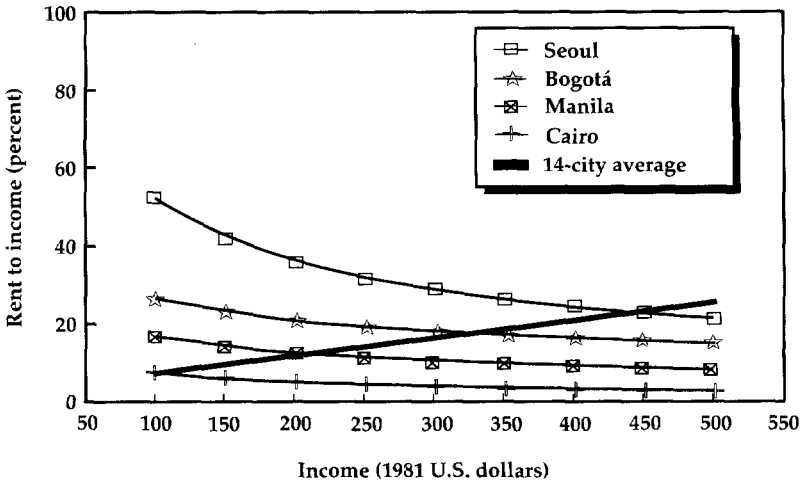
housing as a budgetary priority, making housing demand *elastic* over the longer term. Also, comparison of within-city and between-city propensities to spend for housing exhibits the same pattern found by Kuznets and others concerning both aggregate consumption and consumption of specific commodities at different levels of economic development. Often short- and long-run propensities to consume have been found different, with the latter higher. Broad explanations for such patterns (where, as in the case of housing, demand appears to be inelastic in the short run and elastic in the long run) have been based on the permanent income hypothesis, life-cycle theories of consumption, and the relative income hypothesis, all of which are consistent with the observation that short-run (within-city or within-country) expenditure elasticities are smaller than long-run elasticities. Other explanations which are specific to housing include (i) progressive improvements of housing over time by landlords and occupants; (ii) changing tastes for housing vis-à-vis other goods and services; (iii) improvements over time in finance, infrastructure availability, and tenure security that stimulate demand; and (iv) increases in the relative price of housing, coupled with price-inelastic demand.

These findings indicate that households spend comparatively modest shares of their income for housing at low levels of economic development. In many Sub-Saharan African countries and in the poorer countries of Asia, for example, most households typically spend only 5 to 10 percent of their incomes for housing. In Cairo, renters, comprising about 70 percent of the population, spent, on average, only about 8 percent of their incomes for rent. At intermediate levels of development, such as those in Manila and Bogotá, typical households spend 10 to 20 percent of their income for housing. At higher levels of development, in Korea, for example, typical households spend 20 to 25 percent. Although figure S-1 does not illustrate it, at levels of economic development slightly above that of Korea, spending on housing as a percentage of income levels out and then begins to decline. This is a result in part of the increasing importance of other budgetary priorities such as personal transportation, consumer durables, and discretionary expenditures on health and education.

Another important housing demand regularity concerns the *price elasticity of demand*, which describes the way in which housing quality responds to price changes. Most studies have found the price elasticity of demand to be from -0.2 *to* -0.8, indicating that a 10 percent increase in housing *prices* results in reductions in housing quantity from about 2 to 8 percent and higher budget shares for housing.

Source: Malpezzi and Mayo (1985, 1987a).

Figure S-1. Patterns of Spending on Housing



key findings about housing demand. The first is that low-income households typically allocate more of their income toward housing than do wealthier ones.[5]

A second finding is that the average fraction of income households spend on housing in countries at different levels of economic development varies considerably: as economic development proceeds, the average fraction of household income spent on housing increases (from about 5 percent, in countries with low levels of GNP per capita, up to a limit of about 30 percent, before beginning to decrease in countries with still higher GNP per capita). This means that housing conditions generally will improve considerably with economic development.

Data collected as part of the Housing Indicators Program suggest that housing expenditures increase roughly in proportion to changes in household income across a wide range of economic development, and that these increases are translated, among other things, into improvements in interior space, quality, access to infrastructure, and security of tenure. As indicated below, however, the degree to which increases in demand are translated into housing quality improvements in particular countries depends on how effectively the supply system responds.

In addition to the influence of income on housing expenditures, three other factors influence housing demand: (i) tenure security and

property rights; (ii) the availability of housing finance; and, in some markets, (iii) housing subsidies and taxes.

Tenure Security and the Demand for Housing

Land tenure security is an important contributor to housing demand, both in its own right and because it helps to establish collateral for formal housing loans. Widespread squatter settlements exist without benefit of secure tenure; in some cities, unauthorized housing comprises 30 to 50 percent, and sometimes as much as 80 to 90 percent, of the housing stock.

Several studies indicate that people are willing to pay a large premium for secure tenure. In the Philippines, for example, prices for houses with secure tenure are systematically higher than similar houses without secure tenure. The premium is 10 to 15 percent higher for renters, and ranges from 25 to almost 60 percent, depending on the city, for owners. Such premiums reflect not only the value of improved security from eviction but also the improved likelihood of future infrastructure provision and the benefits that accrue from assurance that improvements made in the property will be secure.

With secure land tenure comes the possibility of using land and housing as collateral for loans. Lending institutions consider land and housing to be inherently good collateral. Well-established systems of property rights; secure and transferable land ownership; and protection through adequate foreclosure laws make land and housing desirable as collateral for financial institutions.

Housing Finance and Housing Demand

Mortgage finance is a critical factor in generating demand.[6] Because a housing unit normally costs a multiple of annual household income, mortgage financing is essential for purchase. Yet mortgage financing in developing countries is extremely limited. In many cities the total volume of formal mortgage loans issued in a given year accounts for no more than 10 to 20 percent of the annual value of housing investment. Other loans for housing usually come from relatives, employers, and moneylenders, but savings and current income finance the bulk of construction. When current income is used, construction often occurs incrementally as funds become available over time. Multitudes of urban dwellers living for years in what amounts to a building site demonstrates the lack of an efficient housing finance system. In many such cases, construction is also highly inefficient; in

the absence of complementary inputs, materials languish and often deteriorate.

When housing finance is available, however, ready capital transforms the construction process. Professional developers become active more rapidly and the building industry becomes more efficient. Households can build or buy housing they could not otherwise afford. Citizens of developing countries view the ability to accelerate the construction or acquisition of housing by assuming mortgage debt as highly desirable. Mortgage loans permit households to distribute patterns of saving, investment, and consumption in a more efficient way.

Housing finance can also contribute to the development of financial depth. In countries where financially sound mortgage finance systems are in place, demand for mortgage loans often is so high that mortgage lending becomes the most rapidly growing segment in the financial portfolios of lending institutions. In Malaysia and Thailand, for example, substantial mortgage lending by commercial banks began in the 1970s and 1980s, respectively. From the earliest years of commercial bank lending for housing in those countries, the volume of mortgage loans has grown at compound rates of 30 percent per year, or more.

Taxes, Subsidies, and Housing Demand

Other major influences on housing demand may include taxes and subsidies, which, in a sense, mirror each other. In industrial countries, taxes and property expenses, including property taxes; capital gains taxes; transfer taxes; development fees; and the income tax treatment of mortgage interest and depreciation influence housing demand. In countries such as the United States, where the impact of the tax system on the housing sector has been extensively studied, the tax treatment of housing has been found to influence not only housing demand but also the choice between owning and renting, and possibly the personal savings rate.

Although tax considerations strongly influence demand in industrial countries, their impact in most developing countries is small.[7] Most developing countries do not rely heavily on the housing sector as a source of tax revenue, and mortgage finance systems are not well enough developed that the tax deductibility of mortgage interest becomes an issue. This situation, however, is likely to change as the housing sector expands and governments view it as a potential source of revenue. In addition, in many countries that have experienced

rapid increases in land and housing prices, such as Japan and the Republic of Korea, reluctance to tax property values or capital gains has contributed to speculative interest in property investments and accelerated price increases beyond what would have been the case with a tax system that treated property more neutrally.

Housing subsidies are far more prevalent in many developing countries, and often more pervasive in their impacts, than taxes. Data from the Housing Indicators Program indicate that on average, housing subsidies are about 3.7 percent of government budgets among 19 countries reporting subsidy levels, with a range as high as 14 percent. Among the lowest-income countries, however, governments commit far lower amounts to housing subsidies; within the two lowest-income quintiles, median reported subsidies are only 1 percent of government budgets. Subsidies take many forms, including direct subsidies for construction, maintenance, and operation of public housing; subsidized below-market interest rates for purchasers; loan or interest forgiveness for mortgages; provision of infrastructure at below-cost prices; and price and rent controls.

Studies of the effects of subsidies on housing demand in developing countries have varied considerably from one country to another because of vast differences in subsidy systems. In general, however, such studies try to distinguish between subsidies' direct and indirect impacts. Serious questions have been raised about how well developing-country subsidy systems reach their intended beneficiaries (often the incidence of subsidy benefits appears to be highly regressive);[8] how much housing conditions are improved as a result of subsidization (in many cases there are enough strings attached, in terms of the type or location of a subsidized housing unit, that many apparent benefits are illusory);[9] the efficiency of the subsidies (often public sector housing appears to be significantly more costly relative to its quality than is the case for private housing);[10] and the impacts on the demand and housing conditions of those who do not receive subsidies (sometimes price distortions result in higher prices and worse housing for nonrecipients than they would otherwise have received).[11] While considerably more research could be done on these conclusions, it is apparent that the effects of subsidies on housing demand and housing outcomes may be considerable for recipients and nonrecipients alike.

Housing Supply

Despite the remarkable regularity in household expenditures for housing, countries differ in the efficiency of their housing delivery

systems, differences reflected in the costs at which housing is produced and the prices at which it is sold. The most important housing sector distortions typically originate from the supply side.[12] Inefficient delivery systems can offset the improvements in housing sector performance that are likely to follow increases in demand.

In market economies, where housing is supplied competitively by many firms, locational differences in the cost of supplying housing will depend on differences in the cost of inputs, such as land, labor, and building materials, and on the efficiency of the housing development process. When the supply side is competitive, the long-run price of housing will be determined primarily by production costs rather than demand; increases in demand will be translated into increases in housing output and not into price increases.

When housing is not supplied competitively, however, costs will increase and the housing supply will become inelastic in response to demand. In such cases, housing prices will depend not only on input costs and production efficiency but also on the responsiveness of housing output changes to shifts in housing demand.

Factors that affect both the cost of housing production and the responsiveness of housing supply are public sector actions to provide infrastructure, to regulate the housing sector, and, to a limited extent, to direct production of public housing. Countries differ in the efficiency of their housing sectors and the effects of various public interventions.

The Efficiency of Housing Suppliers and Construction Cost Regularities

Housing production costs depend largely on the cost and availability of inputs—land, labor, building materials, construction equipment, infrastructure, and entrepreneurial resources. No such direct links necessarily exist between the costs of individual inputs and the final total cost of housing. One reason is that productivity among housing suppliers may differ so much that equivalent amounts of inputs produce considerably more or better housing among efficient suppliers than among inefficient ones. Also, opportunities may exist to substitute less expensive inputs for more expensive inputs. The more such substitutions are possible, the less sensitive the final product's price will be to variations in the cost of individual inputs. Opportunities for substitutions depend on several factors: (i) construction technologies available, (ii) managerial skill of housing producers, and (iii) rules and regulations governing construction, including building codes, zoning laws, and subdivision requirements.

The efficiency of the residential construction industry generally tends to increase with the overall level of economic development. This occurs largely because of changes in building technology and increasingly effective construction management, but also because of extensive technological possibilities for substituting various housing inputs. Other factors which contribute to cost differences among countries are building industry monopolies, building standards, and overvalued exchange rates (which provide incentives for using imported rather than domestic building materials). The net result is that residential building costs differ far less than we might expect among countries at vastly different levels of economic development.

A study published in the 1970s found that construction costs per square meter for similar products averaged US$43 in six African and nine Middle Eastern countries, US$33 in eight Asian countries, and US$35 in six Latin American countries.[13] This range of about one-third from the region with the lowest to the highest average construction costs is small relative to income differences among these regions. Similarly, the Housing Indicators Program found only modest variations in the estimated production costs in 1990 for "median dwelling units," with median costs per square meter of US$97, US$176, and US$145, respectively, for countries in the lowest three income quintiles (and which had median per capita GNP of US$305, US$655, and US$1505, respectively). Based on such data, it appears that construction costs are considerably higher relative to incomes in the lowest-income countries than in better-off countries, almost certainly depressing housing quality in the former.

The Effect of Infrastructure Provision on Housing Supply

Providing infrastructure affects housing supply in three important ways: first, if it is in short supply, serviced residential plots acquire a scarcity premium, and thus housing becomes more expensive. Serviced land prices may be further elevated if, as is often the case in developing countries, infrastructure fees are inadequate to cover capital and operating costs, resulting in capitalization into land values of some or all of the shortfall in infrastructure fees. Second, if infrastructure provision is unresponsive to demand, the supply of serviced land will become inelastic and shifts in housing demand will quickly result in increases in land and housing prices. Third, the spatial arrangement and capacity of infrastructure networks can, by changing the spatial pattern of housing demand, have an effect on the kind of housing in different parts of a city.

Studies of the land and housing markets of Cairo, Egypt; Kingston,

Jamaica; Seoul, Korea; Manila, the Philippines; and Bangkok, Thailand, have shown the existence of scarcity premiums for developed land. In Bangkok, where services such as roads, water, and electricity are relatively responsive to demand, scarcity premiums are relatively small and the price of serviced land is only slightly higher than the combined cost of raw land and infrastructure installation. By contrast, in the other cities mentioned above, the ratio of the prices of serviced land and raw land is of the order of 10 to 15, far higher than consistent with the cost of installing infrastructure. Premiums this high suggest that economic returns to investment in infrastructure are considerable,[14] but that the cost of serviced land will be artificially high. This leads to either higher housing costs as land costs are passed through to purchasers, or to higher densities. At the same time, such premiums indicate a land supply system that appears unresponsive to demand.

The interactions between infrastructure provision and spatial patterns of housing demand and supply are exceedingly complex and may have effects on the economic efficiency of cities that transcend their effects on housing markets alone. Because infrastructure is a complementary input to the production of housing, the amount, type, and price of infrastructure will influence the demand for complementary housing inputs, which will in turn affect the type of housing supplied in different locations, residential densities, and land and housing prices.

These, in turn, may be reflected in commuting times, wages, the costs of goods and services, and the productivity of enterprises. While there has been little empirical research done on the connection between infrastructure provision and housing supply, or on the cost and efficiency implications of alternative spatial configurations of the built environment of cities, there is little doubt that these relationships are important. Considerable additional research needs to be done in these areas.

Regulatory Impact on Housing Supply

Urban areas have instituted many different planning regulations, all of which may influence the performance of the land and housing supply systems. These regulations are intended to enhance the quality of the environment and to stimulate orderly and efficient development that serves the public interest. Examples of the most important include building codes, which stipulate materials for use in construction, design and construction practices, and details of sanitary and electrical connections; infrastructure standards, which specify the

levels of service, types of materials, and construction for roads, drainage, water, sewer, and electric networks; and land use regulations, often embodied in zoning laws and master planning regulations, which control how land is subdivided, road rights of way, residential densities, provision of land for public purposes, and permitted land uses (for example, residential, agricultural).

Such regulations are usually justified on the basis of principles of physical design or on aesthetic, health, or safety grounds. They are, however, rarely subjected to even the most rudimentary cost-benefit analysis. In many cases, regulations and standards applied in industrial countries are adopted by professional elites (such as architects, engineers, and planners) in developing countries with little regard for their economic merits or costs.

Despite the obvious public benefits of well-designed and enforced land and housing regulations, they have a number of inadvertent consequences that may impose large costs on society and subvert their original intent. Regulations can, for example, have major impacts on the costs of land and housing inputs, the efficiency and flexibility of housing production, and the responsiveness of land and housing supply to shifts in housing demand. At the same time they may have effects on environmental conditions that are exactly the opposite of what was intended. Urban regulations can affect housing and land markets in several ways.

- *Regulations can make housing unaffordable to low-income groups.* Unrealistically high standards for subdivision, project infrastructure, and construction make it impossible to build low-income housing legally. In the state of Uttar Pradesh, India, for, example, the minimum standards established under the Regulation of Building Operations Act of 1958 and the rules of 1960, in force at the time of a 1983 study, specified minimum plot size and infrastructure standards that were affordable only by urban households with incomes at or above the 95th percentile.[15] More liberal regulations were proposed in 1982; these would have made the minimum permitted development affordable only to households at or above the 87th percentile. In Uttar Pradesh and a number of other Indian states, alternative standards lower than those permitted for public sector development are not allowed for the private sector, despite a clear lack of public sector capacity to fully serve the needs of low-income populations.

Tedious land and building regulations can discourage housing development, as has also been noted in Latin America. In Peru, for example, the process of adjudicating public land (a high proportion of the Peruvian urban land market) and receiving approvals for urbani-

zation plans, building permits, and occupancy permits can require up to seven years.[16] Legal costs for land adjudication alone are over US$2,000 for a housing plot (in a country where per capita GNP was US$620 in 1989); thus, much of the urban population avoids the formal housing market. The resulting squatter settlements are poorly serviced by residential infrastructure and, as a result, exhibit poor environmental health conditions.

- *Regulations can restrict residential land supply.* Restrictive land use and zoning regulations, for example, agricultural greenbelts and master planning guidelines, restrict the availability and hence raise the price of residential land. This can result in inefficient and costly patterns of development either within existing built-up areas or in areas just being developed. In Serpong, Indonesia, for example, a master plan for the year 2005 requires that an unusually high proportion of the total planned area for development—65 percent—be devoted to nonresidential purposes, and that permitted densities for residential areas be only 100 persons per hectare, well below the typical 300 persons-per-hectare density in Indonesian cities. The residential area of the proposed master plan is some 65 square kilometers, five times that which would be required had standards more reflective of prevailing land-use patterns been specified, and necessitating far more extensive and expensive infrastructure.[17] A similar situation exists in Seoul, Korea, where rural-to-urban land conversion is severely restricted because of rigidly enforced greenbelt regulations and master plan provisions that limit residential development to only 25 percent of the total land area. This has resulted in explosive increases in the price of land and housing, severely decreased housing affordability, and persistent housing shortages. Seoul has only half as many housing units as it has households.

Similar effects have been noted in India, where the Urban Land Ceiling Act, intended to make land more affordable to the poor by restricting land holdings and transfers, has in fact produced the opposite effect. (See box 2.)

Evidence of spatial inefficiency and needlessly high infrastructure costs are also dramatically illustrated in centrally planned economies such as those of Eastern Europe. Spatial development in Eastern European cities has been controlled by master plans that did not view land as an economic commodity—a situation that often resulted in inefficient and wasteful development. Comparisons between Western and Eastern European cities typically indicate that, for comparable city sizes, populations in Western Europe are housed in more compact spatial patterns than those of Eastern Europe, resulting in

more efficient infrastructure networks in the West. Average commuting distances in large cities of Eastern Europe and the former Soviet Union are often 50 percent or more longer than those in western cities of similar size, resulting in greater energy and infrastructure maintenance costs and contributing to air pollution. Moreover, planning restrictions in Eastern Europe have aggravated persistent housing shortages, characterized by free markets where housing frequently sells for 15 to 20 times the median household income.

In Africa, government land policy, dealing with one of the most important inputs to housing production, has paralleled that of centrally planned economies in Eastern Europe, with similar consequences. Between 1970 and 1985, for example, most of the Sub-Saharan countries, accounting for 75 percent of the population of the region, nationalized land.[18] Monopolies in the supply of key inputs to housing, whether in the private or the public sector, are almost always associated with decreases the housing market's responsiveness to demand shifts, with the effect that demand increases are more likely to be translated into price increases than output increases.

- *Regulations can create bureaucratic bottlenecks that cause delay.* While many of the effects of land use and building regulation discussed above directly raise the cost of land or housing, the effects of regulatory uncertainty may cause a fundamental shift in the responsiveness of the housing supply system to changes in demand.

While many factors can cause housing supply responses to differ from place to place, perhaps the most important is the legal and regulatory framework within which housing suppliers operate. Constraints can affect both the cost of housing construction and the responsiveness of housing supply to changes in demand. The case of three rapidly growing Asian countries, Korea, Malaysia, and Thailand, illustrates this principle particularly well. Each country has different legal and regulatory systems that affect housing suppliers (see box S-2, which describes the land development approval process in Bangkok and Kuala Lumpur).

Figure S-2 illustrates the shape of housing supply curves in Korea, Malaysia, and Thailand. The curves illustrate the relationship between housing quantity and relative price. As the figure illustrates, the nature of the housing supply differs profoundly in each of these three countries. In Thailand, supply is highly elastic. Relatively small changes in housing prices are associated with large changes in the volume and quality of housing supplied. In Malaysia and Korea, conversely, housing supply is extremely inelastic. Price changes lead to only modest increases in supply. In quantitative terms, estimates of

Box S-2. The Land Development Approval Process in Malaysia and Thailand

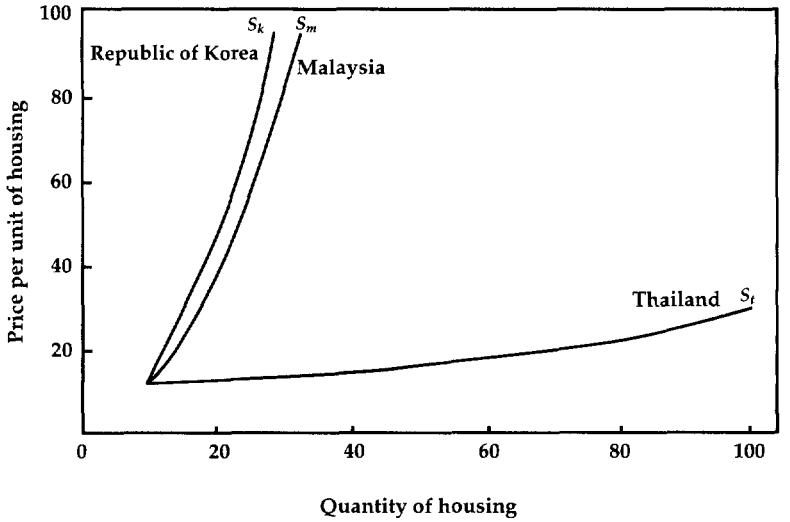
A close examination of the factors responsible for the dramatic differences in supply responsiveness between the Republic of Korea, Malaysia, and Thailand indicates that these three countries differ sharply in the degree of legal and regulatory complexity and in the stringency of enforcement. Figure S-3 illustrates graphically the process of regulatory approvals that developers in Bangkok, Thailand, must undertake. Figure S-4 shows the process for developers in Kuala Lumpur, Malaysia. In the mid- to late 1980s developers in Malaysia were required to satisfy 55 different steps of a regulatory process which might take them five to seven years before they could deliver their products to the market. In contrast, in Bangkok the entire process of seeking approval for subdivision, building, and land titling takes approximately 100 days.

A major result of these regulatory requirements is to increase dramatically the risk associated with participating in the residential construction industry. This increased risk, in turn, effectively limits participation in the formal housing supply system in Malaysia, for example, to relatively large and well-capitalized firms that can afford to deal with this process. In Bangkok, by contrast, the residential construction industry is extremely fluid, with many small firms eager to find a market niche that they can quickly fill.

housing supply in Thailand suggest it is more than 30 times as responsive to shifts in demand as is the case in either Korea or Malaysia.[19]

These differences are reflected in housing price shifts among the three countries. Confronted with rapidly growing economies and similar shifts in housing demand during the 1970s and 1980s, Korea and Malaysia both experienced rapid price increases, with the price of typical urban dwellings rising from a range of from 3 to 4 times the annual income of a typical urban household in the 1970s to a range of from 5.5 to 7 in the 1980s. In Thailand, by contrast, the price of housing in relation to annual income fell over the same period—from roughly 5 times income to about 2.5 times income in the mid-1980s, facilitating access to newly built housing by households as low as in the 20th percentile of the income distribution. These differences

Figure S-2. Housing Supply in Three Asian Countries

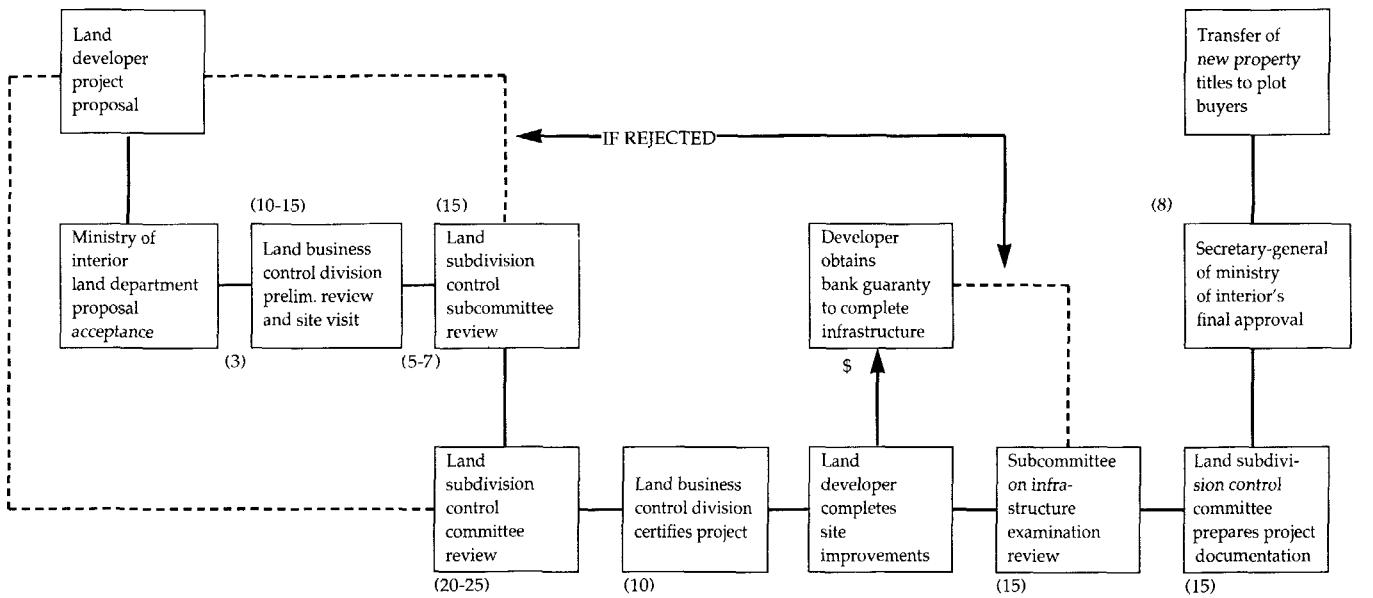


between the two countries have profound implications not only for the affordability of housing but also for the quality of housing available.

Preliminary data from the Housing Indicators Program, for example, indicate that for each measure of housing quality or affordability measured in the program, outcomes are more favorable in Bangkok. In Bangkok typical households have either comparable or roughly comparable living space per person (about 15 square meters, compared with about 12 square meters in Kuala Lumpur), are more likely to live in structures built of permanent building materials (96.5 percent, compared with 85.4 percent in Kuala Lumpur), are less likely to be living in squatter housing (3.2 percent, compared with 14.5 percent in Kuala Lumpur), have higher rates of owner occupancy (67.5 percent, compared with 55.9 percent in Kuala Lumpur), and have rents that are lower relative to incomes (20 percent of income, compared with 26.2 percent in Kuala Lumpur). And while the price differential appears to have narrowed somewhat by 1990 (with house price-to-income ratios of 4.1 in Bangkok and 5.0 in Kuala Lumpur), the difference in affordability is still considerable.

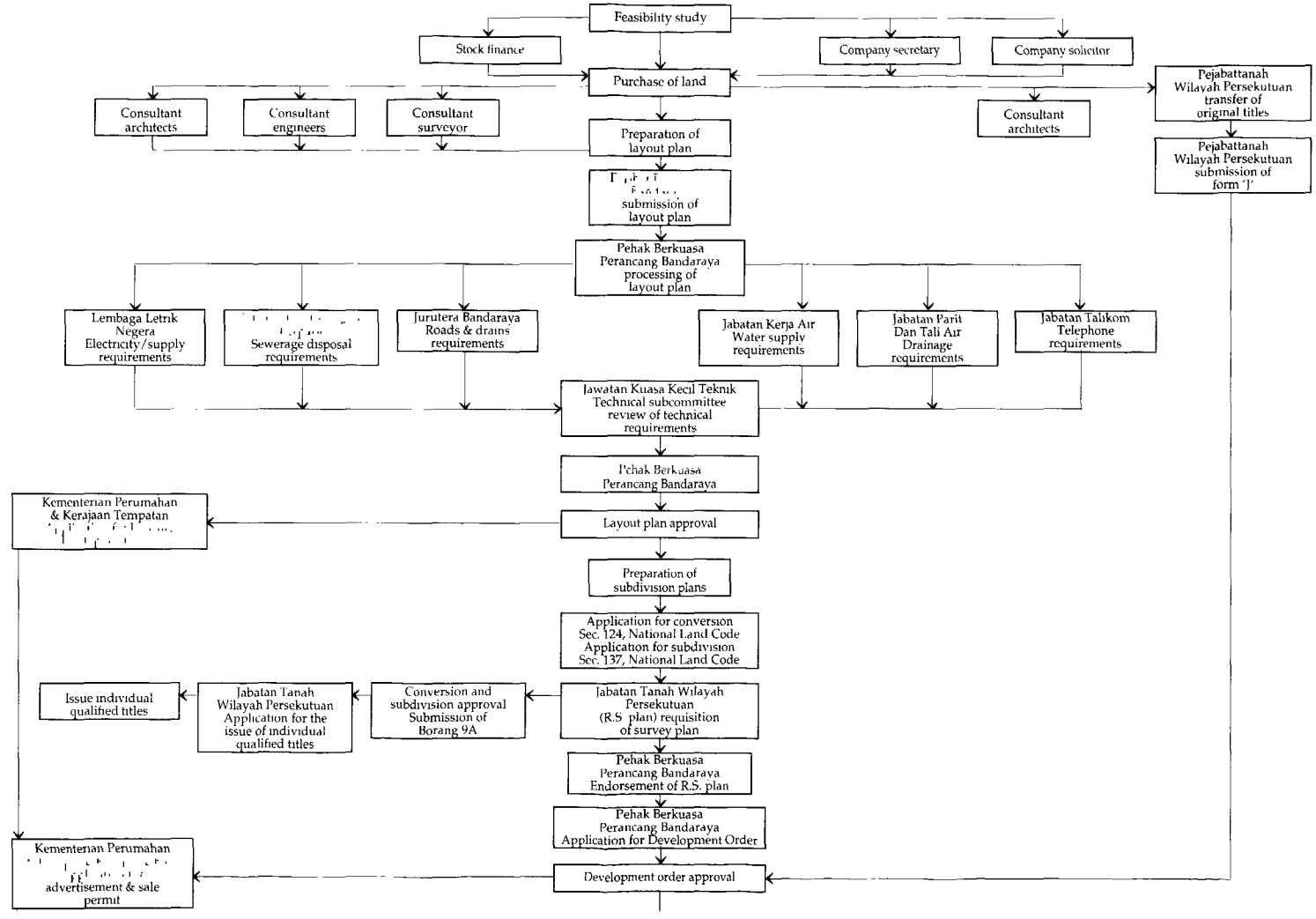
These findings suggest clear-cut efficiency differences in housing sector performance in Bangkok and Kuala Lumpur, that these differences have major implications both for the well-being of citizens and for the allocation of resources in each economy, and that these are

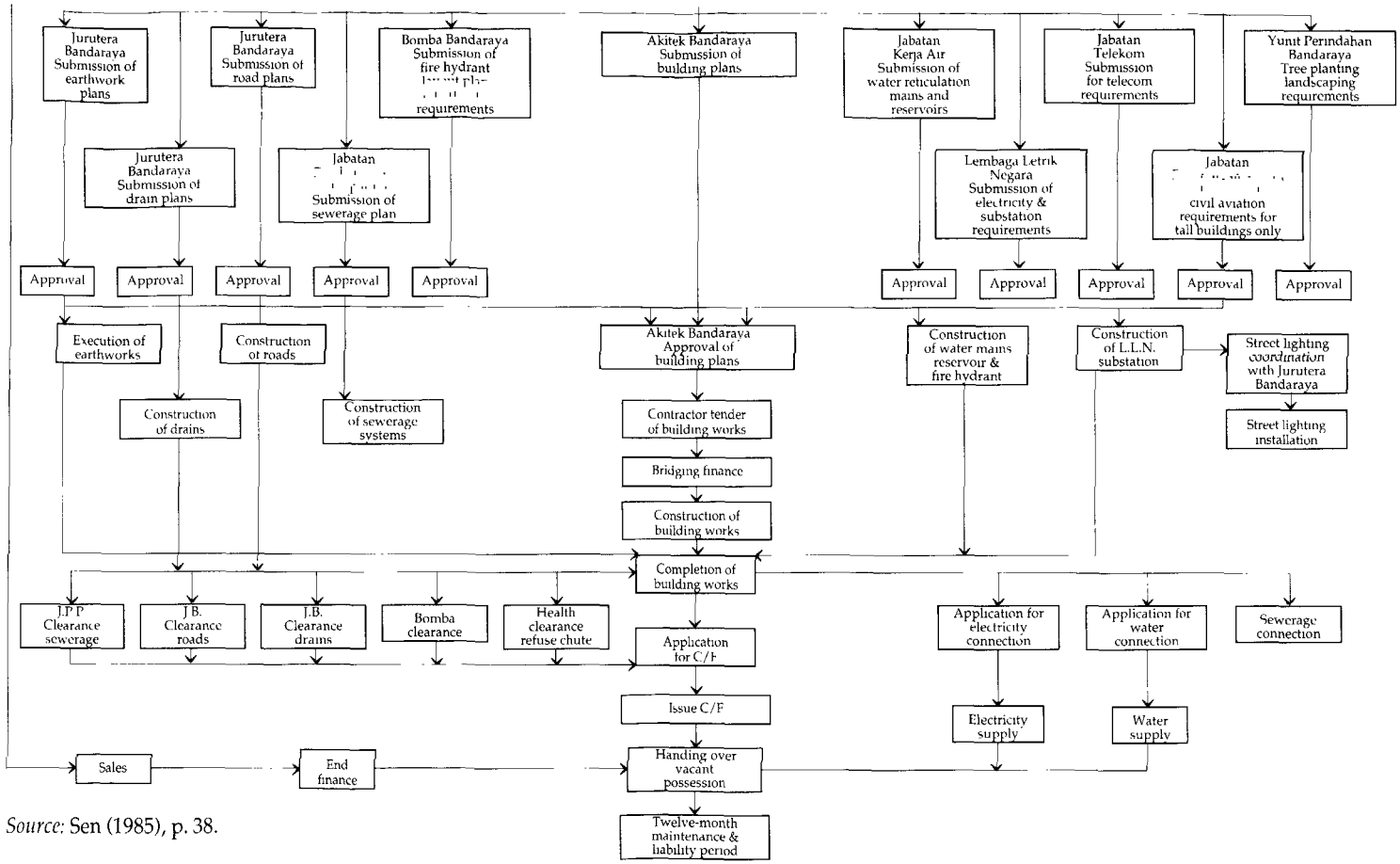
Figure S-3. The Land Subdivision Process in Thailand



Note: Numbers in parentheses are working days required, out of a total of approximately 100 days.
Source: U.S. Agency for International Development (1990), p. 8.

Figure S-4. The Land Development Process in Kuala Lumpur, Malaysia





Source: Sen (1985), p. 38.

highly likely to be the result of policy differences that influence the effectiveness of the housing delivery system.

Public Sector Housing Development and Overall Housing Supply

On the surface, it might appear that when public authorities produce housing directly, or even when they subsidize its construction by private firms, the overall supply of housing is augmented. Indeed, this is a fundamental premise of almost any government-sponsored program of direct housing production. Evidence from Greece, the Netherlands, and the United States, however, based on careful econometric analysis of the impact of subsidized housing production on the total housing stock, suggests that often new publicly subsidized housing simply crowds out equivalent amounts of private housing that would otherwise have been built.[20] The reason is that public and private housing are linked through the demand and supply sides of the marketplace. On the demand-side, households able to occupy government-sponsored housing are not able to occupy private housing, with the result that private demand, and thus incentives to develop housing, are diminished. On the supply-side, government use of resources, especially finance, reduces the available supply of those resources to private developers. This drives up prices of inputs and lowers potential returns.[21] While comparable empirical analysis has not yet been done in developing countries, there is no evidence that markets for housing outputs and inputs are any less strongly linked than in industrial ones. Thus it is likely that under most circumstances the net housing stock addition from public sector housing production is considerably smaller than is commonly believed, if, indeed, there is any.

Even if publicly subsidized housing did not displace private housing, there are serious questions about its efficiency. Unlike the private sector, where market forces bring about an efficient provision of new housing, publicly supported housing has no explicit mechanism for ensuring efficiency. In the private market the profit motive provides a strong incentive for efficiency; the public sector lacks this discipline. As a result, the public sector may build in locations where no one wants to live or produce units costing more than people are willing to pay.

Empirical studies of publicly built and subsidized housing in the United States and Germany have found that the market value of subsidized housing is often considerably less than the cost of the resources it requires. One study in the United States found that the value of the housing in the Low Rent Public Housing Program, the

largest production program for low-income households, averaged only 50 percent of its resource cost.[22] A comparative study estimated that the corresponding figure for Social Housing, the largest subsidized housing production program in Germany, was 62 percent.[23] In the United States, given the magnitude of public housing programs, it was estimated that switching from subsidized new construction to private provision of housing coupled with a system of "housing allowances" for low-income households (to obtain roughly equivalent private rental housing) would result in savings of between US$5 billion and US$10 billion each year.

There have been few careful studies of the comparative efficiency of public and private housing provision in developing countries. One exception is in Bangkok, Thailand, where a massive downmarket move in housing production by the private sector in the late 1970s and early 1980s created significant salability problems for new units built by the National Housing Authority.[24] As a result of the successes of the private sector in delivering more attractive and salable housing at the low-income end of the market, the National Housing Authority was hard-pressed to discover an appropriate market niche. As a result, it has reduced considerably its level of production and moved "upmarket" from its 1970s products. In Indonesia, housing financed by the government housing bank, BTN, had a rate of capital appreciation significantly less than that of comparable privately financed housing—a sign that the market placed a higher value on the privately provided housing package.[25] While there is considerable scope for more empirical studies of the comparative public and private efficiency in developing countries, existing evidence is consistent—in providing housing, the public sector is less efficient, usually by a considerable margin, than is the private sector.

Housing Outcomes: Quantity, Quality, and Prices

Housing outcomes are of two types: those that pertain to households, for example, quality and price; and those that pertain to the sector, for example, aggregate measures of quantity, production, and investment. This section focuses on the first type; the second type is discussed in a following section.

This section suggests that housing policy and housing outcomes are strongly connected, and that the role of policy in influencing housing prices, particularly through the supply system, is critical in establishing this relationship. Data from the Housing Indicators Program, for the first time, permit a direct examination of the linkages between policies, prices, and physical outcomes for a broad range of

Figure S-5. Dwelling Unit Size in Relation to GNP

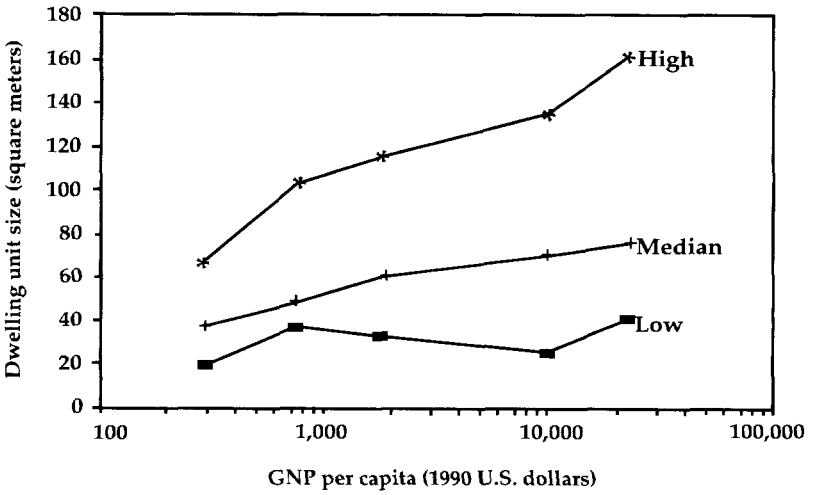
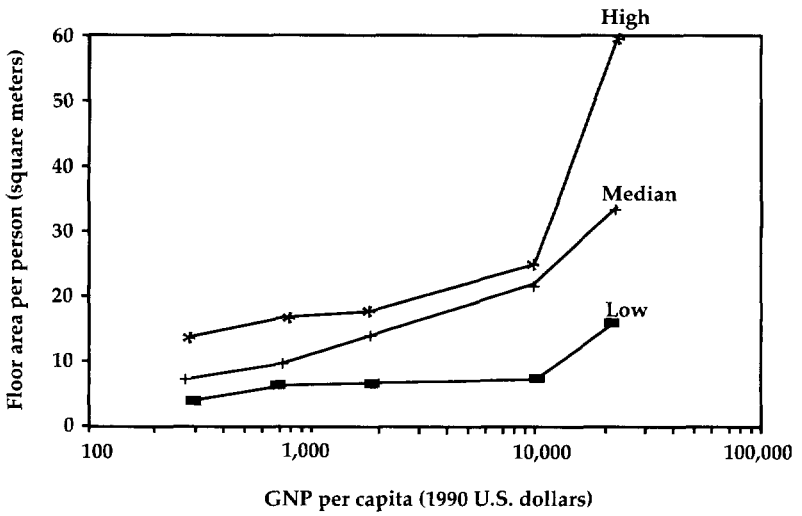


Figure S-6. Floor Area per Person in Relation to GNP



countries. While analysis of data from this program is far from complete, the evidence presented here represents a major addition to our understanding of the connection between policies and housing sector performance.

Figure S-7. Permanent Structures in Relation to GNP

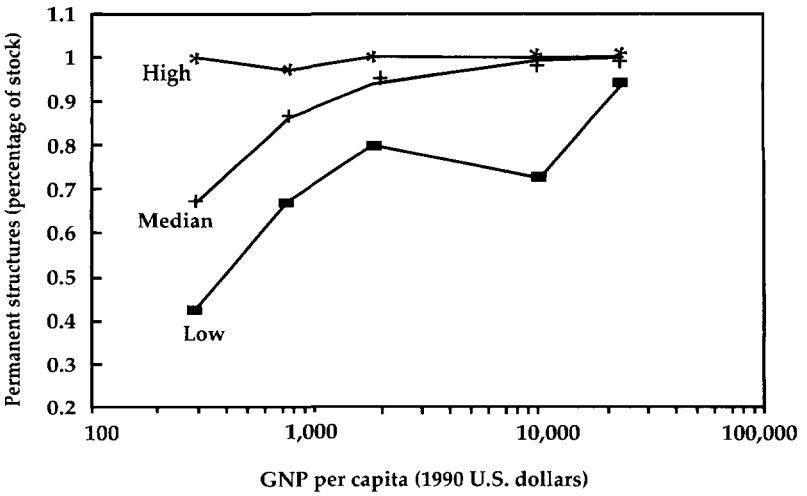
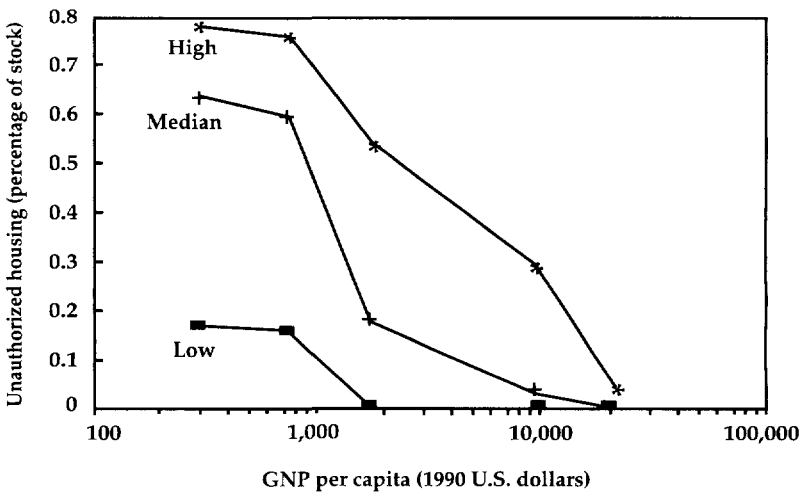


Figure S-8. Unauthorized Housing in Relation to GNP



Housing Space and Housing Quality

Housing is a commodity with many attributes, including interior and exterior space, durability and finishing of materials, access to infra-

structure and to places of employment and other activities, legal status, and a variety of neighborhood characteristics. While preferences for different housing attributes might be expected to vary across societies, in general it is to be expected that the increasing resources associated with economic development will enable households to occupy housing that is more spacious, of greater quality and durability, has greater access to infrastructure, offers secure tenure, and which is located in reasonably good neighborhoods.

Figures S-5–S-8 illustrate the way in which several key housing attributes that characterize space and quality vary among 5 groups of countries at different levels of income. Data from the Housing Indicators Program are grouped on the basis of GNP per capita. Each figure presents three graphs which illustrate how the median value of each variable changes with increasing income, and the way in which the high and low values reported for major cities in countries in each income group vary. There are approximately 10 countries in each of the 5 income groups represented in each graph. The first two figures indicate that both dwelling unit size and floor area per person increase systematically across countries as income increases;[26] figure S-7 indicates that the proportion of dwellings in structures built of permanent building materials increases with increasing income, and figure S-8 indicates that the proportion of housing which is unauthorized (either because it fails to meet land use and building codes or because it is built illegally) decreases with increasing income.

Several features of the graphs are noteworthy. The first is the evident association of each housing outcome with income: economic development is good for housing outcomes. The typical size of dwelling units increases relatively slowly as income increases, from 32 square meters in the lowest income group to 72 in the highest; floor area per person increases relatively more rapidly, from 7.4 square meters to 31.4 square meters. The proportion of dwellings in structures built of permanent materials also increases rapidly, so that the typical city housing market in the third income quintile (with median 1990 per capita GNP of US$1,505) is estimated to have more than 90 percent of its structures in buildings of permanent materials. Similarly, the proportion of dwellings which are unauthorized decreases rapidly with increasing income, from 63 percent of the housing stock in the lowest quintile, to 28 percent in the third quintile, and to virtually nil in the highest quintile. Other quality and space variables exhibit similar patterns, with steady improvements in both space and quality, but with indicators of housing quality (and access to infrastructure) increasing more rapidly than indicators of space.

Despite these regularities, the degree of variation in housing out-

comes for a given level of GNP per capita is generally large relative to variation attributable to income differences. This suggests that resources are being translated into better quality housing at very different rates in different countries, and that poor quality housing is likely to be as much the result of housing policy and other factors as of poverty per se. Some countries, generally those with effective housing policies and efficient housing delivery systems, realize many of the same outcomes as countries with levels of income per capita up to 5 times higher.

While many factors other than income can influence housing outcomes, such as climate, topography, demography, and cultural preferences, much of the observed variation in outcomes is attributable to policy differences, particularly those that determine the responsiveness of the housing delivery system to market demand. Moreover, it is likely that the effects of these policy differences will be manifested in price differences, and that housing outcomes will be a direct outcome of the structure of housing prices. A simple but dramatic example comes from a comparison of recent conditions in Japan and the United States. In 1990, reported housing prices for median dwelling units in Tokyo and Washington, D.C., respectively, were US$442,000 and US$196,000, and the respective sizes of those units were 41 square meters and 161 square meters. While cultural factors may account in part for smaller Japanese housing units, it is indisputable that higher Japanese housing prices bear most of the explanation.

The Price of Housing

In addition to supply and demand forces, housing prices are subject to direct manipulation by public authorities, through, for example, rent control ordinances or control of selling prices. In choosing housing, households must take into consideration both rents and purchase prices. If prices are high, it is expected that the quality of housing (or space) chosen by households will suffer relative to a situation in which prices are low. To the degree that variation exists in housing prices among countries at similar levels of income, housing quality outcomes are expected to mirror them.

Rental housing. Evidence on variations in the price of rental housing across a wide range of countries has, until recently, been comparatively limited. Data collected as part of the International Comparisons of Gross Product and Purchasing Power Project of the United Nations can, however, be used to examine variation in the relative cost of similar types of housing in different countries.[27] Such data indicate

that the relative cost of similar dwellings, compared with the cost of other consumer goods and services, is far more variable among developing than among industrial countries. Relative costs are particularly high in African countries—in some cases nearly twice as high as costs in other regions. In addition, relative costs of rental housing were found to be considerably lower in countries with actively enforced rent control—such as Eastern European countries, India, and Sri Lanka. In the case of both high and low relative prices, rental housing prices appear distorted well away from the prices expected under housing policies of a more "enabling" nature.

More recent evidence, from the Housing Indicators Program, has confirmed these findings. Rent levels per square meter of dwelling space are about three times as variable in developing countries as in industrialized countries. Moreover, rent levels per square meter appear to be highest relative to income in the lowest quintile of countries. (Annual urban rents per square meter in 1990 are estimated to be about $US5 in countries whose median per capita GNP is $US305, while corresponding figures are $US82 in the highest-income quintile, which has median per capita income of $US17,800). An explanation for the wide variation in observed housing outcomes among countries with similar incomes is that households are responding to widespread price differences.

Owner-occupied housing. Another important indicator of potential distortions in housing markets is the selling price of housing in relation to annual household incomes.[28] The sales price is, in effect, an assessment of the potential ability of the housing supply system to accommodate future as well as current demand, as it reflects future expectations about housing prices as well as a valuation of the rental value of a dwelling. There are many determinants of the house price-to-income ratio,[29] but, as an empirical matter, the sources of variation in the ratio tend to be dominated by place to place differences in characteristics of the housing supply regime. It is this empirical regularity that gives the measure its value as an indicator of potential housing market distortions. While there are situations in which the ratio can be higher in a less distorted market or lower in a more distorted market, it is consistently true that markets with unresponsive supply systems have comparatively high house price-to-income ratios while those with the most responsive systems have comparatively low ratios.[30]

Table S-1 shows the range of estimated ratios of housing price to income for three categories of countries: (i) developing countries; (ii) centrally planned or formerly centrally planned economies; and (iii) industrial, market economies. In most instances, the ratios relate the

Table S-1. Housing Price-Income Ratio

Developing countries	*House price / income*	*Centrally planned countries*	*House price / income*	*Industrial countries*	*House price / income*
Tunisia	7.8	China	15–25	Japan	6.6
Egypt	7.5	Poland	10–20	Netherlands	5.5
Nigeria	6.1	Hungary	8–13	Canada	4.8
Malaysia	6.0	Soviet Union[a]	7–10	Germany	4.4
Chile	5.7			Australia	4.0
Turkey	5.7			Greece	4.0
Brazil	5.6			Norway	3.8
Korea, Rep. of	5.5			United Kingdom	3.7
Morocco	4.6			France	3.4
Philippines	4.5			United States	2.8
Indonesia	4.5			Sweden	2.4
Colombia	4.4				
Peru	3.3				
Thailand	2.5				
Median	5.5			Median	3.9

a. Refers to former Soviet Union.

Sources: Renaud (1991a); Struyk and others (1990); *Washington Post* (1991). Most data are for the mid- to late 1980s.

median sales price of housing to the median income of the population. In the case of centrally planned economies, the figures represent only ranges because the sources of the data are imprecise.

The difference in reported median values between industrial and developing countries is clear. In the industrial countries, the median ratio of housing price to income is 3.9, while the median for developing countries is 5.5. The ratios in individual industrial countries range from 2.4 for Sweden to 6.6 for Japan.[31] Among developing countries, the range moves from 2.5 for Thailand to 7.8 for Tunisia. These ratios are at odds with their predicted values. Indeed, reflecting the cross-city comparisons discussed in box S-1 and figure S-1, all other things being equal, price-to-income ratios should be higher in industrial than in developing countries. This suggests that factors such as lack of responsiveness of supply to shifts in demand have contributed to the observed relationship.

The difference between centrally planned economies and either of the other groups is even more striking, and suggestive of the role of distortions. Formerly centrally planned economies have the most

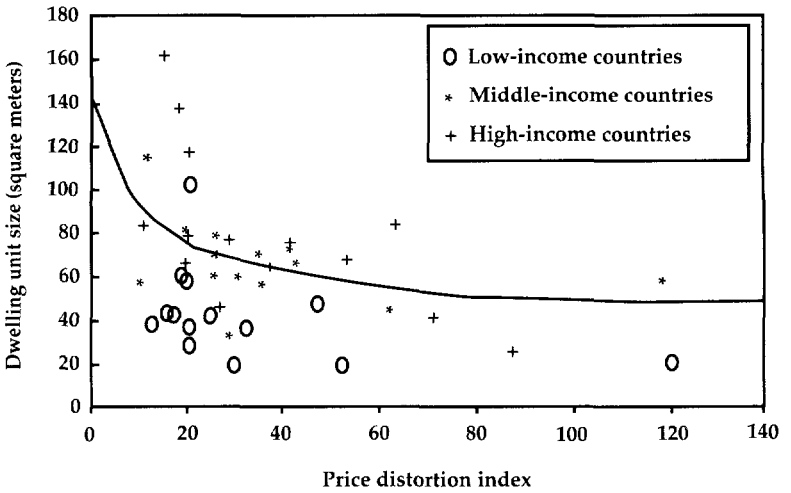
expensive housing relative to household incomes. The former Soviet Union has the lowest estimated range of housing price-to-income ratios (7–10) and China the highest (15–25). These latter figures require especially cautious interpretation; they did not evolve from statistically reliable sampling techniques, and illustrate only a small volume of sales transactions in relation to the total housing stock. With these caveats in mind, the statistics generally indicate serious mismatches between supply and demand and severely dysfunctional housing delivery systems in centrally planned economies.

Housing Price Distortions and Housing Outcomes

Data from the Housing Indicators Program allow a more direct examination of the effect of price distortions on housing outcomes. For purposes of this analysis, the measure of distortion is the ratio of housing prices to rents.[32] This measure captures distortions arising from rent controls, since prices will clear the market for the stock of housing, but rents will not clear the market for rental services.[33] But it also tends to capture distortions arising from supply-side rigidities, where demand increases lead to large price but small quantity increases. Indeed, the empirical evidence suggests that in tight housing markets, the numerator of the index (the price of houses) will be large relative to the denominator (the rent level), since the price will adjust much more quickly to capitalize the effect of future rent changes.[34] To be sure, the ratio of price to rent as a measure of distortion is subject to many caveats,[35] and is the subject of ongoing research in the Housing Indicators Program; nevertheless, as shown below, it can help to illuminate the role of price distortions in influencing housing outcomes.

Figure S-9 illustrates the relationship between median dwelling unit size and the index for housing markets in 41 countries. Outcomes are shown separately for low-income countries, middle-income countries, and high-income countries. The figure suggests a negative relationship between the measure of housing price distortions and median dwelling unit size across all three country income levels. While it is clear that dwelling unit size is related to the level of resources in a country, dwelling size increases only slowly with increasing incomes, with the result that dwelling sizes are only about 2.3 times as large for the highest income quintile as for the lowest quintile. Conversely, variations in dwelling sizes among countries are at least as strongly related to evident price distortions; going from a "low" value of the index of 20 to a "high" value of 100 appears to be associated with a drop of about half in the size of the typical dwelling.

Figure S-9. Unit Size and Price Distortions



On the basis of multivariate analysis of the determinants of dwelling unit size, this drop corresponds roughly to a change in per capita GNP by a factor of 5.[36] Such evidence is consistent with other data on how households adjust their housing consumption in response to price differences. For example, while incomes are comparable in Hong Kong and Athens, Greece, the price per square meter of floor area is 5.7 times as high in Hong Kong, contributing in part to a median dwelling size which is 63 percent smaller in Hong Kong. Similarly, with similar incomes, the price per square meter of housing in Tokyo is about 9 times higher than that in Washington, D.C., contributing in part to the fact that median dwellings in Tokyo are about 75 percent smaller than those in Washington. Similar differences are reflected in developing as well as industrial countries across a wide range of GNP per capita.

Such findings are strongly suggestive of the role of price distortions, many of which are likely to be policy-induced, in influencing housing outcomes. The future work of the Housing Indicators Program will concentrate on examining the relationship between other housing outcomes and price distortions and on analyzing directly the statistical links between particular housing policies (such as rent control, public intervention in the production and pricing of housing, land use and building controls, and infrastructure and finance policies) and a wide variety of housing outcomes.

The Impact of the Housing Sector on the Broader Economy

Macroeconomic policies that influence economic growth and national income levels have clear impacts on the quantity and quality of housing. Inflation rates and interest rates influence households, firms, and financial institutions in making decisions about demand, supply, and price of housing. Taxes and subsidies further influence the performance of the housing sector.[37]

The connections running from the macroeconomy to the housing sector tell only part of the story. The performance of the housing sector has important implications for broad economic performance, some of which are only beginning to be understood and documented. The stakes of good housing policy often far transcend their implications for the sector alone.

The housing sector is connected to the broader economy through a number of different circuits—the real, fiscal, and financial sides of the economy. "Real" effects of the housing sector include those associated with investment, output, employment, and prices. Financial effects are those associated with the financing of housing and related residential infrastructure through financial intermediaries. Fiscal effects are associated with the taxation and subsidization of housing.

Some of these linkages are direct and easily measurable, particularly those associated with real-side linkages, which have been well researched. Linkages through the fiscal and financial sides of the economy, however, have only recently begun to be explored in a systematic way.

Recent research into the housing sector's impacts on the broader economy suggests that it is governments' "off the books" rather than "on the books" policies that matter most. Direct spending on the housing sector, for example, averages only about 2 percent of government spending in developing countries, a tiny fraction of the resources flowing into the sector. Policies that affect housing characteristics, however, can have pervasive impacts not only on the performance of the sector but on the performance of the broader economy as well.

Housing Investment and National Output

Housing investment and employment created in the housing sector give rise to multiplier effects; each dollar of investment in the housing sector gives rise to about two dollars of additional economic activity in other sectors, which is not appreciably different from that found for other sectors of the economy.[38] Employment in the residential con-

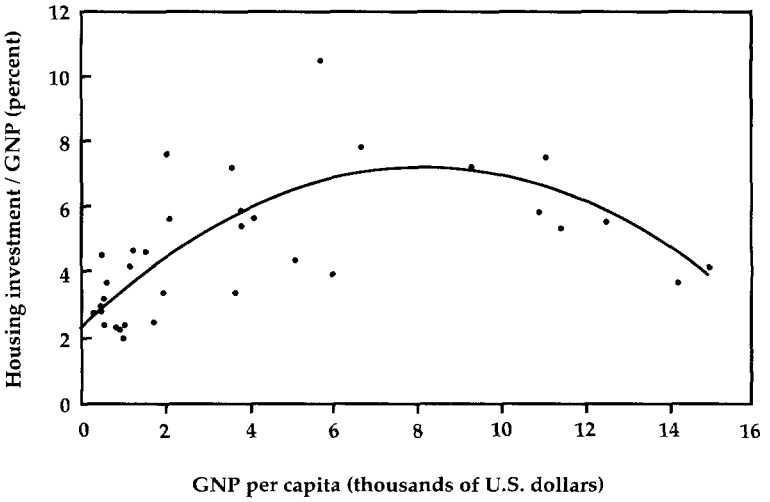
struction industry, which comprises from 1 to 3 percent of the economically active population in developing countries and from 3 to 6 percent in industrial countries, is associated with employment in other industries in about the same ratio: one additional job in residential construction gives rise to about two other jobs. Such linkages provide a broad stimulus to the economy by stimulating the housing sector, although implementing such schemes can be problematic. The converse is also true; if the housing sector is the unintended victim of broader macroeconomic policies, implications will be felt well beyond the sector.

Despite evidence of such linkages, normative thinking about the role of the housing sector in the economy has, among many economists, been colored by a perception that housing investment should rank low as an investment priority because it has a high "capital-output ratio" compared with other investments. For example, housing output, measured in terms of annual house rent, is typically less than 10 percent of house value or construction cost. Such thinking, however, represents a misunderstanding of even the most elementary project investment analysis, which suggests that investment priorities be determined on the basis of the "present discounted values" of outputs in relation to project costs or on comparative rates of return for otherwise similar investments. The durability, adaptability, and relatively low maintenance requirements of housing make it an investment with long and stable flows of housing services (rents). As such, it is often a highly attractive investment compared to other alternatives with lower capital-output ratios, whose outputs may quickly become obsolete or unprofitable to produce.

Moreover, such discredited normative guidance is at variance with the actual performance of housing investment in response to economic development. Research indicates, for example, that housing investment increases relative to both GNP and other types of investment over a considerable range of economic development.

At low levels of economic development, the share of GNP attributable to housing investment is quite low, about 2 percent. As development proceeds, housing's share of GNP increases to as much as 8 percent for countries at moderate levels of development, and falls to an average of between 3 and 5 percent in industrial countries. This relationship is similar to, and indeed is influenced to a considerable degree by, the relationship between housing demand and household income discussed above in box S-1. Figure S-10 illustrates this relationship for a sample of countries during the mid-1970s. For countries at the same levels of GNP per capita, the amount invested in housing generally was higher in those with higher rates of urbanization.[39] In

Figure S-10. Housing Investment in Relation to GNP, 1976

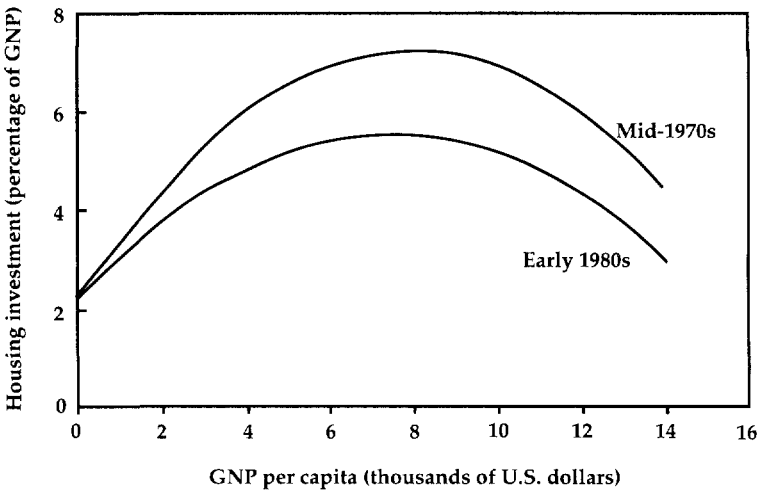


addition, countries that have lost some of their housing stock because of natural disaster or war tend to invest at a higher than average rate to offset deficits. Government-directed credit programs occasionally have either encouraged or discouraged investment in the housing sector.[40] The overall relationship between housing investment and GNP remained stable during the 1960s and 1970s.

Beginning in the early 1980s, however, an unusual shift occurred in the previously stable relationship between housing investment and GNP (see figure S-11). Housing investment fell in relation to GNP by amounts ranging from roughly 10 to 25 percent, depending on each country's level of GNP per capita, and similarly fell as a proportion of gross fixed capital formation. In the mid-1970s the average ratios of housing investment to gross domestic product (GDP) and housing investment to gross fixed capital formation were 7.2 percent and 28.3 percent, respectively, for a sample of countries. By the early 1980s, these ratios had fallen to 5.5 percent and 23.4 percent, respectively.[41]

This shift is likely to have been associated both with the decline in the economic performance of many developing countries and with the nature of the macroeconomic policy response. Systematic increases in interest rates in the 1970s and 1980s were particularly inimical to housing investment. However, macroeconomic policy can wield powerful effects on the performance of the housing sector. This influence may express itself through such instruments as directed

Figure S-11. Housing Investment and GNP in the Mid-1970s and Early 1980s



credit, trade policy, interest rates, fiscal and monetary policy, state ownership and control of production, and laws governing property rights. Within the past decade, the housing sector has been particularly vulnerable in countries undergoing structural adjustment, as policies designed to address broad economic problems have been formulated with little regard for their impacts on housing investment.

Policies designed to shift economies from the production of nontradable to tradable goods have often failed to consider either the direct or indirect contributions made by housing investment toward growth and overall productivity change. Just as an inappropriate preoccupation with capital-output ratios led many developing-country planners to actively discourage housing investment, an inappropriate concern with what some have called the "foreign exchange theory of value" has led recently to the same outcome. Such a theory suggests the primacy of investments that generate foreign exchange over almost all others, an investment guideline that is as conceptually flawed as one based only on capital-output ratios. Broader investment criteria that account for intersectoral rates of return, taking fully into account the real, financial, and fiscal implications of alternative investment policies, would almost certainly have been more "neutral" between tradables and nontradables such as housing.

At the same time, the housing sector has not been sufficiently insulated from economic changes or policies designed to deal with

them; as a result, investment levels declined significantly.[42] Structural adjustment has also led to decreased housing subsidies in many countries.

Housing Finance and Financial Development

Recent research on connections between financial development and economic growth suggests that an economy's financial depth may make an important independent contribution to growth. Housing finance is important to the financial system, therefore properly structured housing finance policies are important to the stability of the financial sector and thus to the stability of the economy (see box S-3).

Box S-3. Housing Finance Innovation and Financial Sector Development in Colombia

In 1972, the government of Colombia established new housing finance institutions, the Cajas Ahorra de Vivienda, which paid positive, real interest rates on deposits, indexed to the rate of inflation. Depositor response to these indexed instruments was immediate and positive, and led to rapid growth of deposits in the housing finance system. In commercial banks, by contrast, real interest rates paid on certificates of deposit had averaged negative 6.5 percent over the preceding 14 years. In order to compete for deposits, commercial banks were forced to pay more competitive deposit rates, with the result that from 1972 to 1984, their certificates of deposit paid an average, positive real return of 2.5 percent, allowing them to maintain and subsequently increase their deposit bases.

The direct benefit of this process for Colombia was increased financial depth. Credit outstanding as a share of GDP increased from an average of 15 percent in the five-year period leading up to 1970, to 36 percent after 1980. During this same period most other Latin American countries experienced significant reductions in monetary assets as a share of GDP. Colombia's ability to maintain and increase its financial depth during this period has been cited as a major cause for its favorable economic growth relative to that of other Latin American countries. This illustrates the productive contribution that well-structured housing finance systems can make toward both financial sector and overall economic development.

Source: Buckley and Dokeniya (1989).

Box S-4. The Collapse of Banco Nacional de Habitação in Brazil

The Banco Nacional de Habitação (BNH) was created in 1964 to serve as the primary regulator of and a channel for funds to the Brazilian housing finance system. The major sources of funds for the system were a compulsory workers' savings system and deposits in savings and loan associations. By law, all deposits were indexed to inflation on a quarterly basis.

To protect loan balances and maintain the system's solvency, mortgage loan contracts were also indexed. Originally, both payments and loan balances were indexed on the same basis as deposits. However, over time new indexation systems were mandated for payments which caused them to lag behind the general price level, and the government agreed to cover any outstanding balances remaining at the end of the loan term. By 1985, inflation was running at an annual rate of 240 percent while loan payments were increased by only 112 percent. The growing imbalance jeopardized the solvency of BNH, and in 1987 it was closed.

However, the basic structure of the mortgage finance system was not reformed. One study of implicit subsidies in the financial system estimates that the annual subsidy to borrowers on mortgage loan contracts taken out through 1987 could eventually exceed 2 percent of GDP. As these contracts mature, the Brazilian government must fulfill its obligation to cover the shortfall, with almost certain inflationary consequences.

Sources: Pinto-Lima (1990); Silveira (1989).

Conversely, failures in housing finance policies can lead to broader financial failures (see box S-4).

As economic development proceeds, it is generally accompanied by increased monetization of the economy, by an increase in the depth and breadth of financial institutions, and by increasingly integrated capital markets. At the lowest levels of economic development, long-term loans through the formal financial system are rare, as is any form of mortgage finance. As development proceeds, financial institutions seek to diversify their portfolios to mitigate risk and to achieve a match in the term structure of assets and liabilities. A consequence of this is that formal lending for housing purchases begins to occur, often in the form of overdraft loans or loans that are rolled over annually. Household savings are encouraged and are sometimes

linked to the possibility of receiving housing loans. Further development of the financial system leads to increasing maturities of loans for housing and sometimes to the development of specialized housing finance institutions, some of which may constitute secondary markets in mortgage loans.

Quantitative evidence on the growing importance of mortgage lending is imprecise, but it appears that the relative importance of residential mortgage loans in the portfolios of the financial system grows from next to nothing to more than 25 percent at moderate levels of economic development. Mortgage loans may constitute 40 percent of the portfolios of the financial system of industrial countries.

How rapidly mortgage lending develops depends on both the overall pace of financial development and the policies within the housing sector. High and variable inflation rates impede development of the financial sector and long-term lending, especially for housing, suffers. Financial systems characterized by positive real interest rates for both deposits and loans and by lack of directed credit or subsidies are more favorable for the development of mortgage finance. In addition, systems of property registration and titling and workable systems of foreclosure and eviction are necessary to ensure the collateral security of mortgage loans. Finally, the design of mortgage lending instruments, and particularly the design of mortgage index provisions, can make a critical difference. Recent innovations in mortgage instrument design, such as the "dual-indexed mortgage" now employed in Mexico and proposed for Turkey, for example, have permitted mortgage lending to expand even during inflationary periods. (See box S-8 below.)

Housing Subsidies and Inflation

Economic conditions in many developing countries during the 1980s focused attention on the need for fiscal reform. Major attention was focused on public expenditures and on the need to reduce government budget deficits to reduce inflationary pressure.

Housing subsidies represent an appropriate candidate for reduction. On-budget housing subsidies have been a particularly prominent feature in centrally planned economies such as Poland, where, in the late 1980s, housing subsidies comprised some 34 percent of all government budgetary subsidies, 13 percent of the government budget, and about 3 percent of GNP. At that time, high inflation was aggravated by persistent budget deficits, reduction of which has since

become a major reform target. Reduction of housing subsidies is a major element of the overall reform.

In other countries, budgetary subsidies are less important, but off-budget subsidies in the form of below-market interest rates and after-the-fact loan forgiveness can have no less important impacts on domestic inflation rates. In Malaysia, interest rate subsidies to civil servants during the late 1970s put considerable upward pressure on housing prices, with consequences for the general inflation rate (see the section on "The Effects of Subsidies on Housing Demand" under "Targeting Subsidies" in Technical Supplement 2). In Argentina, poorly indexed systems of housing finance have created a subsidy system that has been referred to by some as an "automatic fiscal destabilizer,"[43] and which has been estimated to have exerted significant pressure on Argentina's inflation rate and to have imposed welfare costs estimated to equal some 4 to 5 percent of GNP.

Housing Policies and Personal Savings

The housing sector may have major effects on savings rates in a number of countries. Centrally planned economies, which for ideological reasons have restricted private property rights, show many signs of chronic underinvestment in housing—long waiting lists, low turnover and mobility rates, and high black-market premiums. In effect, state saving for housing has been insufficient to accommodate housing demand, and economic disincentives or prohibitions have discouraged households from saving for, and investing in, housing. Household budget surveys in such countries confirm powerful distortions in patterns of both consumption and savings that result from rigid control of housing prices and limitations on ownership of many forms of property. In Poland during the 1970s, for example, typical urban households spent only about 3 to 4 percent of income on housing but from 11 to 15 percent on alcohol and tobacco; at the same time, personal savings rates were extremely low.

Recent analysis in a number of countries has focused on the link between housing price appreciation and personal savings, and has examined the premise that during periods of rapid housing price appreciation households are likely to decrease their financial savings, content to save in the form of accrued capital gains on their property. The most careful examination of this thesis has been done in the United Kingdom (see box S-5). The rapid house price appreciation in the southeast of England during the 1970s apparently initiated a decline in the personal savings rate from 18 to 4 percent in a decade,

Box S-5. Housing Policy Distortions and Macroeconomic Performance in the United Kingdom

Housing policies in the United Kingdom have been predicated on heavy state intervention in private land and housing markets, emphasizing public construction and ownership of Council Housing, control of private rents, stringent town and country planning regulations, and the establishment and protection of greenbelts around cities. Together, these policies have created a somewhat rigid and unresponsive system of housing supply—one that during the 1980s was unable to accommodate increases in demand, particularly in the greater London area, without rapid escalation in housing prices.

Recent research has suggested that a number of aspects of the U.K.'s macroeconomic performance have been affected by increasing house prices. One impact has been on the personal savings of households, which declined dramatically during the 1980s. Increases in perceived wealth by households, coupled with financial liberalization which permitted households to withdraw portions of their increasing home equity in the form of mortgage refinancing, apparently reduced incentives to save using financial instruments. Falling personal savings rates led, in turn, to decreased availability of financing for the business sector. As in most countries, the business sector in the U.K. is a net borrower while the household sector is typically a net saver, so that when household savings decline, upward pressures are put on interest rates. These pressures lead eventually to increased inflows of foreign capital and deterioration in the balance of payments capital account. At the same time, it was suggested, the current account of the balance of payments was put under pressure, since households which withdrew home equity often purchased imported commodities.

At the same time, the higher housing prices in the Greater London area tended to discourage migration from areas of labor surplus, in the north of England and in Scotland, thereby keeping unemployment rates higher than would have been the case had housing markets been able to adjust more freely. It is estimated that this increased the overall unemployment rate in the U.K. by some 2 percentage points.

Sources: Muellbauer and Murphy (1989); Minford (1988).

with significant implications for interest rates, inflation, and the balance of payments. Prices evidently rose because of an unresponsive system of land and housing supply. Similar investigations in other industrial countries have tended to produce similar, though somewhat more conjectural, findings.[44]

The applicability of these findings to developing countries is not yet known. One institutional feature of industrialized countries that creates the possibility of such a strong link between house price appreciation and savings is their well-developed mortgage finance systems, which permit the withdrawal of accrued equity in the form of second (junior) mortgages or home equity loans. Thus while the behavioral link between house price appreciation and personal savings is likely to be the same in industrial and developing countries, the institutional prerequisites are likely to be less accommodating. This is clearly an area for more research.

Underinvestment in Housing and Labor Market Distortions

Other important linkages between the housing sector and the economy are to be found in examining the implications of housing market distortions for the performance of labor markets and thus the economy. In some countries, particularly those with centrally planned economies, chronic underinvestment in housing has resulted in extremely low vacancy rates. This has reduced residential mobility and in turn labor mobility. Thus workers have difficulty responding to changes in the geographical distribution of labor demands.

Employers respond either by increasing wages to compensate workers for exceptionally long commutes, having to accept inferior accommodations, or having to pay black market premiums to obtain housing. In Poland, one recent analysis found that comparative housing shortages from place to place were mirrored in wage differentials.[45] Such wage premiums are in effect a measure of the tax that is paid by workers and employers alike as a result of a housing supply system that fails to accommodate demand. In economies with well-functioning housing supply, relocations in the work force are much more easily accommodated, with the result that wage differentials tend to be reduced over time.

In the United Kingdom, another aspect of reduced residential and labor mobility has been noted. There, increased house prices in the area of most rapid job growth, the Southeast, have discouraged labor mobility because workers feel unable to move from areas of labor surplus to areas of labor shortage. This has had the effect of increasing the overall unemployment rate by an estimated 2 percentage points (see box S-5).

In countries with strong rent control, workers do not want to move from dwellings with controlled rents, and rent control itself inhibits the production of new housing. Thus it is likely that labor markets in such countries are also distorted.

The Housing Sector as a Countercyclical Instrument

In weakening economies, decisionmakers often perceive housing as susceptible to manipulation to induce specific countercyclical impacts, because housing investment generates considerable employment. This perception is, unfortunately, usually problematic. The use of budgetary funds to stimulate housing production sometimes leads to the displacement of private investment in housing. One study conducted in the United States found that each new additional unit of publicly subsidized housing was associated with a decrease in private housing production of about 0.85 units.[46]

In other cases, unresponsive housing supply systems lead to a situation in which increased demand causes increased prices rather than increased output. An unresponsive supply system frustrates employment creation and blocks the housing sector from playing an effective role as an instrument of countercyclical policy. Infusion of a fiscal stimulus to the sector is likely to lead more to higher prices in the sector than to increased output, with the result that housing investment will be highly inefficient, leading to too little physical output produced relative to production costs.

Conversely, when the supply system is flexible and the economy is deep in recession, so that few private incentives exist for housing production, policies to stimulate the economy through the housing sector can be effective. Contrasts in the effectiveness of such countercyclical policies are illustrated in box S-6, which compares the experiences of Chile and Malaysia. In Chile, a flexible housing supply system, encouraged by government policies, helped the housing sector to pull the economy out of a deep recession. In Malaysia, the effects of a rigid supply system and a delayed supply response frustrated the attempt by the government to stimulate the sector.

Housing Policy and Structural Adjustment

There may be a number of opportunities, and indeed requirements, for modifying housing policies as a means of facilitating structural adjustments in developing-country economies. The many powerful linkages that exist through the real, financial, and fiscal sides of the economy and the magnitude of their effects suggest that the ability of governments to use the housing sector to achieve broader economic and social goals may be considerable.

Some countries have undertaken concerted policies to use the housing sector to cushion the effects of economic adjustments. (See box S-7.) In others, a comprehensive and coordinated attempt to

Box S-6. Using Housing to Stimulate the Economy in Chile and Malaysia

In 1975 Chile was in the midst of a deep recession with a collapsing savings and loan industry. From a peak growth of more than 5 percent in 1971, per capita GDP fell nearly 15 percent in 1975, with a net domestic savings rate of a negative 5 percent of GDP. The financial sector was also shrinking. The ratio of M2 to GNP dropped from more than 40 percent in 1972 to about 15 percent in 1976. There were widely perceived housing shortages with most units produced by the public sector. When Chile reformed its housing subsidy system, beginning as part of a broader liberalization of the economy, the increased flexibility in the procurement of publicly supported housing led to a very flexible supply response. Production of subsidized housing increased fourfold with a much smaller number of public workers. By 1980, the growth rate of GDP per capita was again more than 5 percent, domestic savings was nearly 5 percent of GDP, and the ratio of M2 to GNP was more than 20 percent.

Late in 1985, the government of Malaysia was also confronted with a deteriorating macroeconomic situation, evidenced by falling exports, declining rates of capital formation, and falling GNP. The construction sector, which for a considerable period had been one of the leading sectors in Malaysian economic growth, had experienced a rapid and severe turnaround, from an average annual growth rate of 9.7 percent between 1980 and 1984 to a 14 percent fall in 1986. The government decided to implement a Special Low Cost Housing Program to build 80,000 housing units per year in the hopes stimulating the growth of GNP by as much as 2 percent per year and contributing to economic recovery. The results were disappointing, with only 15 percent of the first 80,000 units completed after approximately two years. Subsequent analysis showed that lack of responsiveness in the supply of housing due to a long and uncertain regulatory process for developing land for housing had already driven housing prices up to between six and seven times annual incomes, making houses unaffordable to all but the highest-income groups even with the subsidy.

Source: World Bank (1989).

examine ways of using the housing sector to address macroeconomic objectives would be highly desirable. This is nowhere more true than in the reforming socialist economies, where in general both legal and regulatory strictures and a history of underinvestment in housing have depressed personal savings incentives, decreased labor

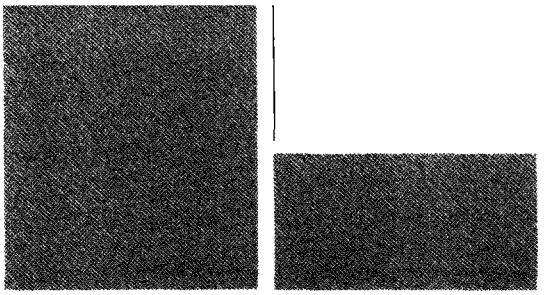
Box S-7. Cushioning Adjustment Costs in Turkey

In 1984 the government of Turkey established the Mass Housing Fund (MHF) to provide countercyclical support to a housing sector in which production had stalled. Increases in real interest rates and sharp fluctuations in real wages stemming from ongoing structural adjustment in the economy led to more than 200,000 unfinished housing units. The MHF mobilized resources through taxes and on-lent the funds through the banking system at low, fixed interest rates. It clearly induced more production, cushioning the sector from the effects of adjustment and providing a domestic stimulus to the economy, but also encountered problems.

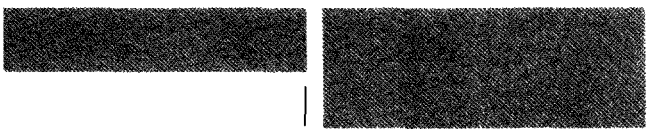
Production of housing was stimulated to levels unsustainable given the available funds, because of per loan subsidy rates of 80 to 90 percent. The amount of the subsidy was difficult to measure and was larger than commonly appreciated. MHF expenditures came to substitute for mortgages to the middle class, which could have been supplied by the commercial banking system without subsidies. The MHF therefore became a large drain on the government budget. In response to these problems, lending terms were changed and linked to wages so that the real value of repayments was maintained, mortgages were indexed so that higher income households could be provided with loans by private financial institutions, and subsidies were made explicit and were more carefully targeted, in part by limiting the size of dwellings which qualified for subsidization. As a result of these and other changes, the MHF was able to continue to cushion the housing sector from the effects of structural adjustment.

Source: Buckley, Lippman, and Persaud (forthcoming).

mobility, raised commuting costs, and distorted both wages and consumption. In such countries, reform of the housing sector is a key to increasing the performance of both the tradable and the nontradable sectors of the economy.



Technical Supplement 2: Enabling the Housing Sector to Work



The goal of housing policy is a well-functioning housing sector—one that best serves the interests of all its participants and which helps to achieve broad social and economic goals. A well-functioning housing sector is:

- Productive and efficient, using resources to get the best possible housing for the funds expended
- Responsive to the needs and resources of all segments of the population, including the poor, enabling them to be adequately housed at reasonable prices
- Environmentally sound, accommodating growth without damaging consequences for the natural and urban environments.

Creating a well-functioning housing sector requires creating the conditions for housing markets to work effectively. Governments, through laws, regulations, administrative practices, investments, taxes, subsidies, and a variety of other policies, shape housing markets in the most fundamental ways. Housing markets, influenced as they are by economic and social factors as well as government policies, can go part of the way toward satisfying the normative goals of a well-functioning housing sector, but they do not always do so effectively. The poor may be barred from entry into the formal housing market, and they may be forced to squat illegally on vacant land, to construct housing that fails to meet basic safety and sanitary standards, or to crowd into tenements. Housing demand may languish because there are no effective institutions for protecting private prop-

erty rights, no effective system for recording ownership, and no system for providing stable long-term sources of housing finance. Housing supply may be unresponsive to demand as a result of underinvestment in trunk infrastructure or because monopolies control the availability of land, building materials, or residential construction. And expansion of the stock of housing may impinge on environmentally sensitive areas, use land wastefully, and create severe urban pollution and waste disposal problems.

These market failures create a legitimate role, even an obligation, for governments to ensure that the housing sector functions well. Eliminating or mitigating their effects represents a key feature of government's enabling role in the housing sector. But just as governments should intervene to overcome market failures, they must also avoid intervening in ways that disrupt markets. Many government housing policies are well-motivated but, as practiced, essentially self-destructive. Regulations designed to prevent development of agricultural land or to ensure orderly development of residential subdivisions are intended to protect the environment, to limit urban expansion, and to ensure safe housing. Often, however, the effect is to artificially restrict land supply and building techniques to such a degree that the resulting rise in land and housing costs may far outweigh the intended benefits. In addition, once housing prices begin to rise, governments often intervene to control prices in ways that, by dampening incentives to supply housing, exacerbate rather than solve problems. When housing shortages become acute, they then intervene either to produce housing directly, thus displacing private building, or to destroy slums and evict their inhabitants. In each case, these activities address the symptoms rather than the causes of housing problems.

An effective enabling strategy addresses market failures directly and deals with the causes rather than the symptoms of housing problems. By making the housing sector function well, the strategy serves the interests of all participants in the sector—consumers, producers and financiers, as well as central and local governments. Such a strategy is applicable to all governments, although the relative priorities of different strategic elements will vary from country to country. An enabling strategy should allow each actor to perform its role in the most efficient manner possible, leaving government to leverage its limited resources so all the other actors in the sector can effectively meet housing needs.

Among the seven components of an enabling housing strategy, three are interventions on the demand side:

- Developing property rights

- Developing mortgage finance
- Targeting subsidies.

Three of those enabling actions are interventions on the supply side:

- Providing infrastructure for residential land development
- Regulating land and housing development
- Organizing the building industry.

Finally, one important enabling action pertains to the management of the sector:

- Developing a policy and institutional framework for managing the housing sector to ensure that markets provide adequate and affordable housing for all.

Developing Property Rights

Rapid urbanization in the developing countries, often coupled with independence from colonial rulers and watershed changes in systems of government, have largely destabilized land tenure systems. Uncertainty and lack of enforcement have often further confused and multiplied land claims. Similarly, the recent move toward markets in formerly centrally planned economies has created an urgent need to resolve property rights issues in formerly state-owned land and housing. The establishment of a clearly defined, fair, stable and enforceable system of property rights in land and housing is a key enabling instrument of government. It is necessary to ensure that land and housing can be transferred through enforceable agreements, as well as used as collateral for mortgage loans.

The Lack of Government Protection of Property Rights and the Development of Squatter Housing

The inability of governments to protect public property rights in developing countries has led to a massive increase in squatters. Squatters have occupied land, usually public land, and have built housing without any assistance from governments. This is often the only affordable form of urban housing for the poor. However, such settlements suffer from insecurity of tenure, threat of eviction, lack of basic services, and poor environmental quality. Most governments, unwilling to engage in mass evictions, have gradually condoned existing squatter housing while attempting to resist further squatting. In the meantime, millions of established squatters have accumulated land rights through adverse possession.

Where tenure has remained insecure and governments have engaged in mass evictions, housing investment in squatter settlements has remained low. This is true for many cities in India, where squatters remain "invisible" to the authorities. In 1976, for example, the Indian government demolished 120,000 dwelling units and evicted 700,000 squatters in Delhi.[1] In countries where evictions were resisted, or where governments acknowledged the existence of the settlement by providing infrastructure services and issuing long-term leases, as in Pakistan, or occupancy permits, as in Zambia, domestic investments increased substantially. This has been well documented in Chile,[2] Mexico,[3] and Pakistan.[4] In many cities, squatter settlements have flourished and become gradually integrated into the urban fabric. In Lima, for example, the average squatter dwelling had a replacement value of US$22,000, and the total squatter housing stock had a replacement value of US$8.3 billion in 1982.[5]

Generally, however, governments have been reluctant to regularize land tenure for squatters. This remains a sensitive and difficult issue for several reasons: first, governments see themselves as responsible for protecting property rights and are reluctant to issue land tenure documents to people who break the law. Second, they are afraid to encourage further squatting. Third, the issuance of land documents creates considerable conflict, particularly in places with multiple forms of property rights, such as Indonesia, and is sometimes quite difficult to administer efficiently. Fourth, in conditions of dire poverty, such as in the tenement gardens of Colombo,[6] or in places where people are not committed to staying in the urban area and prefer to invest in housing in their home villages, for example, in Papua New Guinea,[7] improved tenure has not necessarily led to increased housing investment. Finally, in places where squatters feel relatively secure, they may be reluctant to accept legal tenure for fear of future taxation or of identifying themselves to the authorities, as has been observed in Mexico City.[8]

The Benefits to the Poor of Registering Property Rights

In general, however, secure tenure in squatter communities does tend to increase investment in housing and therefore to improve housing conditions. In many cases, it allows the poor to obtain an asset that can then function as a financial safety net in emergencies or as a means for accumulating wealth. Generally, the granting of tenure on government lands is a form of subsidy that is progressive, tending to focus benefits on low-income groups. Where proper land titles are issued, investment in housing may further increase if the titles can be

used as collateral for obtaining housing finance. The registration of property rights in squatter settlements is one form of the overall process of registering property rights. This process is important in making land and house transactions possible and giving occupants legal protection. It encourages the buying and selling of housing and makes it possible for households to move to a dwelling that suits their needs and their budgets. It also increases the choice of tenure available to households, allowing them to own or rent as they see fit.

Guidelines for Property Rights Development

Governments should establish land registration systems that cover the entire country, but which must be instituted gradually. Such systems need not be restricted to freehold titles, and may offer titles that can be upgraded to full freehold titles over time. Exchange of land and housing should be permitted without restriction, and ownership of land and housing should be available to all citizens. Governments should seek to dispose of occupied public lands by selling or granting secure land tenure to the occupying households. Wherever possible, tenure programs should go hand in hand with infrastructure improvement programs in slums and squatter settlements, should build and enhance the effectiveness of community-based organizations, and should seek to recover the cost of infrastructure and land titling from beneficiaries. Cost recovery can take many forms, but it is indisputable that property rights development is a prerequisite to the establishment of property taxation, a major form of financing urban development in industrial countries.

Governments should seek to transfer the housing stock they own to residents. Care should be taken that such transfers are not free or regressive, that prices paid allow governments to recover part of their initial investment, and that new owners can properly maintain their properties. Condominium and housing cooperative legislation may be needed for such transfers and to ensure proper maintenance of properties once they are transferred.

Developing Mortgage Finance

Problems Associated with Mortgage Lending

The great majority of urban households in developing countries do not have access to mortgage finance; in most developing countries, less than 10 to 20 percent of the annual housing investment is covered by mortgage finance. The development of housing finance institu-

tions is strongly tied to overall financial sector development, but policy decisions often tend to limit their ability to engage in mortgage lending. Such policies include forcing such institutions to give subsidized loans, often at negative interest rates, and to forgive loans. Such actions are, in effect, off-budget subsidies that entice politicians because they escape budgetary allocations, instead creating unmeasured and unseen contingent liabilities. However, the costs of such programs often far exceed those of direct housing subsidies. Hidden subsidies delivered through the financial system (such as interest rate subsidies) impede financial development, are often regressive, and can impose significant hidden costs and risks.

In the early stages of financial sector development, the sector tends to accumulate extremely short-term assets and liabilities, and thus tends to avoid financing long-term investments in industry and infrastructure as well as housing. In the absence of well-designed indexation, long-term lending in inflation-prone countries is perceived to be of high risk. Similarly, in countries with weak mechanisms for foreclosure on defaulters, the risk of default on repayments tends to be high.

Partly as a way of overcoming shortages in housing finance, governments in a number of countries have instituted directed credit schemes for housing. These have taken the form either of government-sponsored housing finance institutions, often supported by direct budgetary transfers, or specified lending targets for housing (also often at below-market interest rates) by commercial lending institutions. In either case, directed credit lessens incentives for resource mobilization by lending institutions. The result may sometimes be that lending volumes for housing are actually smaller than they would have been under a more neutral financial regime which permitted lending for housing to seek its own level based on market conditions.

In industrial countries, the failure of prudential regulation of housing finance institutions has sometimes been catastrophic, as evidenced by the fact that failures of savings and loan (housing finance) institutions in the United States will necessitate some US$300 billion in taxpayer subsidies to compensate depositors in the failed institutions, whose deposits were insured by a federal government agency. Such failures underline the importance of sound prudential regulation and enforcement.

Regulations governing mortgage lending are usually biased toward completed owner-occupied housing, making it unattractive or impossible for financial institutions to lend for rental housing or condominium housing, or for house improvements or unfinished core houses

on serviced sites. The development of a broad set of instruments for mortgage financing is a key component of an enabling housing strategy, and can increase the demand and hence the quality of housing.

The Well-Functioning Housing Finance System

A well-functioning housing finance system should be able to compete for deposits on equal terms with other financial institutions without the need for directed credit toward the sector. Housing finance institutions should not be forced to lend at negative or subsidized interest rates, and subsidized parastatal lenders should be avoided. Lending should be at positive, real interest rates with a sufficient margin to allow positive rates to be paid on deposits and, in so doing, permit expanded resource mobilization. There should be sufficient deposits of an appropriate term structure for long-term mortgage lending. Where there are insufficient long-term deposits, housing finance institutions should be permitted to borrow from international sources. Such borrowing should be encouraged, even in highly indebted countries, when housing investment has higher internal rates of return than export-producing industries and when the demand for mortgages is high.

Mortgage lending instruments which are in demand by households, and which provide adequate protection for the institution, should be permitted. In countries prone to inflation, mortgages should be protected by appropriate indexation, and variable-rate mortgages should be permitted (see box S-8, which describes the dual-indexed mortgage used in Mexico, an attractive option in many developing countries). Systems of property rights, tenure security, and foreclosure should be such that the financial interests of lenders can be protected without compromising the legal rights of households. Where foreclosure procedures are weak, personal or group guarantees should supplement the use of the house and land as collateral (see box S-9).

Governments should also act to improve the efficiency of financial intermediation in the housing sector. The spread between mortgage and deposit interest rates in many developing countries is often exceedingly high, sometimes 10 percent to 15 percent, rather than the 1 percent to 2 percent typical of well-functioning mortgage lending institutions. To reduce this spread, governments should encourage the entry of new institutions into the housing lending market. For example, commercial banks, despite their efficient networks of branches and their interest in mortgage lending, are often prevented from lending for housing. Governments should remove the bureau-

Box S-8. Reforming Housing Finance in Mexico

From the mid-1970s to the mid-1980s the government of Mexico required commercial banks to lend a set percentage of their portfolio equal to 3 percent of deposits for mortgages to low- to middle-income households. For many years this was sustainable. However, in 1982, inflation increased to nearly 100 percent annually while the mandatory housing portfolio had a mandated interest rate of 11–14 percent; banks were thus forced to absorb an implicit subsidy equal to $400 million annually, and at that point raising interest rates to market levels would have made traditional fixed payment or adjustable rate mortgages unaffordable to all but the highest income groups. As an alternative, the Central Bank of Mexico devised a form of mortgage instrument to serve the interests of both borrowers and lenders. This instrument, known as the dual-indexed mortgage (DIM), had the following characteristics: (i) *Indexing to cover inflation.* In the standard design of a DIM, a real interest rate is applied to the indexed balance, yielding a positive rate of return. (ii) *Indexing to maintain affordability.* Payments are typically established as a maximum percentage of household income. If payments are indexed to the trend in wages, payments can be increased to pay down the loan while never exceeding the defined maximum portion household income. (iii) *Adjustable repayment period.* If the required monthly payment exceeds the maximum percentage of household income, the difference can be capitalized and the term of the mortgage extended beyond its original 15 years. To put an upper limit on the term, the central bank agreed to cover all balances not paid at the end of a twenty-year term.

The new instrument was an immediate success. With the elimination of the implicit interest rate subsidy, banks expanded their discretionary lending for housing; the mandatory lending requirements ceased to be binding and were eliminated in 1988. Today, commercial banks lend an amount equal to 8 percent of their deposit level—a substantial increase over the earlier requirements—for housing. This process continues today, as the banks continue to adapt the structure of the instrument to their own particular portfolios; presently, *all* banks use a variation on the DIM in their own portfolios.

cratic impediments associated with mortgage lending and reduce the risks associated with such lending (for example, by promoting titling, foreclosure, and eviction procedures that improve the security of collateral).

Development of housing finance institutions should proceed hand

Box S-9. Successful Housing Finance Institutions in India and South Africa

Several housing finance organizations in developing countries have successfully created sustainable lending programs for the poor by adapting local cultural norms to overcome the risks caused by inadequate legal systems. Reputation-based mutual financial institutions have been able to mobilize savings of the poor and provide them low-cost access to credit.

Founded in 1978 in India, and supported in part by equity financing by the International Finance Corporation, the Housing Development Finance Corporation (HDFC) provides mortgage loans to low and moderate income households. The HDFC operates in a constrained regulatory environment where strong tenant protection discourages lenders from entering the market, stamp duties make mortgage registration prohibitively expensive, and loan applicants' incomes are impossible to verify. In response, the HDFC has developed a range of responses for low-income lending, including higher loan-to-value ratios, step-up loan repayment plans, innovative collection techniques, and third-party guarantees.

In South Africa, one-fourth of black families live in informal dwellings; two-thirds have no access to housing loans from financial institutions. Founded in 1990, the Group Credit Corporation makes small, short-term loans to "savings clubs"—70 percent of whose members are women—to build and upgrade low-income housing. The excellent repayment experience parallels the long-term experience of the Grameen Bank in Bangladesh in making group loans to low-income households.

Sources: Shah (1988); Munjee and others (1990) Urban Foundation (1990).

in hand with the overall development of the banking sector. Government should act to ensure that such institutions make prudent investments and maintain the capital requirements appropriate to risks associated with housing investments.

Mortgage Finance and the Poor

The record of mortgage lending to poor households in most of the sites-and-services projects assisted by the World Bank has been less than satisfactory. Defaults have been common and have tended to

spread rapidly throughout projects when mechanisms for addressing defaults have been lacking.[9] Specific attention should be directed at designing and implementing mortgage instruments that can assist low-income families. Such instruments may require collecting payments at the source or increasing the frequency of collection for families with irregular incomes.

Small-scale mutual credit institutions and alternative lending instruments attuned to the needs of households undertaking incremental house-building should be encouraged. Mutual institutions can mobilize savings, can lend competitively to appropriate borrowers, and can rely on a high level of member supervision through peer pressure. Such institutions, which adapt existing informal systems and cultural norms, have been effective in Bangladesh, India, Mexico, Sri Lanka, and South Africa (see box S-9).

In addition, foreclosure procedures need to be applied promptly to contain defaults. When such procedures have been applied, as was the case in the Community Development program in Hyderabad, India, default rates were kept to a minimum, enabling the program to expand and to assist very-low-income households.[10] In other cases, special funds and a special team of social workers have been assigned to deal with households that have difficulties in meeting mortgage payments, again keeping defaults to a minimum. This was the approach taken in the Bank-assisted sites-and-services projects of the Foundation for Minimum Housing and Development in El Salvador.

Housing finance institutions should be regulated in a manner which renders them neutral to lending to all income groups, to lending for complete houses as well as for house improvements, core houses on serviced sites, and condominium as well as rental housing, all of which are usually in high demand by low-income households.

Targeting Subsidies

Problems with Existing Subsidy Systems

Governments in developing countries have taken a variety of approaches to increase access to housing for the poor. In general, however, most governments have discovered that becoming responsible for housing everyone is beyond their abilities. Such action requires diverting a significant portion of tax revenues toward subsidies for financing housing production and maintenance, which most governments are unwilling to undertake. Indeed, as indicated in Technical Supplement 1, housing subsidy budgets are generally only a minute fraction of government budgets in most developing

countries (about 1 percent for countries in the lowest two deciles, and averaging less than 4 percent for all countries). Many governments have built subsidized showcase housing for the poor, only to realize later that such programs cannot be replicated on a large scale. Often such programs are subsequently forgotten, only to be revived by a new generation of public officials eager to please their constituencies, show concern for the poor, or siphon off kickbacks from contractors.

At present, many governments still engage in one form or another of ineffective housing subsidies. And while the overall magnitude of subsidies is small, they nevertheless can disproportionately distort housing prices and thus housing decisions by consumers. In general, they are regressive and inequitable. Subsidies benefit the few at the expense of the many, are sometimes a heavy fiscal burden on governments, and can lead to underinvestment in the housing sector as well as disruption of the housing finance system.

Types of Subsidies

Subsidies are found in many forms. There are direct on-budget government subsidies to households, which can take the form of direct grants for public housing construction, the provision of infrastructure services, or the free maintenance of public housing. There are also direct government subsidies in the upgrading of slums and squatter settlements. Direct subsidies can be in the form of housing allowances to employees of the public sector or parastatal agencies. Socialist countries, in particular, have used a wide variety of subsidies. For them, subsidy impacts are highly complex both because of the many forms they take and because the original financing for most of these subsidies came from massive implicit wage taxes. The net result is a highly distorted housing system with large-scale inefficiencies.

Off-budget subsidies are more difficult to measure, but can be equal to or larger than on-budget subsidies. These include negative interest rates, high default rates, or the forgiveness of loans. They may also include the provision of free public land for housing, the provision of land titles on public land to former squatters, or the sale of public rental units to occupants at discounted prices.

Off-budget subsidies include tax exemptions, although this form exists mainly in industrial countries. Capital gains taxes, bonds, income tax, and property tax can all be exempted. In industrial countries the taxes and other property expenses related to housing may influence housing demand. In countries such as the United States, for example, research suggests that such taxes influence not only the

overall demand for housing but also the choice between owning and renting and, perhaps, overall personal savings. Although tax considerations strongly influence housing demand in industrial countries, the impact of taxes on housing demand in most developing countries is small. Most developing countries do not rely heavily on the housing sector as a source of tax revenue. However, this situation is likely to change as the housing sector expands and local and national governments increasingly view it as a potential source of revenue.

Rent Control as a Subsidy

One of the most common off-budget subsidies is rent control, which reduces the price of housing to renters by taxing landlords with the difference between free-market rents and actual rents. However, while rent control may decrease the price of housing, it does not necessarily allow households to obtain the quality of shelter they desire at a lower price (see box S-10). Landlords respond to rent control by investing less in maintenance and upkeep. As a consequence, although rent is low, the level of services tends to be low as well. Households may be spending less of their income on housing, but they occupy housing that is less desirable than what they would otherwise choose.

In addition, since rent-controlled units are usually not transferable, households may be obliged to forgo better housing and may spend less on housing than they desire. They may also be prevented from seeking better employment in distant locations because they cannot afford to move. Finally, since owners of rent-controlled units cannot obtain an adequate return on their investment, rent control leads to the reduction and sometimes the complete elimination of new investment in rental housing. Thus occupants of rent-controlled units, who are not necessarily low-income families, prevent the construction of housing for newly formed households. In Kumasi, Ghana, for example, where rent control is prevalent, three out of every four households live in one-room accommodations.[11]

The Effects of Subsidies on Housing Demand

The effects of subsidies on housing demand are complex because of their various forms and the market settings in which they occur. In general, however, these effects fall into two categories. Direct effects fall on the recipients of the subsidies, and indirect effects strike nonrecipients. Because subsidies lower the price of housing for recipients, they may tend to increase housing demand, but even this effect

Box S-10. Rent Control in Kumasi, Ghana

Rents are highly restricted under Ghana's rent control regime. Rents for households earning less than an income ceiling are set by a government body and reevaluated only after long intervals. As of 1988, rents had declined in real terms to only 50 percent of their 1963 level.

A survey conducted in 1986 found that rents were less than half of what they would be under market conditions. However, it was also found that landlords had greatly reduced maintenance and their investment, diminishing both the quantity and quality of housing available for rent. Moreover, it was found that households would have demanded larger and higher quality units under market conditions. Because of the distortions in consumption patterns caused by rent control, even under the most optimistic estimates, the value to households was estimated to be no more than half of the cost of the subsidy (for example, the market rental value less the controlled rent).

As a consequence, rent control has proved a very inefficient means of subsidizing low-income households in Ghana. While landlords incur a cost equal to the entire reduction in rent, the net benefits to tenants range from half that amount to a negative value. Landlords and at least some tenants are made worse off under the regime, and it is clear that replacing subsidies granted by rent control with direct transfers to renters would have improved tenant conditions without reducing the quantity or quality of the stock.

Source: Malpezzi (1990).

is not certain. Many housing subsidies are limited, requiring households to accept a particular type of dwelling at a particular location and price. In some cases, households will accept housing that is less spacious, of lower quality, or in poorer locations than they prefer in order to take advantage of a subsidized price.

If the general population pays taxes to support housing subsidies, this tax decreases income and hence demand among nonrecipients. In addition, particular types of housing subsidies can produce highly distorting impacts on the housing prices that nonrecipients confront. These distortions tend to decrease demand among nonrecipients. For example, in many developing countries a large privileged group, such as civil servants and the military, may get below-market interest rate financing on housing loans. This preferential treatment acts to lower the effective price of housing to them compared to the prices that the general population must pay. If the housing supply system is

largely unresponsive to increases in demand from subsidy recipients, housing prices will climb, lowering demand among nonrecipients. Such a situation appears to have existed in Malaysia in the early 1980s, when the Treasury Loan Program made mortgage loans available to civil servants at an annual rate of 4 percent, while the general public had to borrow at rates ranging from 10 to 11 percent. Subsidized loans climbed from an inconsequential portion of total mortgage lending to some 40 percent of all loans in the span of 5 years. The result was considerable upward pressure on housing prices and a consequent drop in demand by nonrecipients.

Targeted Subsidies and the Poor

In general, governments should make housing more affordable to the poor by increasing demand through the provision of mortgage financing, providing secure land tenure, and increasing housing production and lowering production costs, rather than through the application of subsidies. Governments should study subsidies in the housing sector with a view to reducing the overall level of subsidies to a level consistent with fiscal resources, eliminating inefficient subsidies, and directing subsidies to deserving low-income beneficiaries. Practical means of identifying eligible beneficiaries and minimizing leakage of benefits to ineligible households will have to be devised. Subsidies that distort the price system should be avoided. The construction of new subsidized public housing should in general be avoided as well, as it tends to benefit a few beneficiaries at the expense of many nonbeneficiaries. Subsidy systems structured along these lines have been put in place in several countries (for example, see box S-11).

However, once subsidies are introduced they are difficult to remove. Where substantial housing reform is taking place and major subsidies need to be removed, it may be necessary to introduce new, targeted subsidies as part of a social safety net to protect vulnerable households (see box S-12). In other cases, subsidies may be the appropriate vehicle as an instrument of countercyclical macroeconomic policy. In these cases, subsidies that distort prices or interest rates should be avoided, as should subsidies which, once given, are difficult to modify or discontinue.

Preferably, subsidies should be one-time capital grants or housing allowances that have a finite duration or a built-in review procedure. Both types of subsidy allow families to seek housing in the market. Care should be taken to ensure that subsidies do not dampen supply response and lead to increases in house prices. Preference should also be given to subsidies such as tenure regularization programs that are

Box S-11 Housing Subsidies in Chile

Beginning in 1974, the government of Chile moved from large, unmeasured, unpredictable, and poorly targeted credit subsidies and direct production in the housing sector to direct, explicit, one-time demand subsidies which allowed households to purchase housing on the private market. This program targeted households with some savings capacity and emphasized access to private ownership. Households deposit their savings in a housing account at a financial institution, receive a certificate which can only be used to purchase housing and does not have to be repaid, and receive a mortgage loan for the balance of the price of the house at terms which are similar to commercial ones (an average real interest rate of 8.5 percent for 20 years). All discretionary elements are removed from the allocation process, and the household can build or purchase a new or existing unit. The system is widely perceived as fair by households, further increasing its possibilities for success.

Compared with earlier decades when government policy was to directly provide housing to low-income groups, output of units increased significantly, unit costs declined, and staff in public housing agencies fell by 90 percent. One continuing problem with the program, however, has been with high arrears on loans for low-income households, which were made initially solely by the Housing Ministry and also by a public sector bank. By permitting high levels of arrears without loan foreclosure, many of the advantages of subsidy targeting and transparency inherent in the Chilean subsidy system are lost, with public sector mortgage financing to blame. Thus despite having many admirable features, even the Chilean housing subsidy system has considerable room for improvement.

Sources: Renaud (1988); Persaud (1991).

naturally targeted to large numbers of low-income people, and to programs that provide infrastructure or one-time construction grants in areas where the majority of inhabitants are poor.

Providing Infrastructure for Residential Land Development

Problems in Creating and Maintaining an Adequate Supply of Residential Infrastructure

Providing trunk infrastructure systems (roads, water supply, sewerage and drainage, electricity, and telephone systems) is often a decreasing-cost enterprise, and hence calls for lumpy, large-scale

Box S-12. Housing Sector Reform in Hungary

Hungary's housing sector, like that of other formerly centrally planned economies, is characterized by a number of distortions that limit both the productivity of the sector and equity in the distribution of housing. Controlled rents on state-owned units kept rents low—at a level of only about 3 percent of household income. Rental units were allocated neither according to need nor according to willingness to pay. As a result housing was distributed neither fairly nor efficiently. The maldistribution of housing has produced an *apparent* housing shortage, with pressures to increase production at a time when the actual number of units was sufficient for the population. Moreover, since large units with greater amenities have been subsidized more heavily, disincentives have been provided for moving, depressing labor mobility. To maintain low rents, large subsidies were allocated through direct government transfers and the financial system—mainly benefiting high-income households. Interest rate subsidies alone totaled 3 percent of GDP by 1989.

Current efforts to reform housing policies emphasize gradual change, and include the following actions and proposals:

- *Establishing a sustainable housing finance system*: Interest rate subsidies have been eliminated and the major mortgage bank has been restructured. Only one-time ownership subsidies are proposed. Mortgage instruments which are affordable under the current moderately high inflation rate without subsidies are being studied.
- *Designing a well-targeted safety net program*: The current complex and inequitable system of subsidies is being eliminated. New programs, such as targeted housing allowances, which would provide aid only to low-income households during or after the policy transition are being designed.
- *Bringing rents up to market levels*: Once a safety net program has been established, rents can gradually be brought up to market level.
- *Privatizing the public sector housing stock*: Once the state-owned rental stock is being rented at market prices and a sustainable housing finance system has been established, the stock can be sold to private owners at market prices.

investments. Such large-network facilities require meticulous planning and coordination. Long-term planning requires acquiring rights of way for networks as well as financing, which may be subject to inflationary pressures.

Governments' inaccurate views of infrastructure systems as being unproductive investments, or as investments which cannot generate foreign exchange, often reduce their willingness to undertake such projects. Institutional arrangements often prevent governments from either accurately sensing or responding to demand for infrastructure services. The concentration of powerful infrastructure agencies at central government levels often separates local expressions of demand from supply. Households, particularly poor households, thus often find themselves in a position of paying more for infrastructure services than if adequate systems had been installed as a matter of course.

Infrastructure agencies are typically plagued with inadequate mechanisms for cost recovery. Water supply is perceived as a right, the provision and cost of sewerage and drainage are separated from water supply, and metering is inadequate, as is policing to prevent pilferage. Unaccounted-for water, for example, is only 8 percent in Singapore, but 58 percent in Manila and 40 percent in most Latin American cities. Latin America loses an estimated US$1 billion–$1.5 billion in water charges every year.[12] A recent review of World Bank–financed projects showed that the prices charged for water amounted to 35 percent of the cost of providing it. Internal cash generation for such projects was 8 percent in Asia, 9 percent in Sub-Saharan Africa, 21 percent in Latin America, and 35 percent in the Middle East and North Africa.[13] Some types of infrastructure, such as transportation, suffer from "free rider" problems which make cost recovery difficult. Inability to recover costs impedes investment and further limits network expansion. Many infrastructure agencies have a built-in bias to use resources for capital investments, with inadequate attention to maintenance.

At the same time, unwillingness to rely on regulation and pricing of infrastructure in order to control its utilization, as through various "demand management" schemes, may result in unnecessary congestion, pollution, and concentrated demand pressures on urban land and housing markets. In some cases, such outcomes have led to political pressures for creating satellite cities, new towns, and various types of growth controls without taking account of their effects on either the cost of infrastructure or the benefits of alternative spatial patterns.

The response of land and housing markets to the level, type, regulation, and pricing of infrastructure is complex, affecting the spatial organization of cities, the prices of land and housing, and the costs of creating and maintaining infrastructure networks. While little research has been done in developing countries on the connection between infrastructure policies and the performance of land and

housing markets, or the cost implications of alternative policies for both infrastructure and housing, additional research in this area could have potentially significant payoffs.

The actual construction of infrastructure networks is often complicated by lack of accountability of public agencies and by corrupt practices in bidding and land acquisition. Coordination among different agencies needing the same right of way is difficult, as is coordination between bodies supplying infrastructure in primary, secondary, and tertiary networks.

The Effects of Inadequate Infrastructure Supply on the Housing Sector as a Whole

The problems cited above typically lead to chronic underinvestment in infrastructure in the cities of developing countries, as well as inadequate maintenance. Networks do not span the entire built-up area, and newly serviced residential land is in short supply, allowing developers to collect large scarcity premiums. This leads to increasing land prices, lower housing quality, and decreased incentives to invest in new construction, and prevents densification and contiguous land development. It becomes more difficult and sometimes impossible to build trunk infrastructure after neighborhoods are fully established. The result is often an abundance of tertiary networks and a shortage of primary and secondary networks.

Inadequate Infrastructure and the Urban Poor

Lack of major infrastructure networks affects the urban poor in a variety of ways. Insofar as it creates land shortages, it increases competition for land and increases pressures to evict the poor from the land they occupy. Inadequate transport networks push the poor to less accessible locations, increasing their commuting times and forcing them to spend a significant proportion of their income on transport. Alternatively, infrastructure shortages tend to increase the cost of land to the poor in the usually affordable markets, for example, in illegal or informal subdivisions.

More important still, however, are inadequate tertiary infrastructure networks in slums and squatter settlements. Government often refuses to provide services to such settlements because of their illegal status. Inhabitants are forced to pay premiums for water and electricity, often several times the official rate. In Nouakchott, Mauritania, for example, water is bought from a merchant with no guarantee of quality, and the price is up to 100 times that paid by those with piped

water connections.[14] Water charges are often a significant component of household expenditures in urban slums: 18 percent in Onitsha, Nigeria, and 20 percent in Port-au-Prince, Haiti.[15] The lack of infrastructure services, particularly walkways, drainage, and sewerage networks makes it impossible to maintain adequate environmental standards. Unsanitary conditions in turn result in high incidence of disease. Studies of poor urban neighborhoods show much worse conditions than those in the city as a whole or in rural areas. In Manila, for example, infant mortality rates are three times higher in the slums than in the rest of the city. Rates of tuberculosis are nine times higher, and diarrhea is twice as common. A similar study in Bombay shows the prevalence of leprosy in one slum to be 22 per 1,000 compared with 6.9 per thousand for the city as a whole. In Singapore, the incidence of hookworm, ascariasis, and trichuris was found to be more than double among squatters than among flat dwellers.[16]

Guidelines for Providing Adequate Trunk Infrastructure

Governments should reorient infrastructure agencies from their limited focus on their own networks to a coordinated focus on land development. Such agencies should pay careful attention to monitoring the demand for land and housing, and, at the least, ensure that land servicing proceeds ahead of development. They should, correspondingly, measure their performance not by the linear output of roads or pipes but by the amount of land being brought into urban use. Coordination among the key infrastructure agencies should thus focus on land development, on joint acquisition of rights of way, and possibly on joint financing and joint cost recovery by a single agency.

The possibilities for the privatization of infrastructure provision should be studied on a function-by-function basis to determine which types of infrastructure services can best be privatized. Physical planning and budgetary planning should be coordinated as well. In some cases, implementation of creative mechanisms for land development, such as the land readjustment schemes of many Asian countries, should be considered (see box S-13).

Guidelines for Providing Infrastructure for Housing the Poor

The provision of infrastructure in slums and squatter settlements has proved to be an effective method for assisting and organizing the poor and for enabling the poor to house themselves. Large-scale programs, such as the Kampung Improvement Program in Indonesian

Box S-13. Land Pooling and Readjustment in Nagoya, Japan

Effective extension of infrastructure systems to urban fringe areas hinges on an effective way to recover costs. Land pooling and readjustment has been a successful solution in some countries to the problem of who will bear the cost of extending infrastructure systems to fringe urban areas. The natural answer is that those who benefit—adjacent land owners whose property values rise from the infrastructure—should bear the cost.

The process of land readjustment involves a temporary pooling of agricultural plots in a well-defined area on the urban fringe, the installation of infrastructure services necessary for urban development, the reservation of land for public use and sale by authorities to recover development costs, and the reallocation of the remaining land to the original owners. While the original land owners receive smaller plots of land, the greatly increased value of the land more than compensates for its reduction in size. Two of the main requirements for success are consensus among landlords and trust in the implementing organization.

Land pooling and readjustment originated in Germany in the late nineteenth century and spread to Australia, Japan, and later to the Republic of Korea and Taiwan, China. Japan in particular has been successful at implementing such projects: it is estimated that 30 percent of Japan's urban land has been developed with this technique. By 1980, 77 percent of the built-up area of the city of Nagoya was brought into urban use with land readjustment. Readjustment projects were undertaken both by the public sector (42 square kilometers) and by private sector associations of landowners (158 square kilometers).

Source: Nishiyama (1986).

cities, improved roads and walkways, water supply, sewerage, and drainage for 3.3 million people during a 10-year period, for an average cost of US$160 per plot. When subsidies are involved, this form of housing assistance spreads benefits very widely while focusing directly on the poor. Infrastructure improvements, when not coupled with increases in tenure security, do not necessarily lead to increased investments in housing.[17] They do, however, often lead to increased property values. Piped water, for example, was found to nearly double the value of otherwise comparable dwellings in one Colombian city.[18]

In upgrading infrastructure in slums and squatter settlements, care

must be taken to avoid mass dislocation of the original residents, particularly low-income renters, through gentrification. Where infrastructure improvements are modest and the increase in tenure security is gradual, the original settlers are usually able to stay in the community. A study of an upgraded settlement in Madras reported little dislocation of the original residents.[19] In Mexico City and Tunis, conversely, one-third of the original residents were displaced by higher income households.[20] While the original property owners may benefit by selling their houses and moving out, renters may have to pay higher rents involuntarily or be forced to move to a less desirable unit at a more distant location.

Cost recovery in infrastructure upgrading in slums and squatter settlements has proven difficult.[21] In some cases this has been a result of either unwillingness to pay by residents for unreliable services or inability to pay one-time connection charges. In others, households have been reluctant to pay when perceived improvements in services are small relative to the original situation, as, for example, when community water standpipes are no more convenient than traditional water supplies. By contrast, willingness to pay appears to be considerably higher when services are matched to demand, are reliable, and when connection charges are spread over time.[22] Chances of such conditions being met are often enhanced when community organizations are involved early in planning infrastructure improvements; sometimes community-produced infrastructure has been found to be cheaper, better, and more adequately maintained than similar services provided by the municipality. In Orangi, a squatter settlement of 700,000 in Karachi, for example, communities built sewerage networks covering 50 percent of the area at less than one-fifth the official estimates.[23] Similarly, the more than 90 spontaneous housing areas in Khartoum have a successful tradition, in the face of severely limited city resources, of self-reliant infrastructure provision that includes primary schools, health centers, water reticulation networks, and even roads, based in part on incorporation of local neighborhood councils in culturally homogeneous areas.[24]

Direct government involvement in the provision of infrastructure for low-cost housing should be severely limited. Serviced sites are difficult and expensive for government to produce in adequate quantities. The informal sector, on the other hand, has produced large numbers of affordable sites in informal subdivisions. Governments should restrict their activities to the provision of major trunk infrastructures, and leave the provision of serviced sites to the private sector, ensuring that the regulations for producing such sites do not render them unaffordable.

Regulating Land and Housing Development

The Characteristics of a Well-Functioning Regulatory Environment

An enabling housing strategy should direct attention to the regulatory and institutional environments and to their effects on housing sector performance. The regulatory environment may function effectively through a variety of forms, depending on cultural traditions and historical circumstances, but each system must create a comprehensive, determinate matrix of relationships among the recurrent actors—those who consume, build, service, finance, and regulate housing. Such a legal framework must guarantee:

- Clearly defined, stable, and reasonably broad private ownership and use rights
- The ability for private actors to transfer those rights through enforceable agreements
- A predictable, inexpensive, expeditious, publicized, and accessible system for enforcement.

Effective regulatory systems are structured to minimize transaction costs while maintaining fairness, stability, and consistency. In such systems, public and private property rights are balanced, conflicts are inexpensively and speedily resolved, outcomes are predictable, land use regulations encourage private investment, building regulations are affordable, financial regulations allow institutions flexibility to adapt to changing market conditions, and risk is efficiently allocated and insurable. By contrast, a dysfunctional or less than ideal regulatory system imposes a cascading set of constraints that makes housing unavailable.

For a vibrant private housing sector to function, governments must provide a framework sensitive to the economic consequences of regulation in each of the major housing submarkets and along the entire cycle of housing development, transaction, use, maintenance, and replacement. Improvements in the regulatory and institutional environments are the most direct policy instrument governments have to achieve the goals of an enabling shelter strategy.

Despite their diversity, effective regulatory systems aim toward common norms. These may in turn be embodied by concrete policy goals. A partial list of qualitative regulatory norms follows:

- *Housing market development*. Private individuals have broad rights of use and ownership, mechanisms exist to transfer those rights through enforceable agreements, and there is an efficient system

for resolving disputes. Regulation encourages emergence of a variety of housing types, institutions, and actors, including developers, contractors, building materials suppliers, and estate managers.

- *Land market development.* The regulatory system makes sufficient land available for development. Tenure systems encourage transfer and development of land. Conversion of agricultural land to urban uses is not too cumbersome, and the land registration system has broad coverage.
- *Housing finance development.* Financial institutions are allowed flexibility to respond to changing market conditions with new financial instruments. Regulations ensure the solvency of financial institutions directly through appropriate supervision and indirectly through insurance. Effective foreclosure and eviction processes allow housing to be used as collateral for loans. The regulatory system responds to the informal financial sector by providing an accessible dispute resolution mechanism.
- *Public sector involvement.* Public sector involvement in the direct development, production, and management of housing is limited. The public sector uses indirect controls to manage housing delivery by the private sector. The regulatory system ensures adequate production of public goods, such as environmental amenities and infrastructure, through private incentives and direct provision. Targeted regulations and public assistance protect especially vulnerable groups.
- *Low price distortions.* The regulatory system creates little or no price distortions in land markets, housing production, sales, rental markets, and financial markets.
- *Bureaucratic bottlenecks.* The regulatory system functions with low bureaucratic costs and delays, both in formal procedures and in practice.
- *Housing as a local tax base.* The tax system, including property taxes and assessments, can recapture a portion of private gains on the appreciation of property values resulting from public effort.

Regulatory Reform and the Urban Poor

Needless to say, the poor are the most hard-pressed victims of regulatory systems that lead to shortages in the supply of housing inputs and thence to higher housing prices. When land is in short supply because of excessive regulation, where building materials are expensive or unavailable because of monopolistic practices, or where infra-

structure is lacking, the poor must pay a relatively larger share of their income for housing. Three additional aspects of a well-functioning regulatory environment pertain directly to the urban poor:

- *Affordable standards.* Land use and building regulations allow for minimum lot sizes, density restrictions, and other regulations that explicitly take into account their effect on housing affordability. The regulatory system is appropriate to the level of economic development, and low-priced housing can be built in compliance with the codes. Urban planning requirements allow a broad range of development options and flexibly respond to changing market conditions.
- *Compliance.* Well-functioning legal systems increase compliance by requiring affordable standards, imposing low bureaucratic costs, and causing little delay.
- *Squatter tolerance.* The regulatory system responds effectively to squatters. It protects private property rights as well as valuable public lands needed for parks, playgrounds, and open spaces. But it also provides established squatter communities with regularized tenure and affordable infrastructure, where land is suitable for residential development and is held back from such use by inappropriate regulations or by public or private land monopolies. Appropriate regulations should be established to recognize the right of adverse possession through the long-term occupation of unused land.

Regulatory Reform and the Protection of the Environment

Regulatory reform in the housing sector, which is critical to the performance of the sector as a whole and which is a key determinant of housing prices in many countries, cannot proceed without regard to its environmental implications. Indeed, there are a number of superficial contradictions between the need to protect the environment and the need to provide for an equitable housing sector. Regulations that appropriate large areas of agricultural land on the urban fringe may severely restrict land supply for housing, leading to increases in land and house prices. Similarly, the need to create wholesome urban communities may lead to high standards for infrastructure and open space, which may in turn push formal land subdivisions out of the reach of most urban households.

To resolve the seeming contradiction between providing affordable housing and protecting the environment, the cost of regulations and

their effects on housing affordability should be properly assessed. Proper tradeoffs between the two objectives are then made easier. Well-planned parks and playgrounds, distributed throughout new residential neighborhoods, may be preferable to indiscriminate zoning for greenbelts, for example. Sensitive environments can, on the whole, be more adequately protected when sufficient land is available for expansion and the pressure on them is thus reduced.

In slums and squatter settlements, where environmental conditions are at their worst, communities may require assistance to meet basic public health standards. Care must be taken not to destroy low-income communities on the grounds that they pose dangers to public health or do not conform to basic environmental standards.

Guidelines for Initiating Regulatory Reform

During the past two decades, it has been demonstrated that government-sponsored housing projects do not usually lead to regulatory reform. Public agencies involved in housing construction are often allowed to circumvent regulations and thus have no incentive to reform them. In a few instances, governments have acted to initiate regulatory reforms that have improved the access of the poor to residential subdivisions, as has been done recently in the Philippines. In an important innovation, the government of Colombia has created regulations aimed at legitimizing informal land subdivisions (see box S-14).

An initial step in initiating reform is conducting a regulatory audit. Such an audit should cover all the regulations affecting the housing sector, identify the agencies responsible for regulation, and attempt to evaluate their impact in terms of costs and prices as well as supply responsiveness to changes in demand. Reform should then be targeted toward specific institutions and regulations, taking special heed to identify the political issues involved in such reforms. Recent efforts by the Mexican government represent a constructive approach to the area of regulatory reform (see box 3).

Earlier work sponsored by the World Bank provides a framework for one type of regulatory audit that has been successfully applied to evaluate the impact of urban planning regulations in Uttar Pradesh, India. There, based on a regulatory audit, existing land use regulations were found to restrict new housing construction to households whose incomes placed them at or above the 95th percentile of the income distribution; even a proposed regulatory liberalization would only have broadened availability of new, legal housing to households above the 87th percentile of the income distribution. Other ongoing

Box S-14. Affordable Standards in Colombia

The Colombian government began to supply infrastructure services to informal land subdivisions in the early 1970s. It simultaneously issued new decrees, Normas Minimas, which regulated future subdivisions in terms of both the minimum size of plots and the level of infrastructure service required. These decrees promised land titles and a full complement of off-site infrastructure to subdivisions meeting the minimum standards and fines and imprisonment to developers who failed to meet them.

From 1974 to 1977, one-quarter of all new subdivisions conformed to these regulations, while 30 percent still followed the earlier "pirate" practices. Many developers did not have sufficient capital to finance infrastructure services before selling lots. Others moved farther beyond district boundaries where these regulations did not apply. The market was highly competitive and developers were not making excess profits. Pressure mounted on the government to continue to provide services even when developers did not conform to regulations.

The regulations were modified in 1979 and 1980, allowing the issuance of building permits and land titles to buyers of plots even if the developer had not complied with the regulations, and strengthening and refining the penalties for developers. Developers were also allowed to begin selling lots before services were installed to avoid imposing high financial burdens on them. The result has been an increased degree of legal development facilitating the processes of land servicing and mortgage financing.

Source: Hamer (1985).

work at the Bank aims at developing even more general techniques to examine ways in which land use planning regulations, infrastructure standards, and regulatory complexity influence land and housing availability and costs.[25]

Organizing the Building Industry

Problems Associated with the Organization of the Building Industry

The common problems associated with the organization of the building materials industry are systematic underproduction of necessary materials, lack of variety, and inefficiencies in production and distri-

Box S-15. Housing Supply Bottlenecks in South Africa

Many countries that have rigid and unresponsive housing supply systems are hampered by bottlenecks, often of a regulatory nature, which restrict the conversion of land from rural to urban uses. Explicit prohibitions on land conversion or drawn-out subdivision processes lead to housing supply systems that have difficulty adapting rapidly to demand shifts. The result is that population pressures and income increases are translated into rapidly rising housing prices. In the Republic of South Africa, the effects of apartheid laws have acted as a severe constraint on land development possibilities for nonwhite citizens.

These problems are aggravated by bottlenecks in the supply of building materials which result from highly concentrated ownership within the building materials industry and restrictions on building materials imports, each of which limits competition. For most building materials, no more than two firms control production and distribution. As a result, supply has been restricted to such a degree that during years of general economic expansion, housing prices have increased much more rapidly than general price indexes.

In 1991, many of the formal provisions of apartheid legislation that restricted nonwhite land and housing developments were abolished. In addition, concentration and competitiveness are now being reviewed by a government task force charged with formulating a new housing policy.

bution which result in chronic shortages of building materials for residential and infrastructure construction. These problems are particularly acute in countries with monopolies in materials production (see box S-15) and in countries where import restrictions and tariff barriers prevent competition in building material markets. Often, difficulties in entering the building industry are encountered by small producers who cannot obtain the necessary licenses from government. Monopolies often extend to land assembly and subdivision, and to house construction as well, when the regulatory system is especially cumbersome, leading to long delays in obtaining permits. Small developers and contractors cannot assemble the capital necessary to have several projects in the pipeline while permits are sought. In some cases, complementary investment in infrastructure by governments is necessary to enable the private sector to enter the building industry. These may include roads into forested areas where lum-

ber can be harvested responsibly and the construction of gas lines into areas where brick production can be developed.

Guidelines for Enabling the Building Industry to Work

The key to a well-functioning building materials industry is the elimination of monopolistic practices, the breaking down of artificial barriers to competition through strong antitrust legislation, and the entry of small firms into the sector in all phases of production and distribution. Governments should encourage the building industry by reducing import controls and by facilitating licensing requirements for small producers, transporters, contractors, and developers. In some cases, governments should also support building research stations, which can help establish the development and use of local construction materials and building technologies while helping train local producers in new technologies and efficient construction management.

Developing an Institutional Framework

Common Problems Associated with the Present Institutional Framework of the Housing Sector

Government involvement in the housing sector is of recent origin and is generally restricted to cities. In some countries the state has responded to the perceived failure of markets to produce adequate housing, resulting in unacceptable housing conditions for the urban poor. In others, it has focused mainly on the provision of housing to civil servants, ignoring the needs of the poor. In yet others, it has been an apologetic complement to slum clearance, offering the poor some compensation for their outright eviction.

Unfortunately, the response in most countries has been the creation of a multipurpose housing agency, combining the administration of subsidies with the direct production of housing units. The limited availability of subsidies typically resulted in low production and left many households without access to government-produced housing. Where the private sector was restrained, as in centrally planned economies, government monopolies typically resulted in inefficient production and chronic undersupply of housing, leading to overcrowding and long housing queues.

Public housing institutions, which typically measured their performance by the number of units they produced, did not see themselves

as responsible for accounting for the performance of other producers. The rationale underlying such an attitude was that the private sector was not formally producing low-cost housing, thus requiring public agencies to do so. Government housing agencies acted on the premise that what the formal private sector did not produce, they had to produce themselves. Typically, their request for a housing budget was based on a housing needs assessment. But where such assessments were done, they inevitably suggested that government housing budgets were inadequate to meet all housing needs and should, therefore, be increased. Such a stance usually circumvented the question of who should be engaged in housing production and ignored the contribution of the informal sector, which produced large volumes of uncontrolled and officially unrecognized housing. In some cases, such as in India, much informal housing was perceived as officially nonexistent, and the land which it occupied was considered vacant.

Government housing agencies usually failed to take responsibility for the housing sector as a whole. Their activities were typically restricted to producing housing or issuing (generally subsidized) mortgages, but they only rarely became involved in direct encouragement of the private sector. They were usually separated from other public works agencies, which proceeded independently, without necessarily paying attention to residential land development needs. And they were typically perceived as welfare agencies unable to do their job properly because of a shortage of funds, rather than as capable of managing a productive sector. Notwithstanding their limited functions, they frequently constituted major sources of less-than-efficient public-sector employment. In Chile, for example, employment in the Housing Ministry stood at 30,000 at a time when it produced fewer than 20,000 housing units annually. After a series of reforms in the design and administration of housing subsidies, employment in the ministry was reduced to 3,000 while production rose to 80,000 units (see box S-11). Public sector overemployment is also evident in the provision of residential infrastructure in many developing countries. In Western Europe, for example, there are 2 to 3 employees per 1,000 water connections, while in Latin America there are 10–20.[26] In addition, there has been a general failure of central government housing agencies to acknowledge the critical role played by local governments and local utility agencies in shaping housing outcomes. Often, the most critical policies affecting housing markets are set at the local level: land use and zoning regulations, building ordinances, rent control, property taxation, and infrastructure investment strategies.

Guidelines for Institutional Development in the Housing Sector

The key guidelines for institutional development in the housing sector suggest a move away from direct housing production by governments toward managing the housing sector to ensure that markets produce adequate and affordable housing for all. This requires a broad, sectorwide approach, which few if any multipurpose housing institutions have shown an ability to assume. Governments should consider restricting the activities of multipurpose housing institutions that engage in the production of subsidized public housing to special circumstances where emergency conditions (for example, natural disasters) require rapid action on a large scale.

A better institutional approach toward bringing together the major public agencies whose policies and actions influence housing sector performance is needed. A coordinating mechanism should be established in consultation with other agencies, nongovernmental organizations, and community-based organizations to set broad policy for the housing sector; collect, analyze, interpret, and publish data on housing sector performance; provide an institutional linkage between housing and macroeconomic planning; generate long-term plans for housing sector development in conjunction with the central planning agency; provide a forum for participation of the private sector, the NGOs, the community-based organizations, and the general public in housing policy formulation; coordinate infrastructure provision among agencies to ensure an adequate supply of developed land; review the effects of the regulatory environment on the quality, quantity, and price of housing; engage in housing policy research; and influence housing-related agencies to act in a manner that improves housing sector performance. Examples of such institutional arrangements already exist in Thailand and Jamaica (see box 4).

In addition, any central coordinating mechanism that is established should work closely with local counterpart institutions if it is to exert a meaningful influence on local policies. Rather than focusing on myopic measurements of the central government's own performance in the sector (for example, on public housing construction), governments should move toward measurement of both the overall performance of the sector and of local housing markets. Data should be collected on key housing determinants and outcomes through both national and local housing information systems. Key outcomes include: the distribution of housing prices and rents in the entire sector; investment and production; homelessness; median living space per person; quality and safety of structures; availability of basic infrastructure services; accessibility to job opportunities; security of

tenure, mobility, and choice; and the degree of residential segregation. Variables that influence housing demand and supply, such as the availability of credit and subsidies, the adequacy of residential infrastructure, the efficiency of the building industry, and the effectiveness of the regulatory environment, all help determine outcomes. Research and evaluation by the central agency which links local and national housing outcomes to their social and economic antecedents can be especially useful in highlighting desirable policy changes at both the local and national levels.

In addition to the functions of policy formulation, coordination, and monitoring, other institutional responsibilities that correspond to elements of an enabling strategy must also be addressed. The most pressing of these functions are: (i) establishing and overseeing the regulatory environment for the delivery of housing finance by the private sector, for developing effective instruments for directing mortgage lending to the poor and for providing an institutional linkage between the Ministry of Finance and the Central Bank; (ii) administering housing subsidies to the needy, focusing on beneficiaries rather than on dwelling units; (iii) establishing and broadening property rights, especially through regularizing tenure in squatter settlements; (iv) providing infrastructure in slums and squatter settlements; (v) bringing together infrastructure agencies to coordinate infrastructure provision that creates an adequate supply of serviced land and to review the impact of various regulations on the performance of the housing sector; and (vi) proposing new legislation to improve sector performance. While it is important that all of these functions be addressed, a variety of institutional solutions has been developed in different countries.

Broad institutional reform in the housing sector will not come about without an adequate understanding of its present performance and the stakes involved in policies and regulations. Governments are therefore advised to engage in formulating national shelter strategies based on a new understanding of the housing sector. Such strategies should rely on better data on the relations between economic conditions, supply and demand, and housing outcomes in the sector. In most developing countries, however, housing data is presently grossly inadequate for policymaking. Governments may therefore benefit from adopting a new approach to data in the housing sector, on the basis of the collection of specific policy-sensitive indicators that measure the performance of different aspects of the housing sector (see box S-16).

Governments should strive to make broad structural adjustments in the housing sector, rationalize subsidy systems, revise regulations,

Box S-16. The Housing Indicators Program: A Policymaking Tool

The Housing Indicators Program—founded in 1990 as a joint initiative of the U.N. Centre for Human Settlements and the World Bank—is designed to help governments implement national shelter strategies by providing them a practical tool for policymaking. Existing tools for managing the housing sector, particularly in developing countries, are almost wholly inadequate for monitoring the performance of the housing sector and for understanding the relationships between policy choices and sectoral or macroeconomic outcomes.

The research phase of the Housing Indicators Program has three major components: (i) existing data analysis, (ii) intensive surveys of the housing sector in several countries, and (iii) extensive surveys being conducted by country-based consultants in one major urban area of about 50 countries. The extensive survey is creating a basic set of key and regulatory indicators, obtaining current estimates of the indicators, and establishing key relationships among them. Together the program components are developing informative, low-cost, robust, and reliable techniques policymakers may use to measure housing sector performance and understand the linkages among housing policies and outcomes.

In addition, the Housing Indicators Program is initiating new institutional frameworks to assist participating countries to formulate and implement future housing policies, in light of the new research findings. During 1991 and 1992, a series of regional workshops on the program were held to be followed by in-country seminars on the indicator methodology and its applicability in each participating country.

Sources: Mayo and others (1991a, 1991b).

and create new institutional arrangements. These are not simple prescriptions, and they involve major political risks. Institutional reforms may require long lead times and gradual transitions. Many components of such reforms, however, can be brought about independently of others as components of an overall strategy. It is important to take into account that the appropriate institutions, policies, and regulations necessary to guide the housing sector can evolve only over time, by constant adjustment to particular political and cultural environments.

Notes

1. An Overview of the Housing Sector

1. Other actors may be important in different institutional settings. Among the most important of those are nongovernmental and community-based organizations, state-owned enterprises, and firms involved in real-estate brokerage. A more detailed breakdown will also need to take into account the different perspectives of specific government agencies, such as the land department or the fire department, and various agents in formal and informal housing delivery systems.

2. Understanding How the Housing Sector Works

1. For an extended discussion of the ideas in this chapter, together with a number of case studies, see Technical Supplement 1: How the Housing Sector Works.

2. Research shows that, in any given city, spending on housing increases less than proportionately with income. Thus low-income households typically allocate greater fractions of their income toward housing than better-off households. See Technical Supplement 1 and Malpezzi and Mayo (1987a).

3. Notwithstanding this reduction in demand, reduction in supply appears in such countries to have been even more substantial. In countries such as Poland, for example, housing investment relative to GNP after World War II has been consistently below that of market economies with similar incomes, with the result that the number of households has exceeded considerably the number of dwelling units for many years.

4. See, for example, Malpezzi, Tipple, and Willis (1990) and Malpezzi and Ball (1991), which indicate that many beneficiaries of rent-controlled housing, while enjoying lower rents than would otherwise have been expected, nevertheless occupy housing that is smaller or of lower quality than would have been expected in a noncontrolled rental market.

5. See, for example, figures S-5–S-8, which indicate that countries with the best (highest reported) housing outcomes for any given GNP grouping often have more favorable housing conditions than do countries with much higher incomes.
6. Preliminary results from the Housing Indicators Program.
7. Preliminary results of the Housing Indicators Program, 1992.
8. Preliminary results of the Housing Indicators Program, 1992.
9. Dayal and Bose (1977), p. 36, and Jagmohan (1978), p. 15.
10. World Bank (1992), p. 47.
11. World Bank (1992), p. 99.
12. World Bank (1992), p. 12.
13. These and other macroeconomic costs are discussed at greater length in Technical Supplement 1.

3. An Enabling Strategy for Housing

1. For an extended discussion of the ideas in this chapter and for a number of case studies, see Technical Supplement 2: Enabling the Housing Sector to Work.
2. See, for example, box S-14.
3. For a more extended treatment of these priorities, see Renaud (1991a).

4. The Role of the World Bank

1. World Bank (1983).
2. Mayo and Gross (1987).
3. World Bank (1988).
4. A recently approved loan for Mexico, for example, supports the reduction of the direct costs of regulation by participating Mexican states, which often amount to 20–25 percent of the cost of new housing.

Technical Supplement 1: How the Housing Sector Works

1. Mayo, Malpezzi, and Gross (1986).
2. On the effects of tenure security, see Jimenez (1984), and Friedman, Jimenez, and Mayo (1988); on the effects of rent control, see Malpezzi (1986), Malpezzi and Ball (1991), and Struyk (1988); on the effects of housing subsidies, see Mayo and Gross (1987); on the effects of housing finance, see Struyk and Turner (1986).
3. See World Bank (1989).
4. For a general discussion of the relationships between the housing sector and the broader economy, see Buckley and Mayo (1989). Discussions of more specific topics are contained in Renaud (1984, 1991a, 1991b), Buckley (1988), and Mayo and Stein (1988).
5. This observation is at variance with the widespread assumption which was reflected in the design of many site-and-services projects that housing expenditures of 20–25 percent of income were "normal" and basically invariant with either the level of household income or that of economic development. Design errors in such projects based on overly optimistic assumptions concerning "willingness to pay" for housing contributed in part to the creation of unsustainably high subsidy levels which hindered project replicability. See Mayo and Gross (1987).

6. For a comprehensive discussion of housing finance as an integral part of financial development, see Renaud (1989).

7. This is not always the case. In Brazil, India, and Pakistan, for example, it has been noted that indirect taxes on construction activities are a significant source of government revenue. In Mexico, taxes imposed at various stages of housing construction and occupancy can amount to as much as 25 percent of construction costs.

8. See, for example, Ondiege (1986) and Struyk (1988).

9. Malpezzi and others (1988).

10. Angel, Dowall, and others (1987) and Struyk, Hoffman, and Katsura (1990).

11. World Bank (1989).

12. The main exception to this insight is the administrative housing system of socialist countries. Systems in this category often suffer from the compounded effects of both demand-side and supply-side distortions. Their generic low performance results from a demand-side distorted by large wage-taxes interacting with a monopolistic state supply. The state relies on the administrative plan rather than responding directly to household demand and market-clearing prices.

13. See Strassman (1978).

14. For example, the estimated economic rate of return in Bank-financed slum upgrading projects has typically been between 15 and 25 percent.

15. Singh (1983).

16. DeSoto (1986).

17. Bertaud and Lucius (1989).

18. Mabogunje (1991).

19. Estimated price elasticities of housing supply in Korea ranged from 0.10 to 0.40; in Malaysia, from 0.14 to 0.46; and in Thailand, from 6.64 to 10.21. In each case, estimates depended on assumptions made concerning housing demand parameters (see World Bank 1989, appendix 1). The average within the range is used in the figure.

20. Murray (1983) and United Nations (1985).

21. Swan (1973).

22. Mayo and others (1980).

23. Mayo (1986).

24. Angel, Dowall, and others (1987).

25. Struyk, Hoffman, and Katsura (1990).

26. It should be noted that floor area per person improves more rapidly with economic development than does dwelling unit size, because of a systematic drop in household size with increasing GNP per capita.

27. The International Comparisons of Gross Product and Purchasing Power Project of the United Nations attempts to establish "purchasing power parities" among nations that can improve comparisons of living standards and economic performance. The project employs detailed and exhaustive measurement of the prices and characteristics of goods and services available in both developed and developing countries.

28. For a review and comparative analysis of housing price distortions, see Renaud (1991a).

29. Among countries with roughly comparable incomes, variation in the house price-to-income ratio is attributable to policy differences which work by affecting supply and demand. Supply and demand factors have a straightforward impact on the house price-to-income ratio. Supply-side improvements, such as more residential infrastructure or an infrastructure delivery

system that is more responsive to demand; regulatory reform that lowers costs, increases flexibility, and reduces uncertainty or administrative complexity; and actions that increase the competitiveness of the building industry all will, in principle, lower housing prices and hence, for given incomes, lower the house price-to-income ratio. Other things being equal, places with less responsive housing supply systems will have higher price-to-income ratios. On the demand side, housing prices will tend to be higher in response to (i) increased security of tenure or more freely exchangeable property rights, (ii) lower interest rates, and (iii) unavailability of other investment alternatives.

30. Direct evidence in support of this conclusion may be found by comparing estimated house price-to-income ratios and housing supply elasticities in countries with restrictive supply regimes such as Japan, Korea, and Malaysia, with those having more flexible regimes such as Thailand and the United States. In the former countries, house price-to-income ratios given in table S-1 are 6.6, 5.5, and 6.0, respectively. Corresponding price elasticities of housing supply are 0.7, 0.4, and 0.5, respectively—all highly indicating inelastic supply (Renaud 1991a; World Bank 1989). By contrast, Thailand and the United States had reported house price-to-income ratios of 2.5 and 2.8, respectively, with high corresponding supply elasticities of 10.2 and 40.0 (World Bank 1989). Differences in the legal and regulatory framework in these countries are discussed in the cited documents.

31. More recent data for Japan (1990) suggest that the house price-to-income ratio may have risen above 11.

32. This measure of price distortion was used by Strassman (1990) in an analysis of differences in residential mobility among developing countries. He found that mobility rates were significantly lower in countries with high ratios of housing prices to rents, reflecting the impact of rent control on household incentives.

33. When rents are controlled, only prices and quantities (or quality) of housing are free to adjust.

34. The empirical evidence is that house prices vary much more than rents over time. See Renaud (1991a) and World Bank (1989). Underlying this empirical regularity is the fact that rents adjust slowly, but housing values adjust rapidly to disequilibria in housing markets. See Case and Quigley (1991).

35. The impacts of demand and supply-side policy changes on the numerator of the index are consistent with their impacts on the house price-to-income ratio, as described above (see note 29). For example, increasing responsiveness of the supply system will decrease the ratio, but increasing security of tenure will increase the ratio. Nevertheless, as argued in the text concerning the house price-to-income ratio, place to place variations in the index tend, as an empirical matter, to be dominated by supply-side differences.

36. Preliminary results of the Housing Indicators Program.

37. For a general discussion of housing and the macroeconomy, see Buckley and Mayo (1989).

38. Grimes (1976), p. 32.

39. See Burns and Grebler (1977).

40. Many centrally planned countries have tended to underinvest in housing over extended periods of time, with the result that housing shortages are endemic—a somewhat ironic result of treating housing as a "non-material" or "social" sector. This tendency has also occurred in countries such as the

Republic of Korea, which has not permitted commercial bank lending for housing and whose government housing bank for years was constrained to hold no more than about 20 percent of its assets in the form of mortgages, the remainder being earmarked for industrial priorities. Not unlike the centrally planned economies, Korea is now experiencing acute and persistent housing shortages, with nearly twice as many urban households as there are available housing units.

41. See Buckley and Mayo, 1989, p. 46.

42. For example, many developing-country housing finance systems have embodied poorly designed, badly indexed mortgage instruments which have had the effect of increasing the likelihood of mortgage defaults, decapitalizing lending institutions, and raising the likelihood of government bailouts of financial institutions. In many cases, straightforward changes in the design of mortgage instruments could have avoided all of these negative consequences, in effect insulating consumers, lending institutions, and the government from economic shocks.

43. Buckley (1988).

44. Koskela, Loikkanen, and Virén (1991).

45. Mayo and Stein (1988).

46. Murray (1983).

Technical Supplement 2: Enabling the Housing Sector to Work

1. Dayal and Bose (1977), p. 36, and Jagmohan (1978), p. 15.
2. Merrill (1971).
3. Ward (1978).
4. van der Linden (1977).
5. DeSoto (1986).
6. Indrakumar (1977).
7. Norwood (1979).
8. Ward (1978).
9. Swan, Wegelin, and Panchee (1983).
10. Kumar (1980).
11. Tipple (1987).
12. World Bank (1992), p. 109.
13. World Bank (1992), p. 104.
14. Harpham, Lusty, and Vaughan (1988).
15. World Bank (1992), p. 100.
16. Harpham, Vaughan, and Rifkin (1985).
17. P.T. Resources (1979).
18. Strassmann (1982).
19. Robben (1984).
20. Ferchiou (1982).
21. Schuringa and others (1979).
22. World Bank (1992), pp. 104ff.
23. Khan (1983).
24. Sammani and others (1986).
25. See, for example, World Bank (1989). Extensions of this work have been used to evaluate master planning regulations in Indonesia and Poland. See also Bertaud and Lucius (1989).
26. World Bank (1992), p. 16.

Glossary

Compliance: Conformity with all relevant zoning and building regulations.

Developer: One who attempts to put land to productive use through the construction of improvements. The developer organizes and supervises the entire housing project, usually from acquisition and subdivision of the land all the way through construction and final sales.

Dual-indexed mortgage: A mortgage indexed to the cost of funds (often a base interest rate) in order to yield a positive return to the lender, and also indexed to household income to maintain affordability. If the payment required to maintain the necessary return exceeds the maximum income necessary to maintain affordability, the difference may be capitalized and the term of the loan extended.

Dwelling unit: A space with a private entrance occupied by one or more households. It may be part of a larger structure.

Elastic demand or supply: When demand or supply of a good is very responsive to changes in its price, it is termed elastic. Technically, demand or supply is elastic if its elasticity is greater than one in absolute value. (See *Price elasticity of demand* and *Income elasticity*.)

Enabling strategy: A strategy in which governments move from producing, financing, and maintaining housing to improving housing market efficiency, particularly on the supply side.

Financial depth: Level of development of the financial sector of the economy. Often measured as the ratio of M2 (currency, demand deposits, and short-term time deposits) to gross national product.

Formal sector housing: The part of the housing sector in full compliance with all zoning, construction, and land use regulations.

Gross versus contract rent: Gross rent is everything the tenant has to pay to the landlord and others to occupy a unit. This includes utilities such as electricity and water. Contract rent is the amount paid to the landlord for the unit alone.

House price-to-income ratio: The ratio of the median priced housing unit in the urban area to the median household income in the urban area.

Household: A person or group of persons who make common provision for food or other essentials of living, and often share a common budget. A group of people who eat one meal together daily may be considered a household.

Housing outcomes: The results of the interplay between housing demand and housing supply. Includes prices, physical conditions, levels of investment, tenure choice, and residential mobility.

Housing value: The price at which a house would sell if placed on the market for a reasonable length of time by a seller who is not under pressure to sell.

Income elasticity: The change in demand for a good which results from a change in income, expressed as the ratio of the proportionate change in each.

Inelastic demand or supply: When demand or supply is unresponsive to changes in the price of the good it is termed inelastic. Technically, demand or supply is inelastic when the elasticity is less than one in absolute value. (See *Price elasticity of demand* and *Income elasticity*.)

Informal sector housing: The sector of the housing market which includes unauthorized and squatter housing.

Land market assessment: An assessment of the current state of land markets which provides a foundation for defining appropriate strategies to improve land market performance. A land market assessment generally consists of collection of information on land prices, supply of serviced land, and present and projected land projects.

Off-budget subsidies: Subsidies not directly on the government budget, including negative interest rates, high default rates, rent reductions attributable to rent control, and forgiveness of loans.

Permanent materials: If the walls of a structure are made of materials which can be expected to last longer than twenty years under local conditions with normal maintenance, the structure is considered to be built of permanent materials.

Price elasticity of demand: The change in the demand for a good which results from a change in its price, expressed as the ratio of the proportionate change in each.

Raw land: Land at the urban fringe which is zoned for residential use but not provided with infrastructure.

Regularization: Providing squatters with some form of legal title or lease to their land.

Regulatory audit: An inventory of the regulatory environment in which the housing sector operates. A regulatory audit consists of a series of questions designed to identify and quantify the regulatory constraints facing participants in the housing market.

Rent-to-income ratio: The ratio of the median annual net rent to the median household income for renters in the urban area.

Residential land supply: The supply of serviced land zoned for residential use.

Room: Habitable rooms include all space used for living, sleeping, and eating. Hallways and stairways are not included. Kitchens are included if used for eating or living.

Serviced land: Land zoned for residential use and provided with trunk infrastructure.

Shelter: Includes all housing units, formal, unauthorized, and squatter, which provide housing to the population.

Shelter sector: The sector of economic activity which provides housing services to the population. The sector consists of housing consumers, producers, financial institutions, and both local and central government.

Sites-and-services: A form of intervention in the housing sector in which residential plots, including, in some cases, core or basic housing units, are made available to households.

Slum upgrading: Improvement of substandard low-income housing areas, usually by improved provision of residential infrastructure such as roads, walkways, drainage, water supply, sanitation, and so on.

Squatter: A household with a housing unit on a plot which the household has illegally occupied.

Squatter tolerance: The policy of allowing squatters to live on their plots illegally.

Supply elasticity: The change in supply which results from a change in the price, expressed as the ratio of the proportionate change in each.

Targeted subsidies: Subsidies which benefit the intended target group, such as households below some level of income, the elderly, and so on.

Tenure: The property rights associated with a parcel of residential land or housing (for example, ownership versus rental, illegal versus legal).

Title upgrading: Increasing the property rights of a squatter household by providing it with a more secure title.

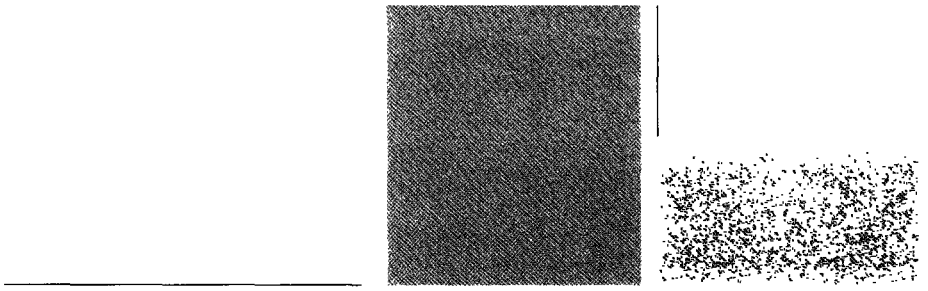
Trunk infrastructure: The primary network of roads, water supply, sewerage and drainage, electricity, and telephone system, up to the limits of a residential subdivision.

Unauthorized housing: Housing built in contravention of zoning or building regulations.

Urban area: The city proper along with the suburban fringe or thickly settled territory lying outside of, but adjacent to, the city boundaries.

Urban fringe: The boundary between the suburban fringe and the less densely settled areas outside of it.

Usable floor area: Floor area of habitable rooms in the dwelling, including bathrooms, internal corridors, and closets.



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ISBN 0-8213-2434-9