

Arthur P.
Solomon

Housing
the Urban
Poor

A Critical
Evaluation of
Federal



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CHAPTER 2

The Choice of a Housing Policy

The most frustrating aspect of public life . . . is the endless hours spent on policy discussions in which the irrelevant issues have not been separated from the relevant, in which ascertainable facts . . . have not been investigated, in which consideration of alternatives is impossible because only one proposal has been developed and, above all, discussions in which nobility of aim is presumed to determine effectiveness of program.

Charles L. Schultze,

The Politics and Economics of Public Spending

Although the first national housing law was not enacted until the 1930s,¹ since then the scope of federal activity has grown so that today Internal Revenue Service regulations and national credit conditions shape the economic environment in which all housing investment decisions (public and private) are made. Federal support of the mortgage market, for example, has dramatically increased the availability and lowered the cost of home financing. While the federal government itself seldom acts as builder or owner, it does offer an array of direct subsidies for both the production and the occupancy of low- to moderate-income housing. Moreover, federal highway funds, water and sewer grants, support for community facilities, and other infrastructure have a decisive influence on the pattern of land-use activities and urban growth, on the quality of neighborhood environments, and indirectly on the conditions of the housing stock itself.

Despite the impressive scope of national housing policies, a changing political and institutional environment has brought them under intensive scrutiny in recent years. First of all, revelations of scandalous misuse of housing funds in certain cities has crystallized a more pervasive dissatisfaction with the cost and performance of subsidy programs. At the same time, a parallel reevaluation of the welfare system and its proposed replacement by some form of income maintenance or earmarked allowances has raised questions about the future role, if any, for housing subsidies. If a reasonable floor is placed under all incomes, will there still be a residual need for a categorical assistance program such as rent supplements or mortgage insurance? Moreover, with the recent proposal of special revenue sharing for

1. The Housing Act of 1934 created the country's first nationwide residential mortgage institutions, the Federal Housing Administration, the Federal Savings and Loan Insurance Corporation, and the Federal National Mortgage Association.

community development, state and local officials suddenly confront the prospect of greater discretion, as well as responsibility, in the expenditure of housing-related funds.² These officials are concerned about how they might best take advantage of this new programming freedom, while federal administrators worry about how to ensure local accountability to national objectives without compromising the flexibility central to the revenue-sharing concept.

Whether the locus of decision making remains at the national level or is shifted to the states and municipalities, the classical dilemma at the heart of welfare economics remains: How should scarce resources be allocated? The housing problem lingers stubbornly on, government appropriations are necessarily limited, and numerous schemes for sheltering the poor compete for public attention and a share of whatever funds are available. As always, trade-offs must be made. How much additional money should be invested in new construction? How much in preserving the existing housing stock? What is the most appropriate form of housing subsidy? What measures, if any, should the government take to achieve a greater dispersal of subsidized units? Who should benefit from public expenditures for housing?

While recognizing that political considerations will always influence, if not dominate, such choices, we can still move toward a more rational decision-making process; any gain in rationality brings its own compensation in the form of greater social benefits for a given dollar expenditure. This study, then, is premised on the belief that applying objective criteria to an evaluation of policy alternatives can clarify options and reduce reliance upon ideological assertions, political horse trading, and undocumented rhetoric.

Although there are many political factors that inhibit fully rational and explicit policy deliberations, the present chapter sets forth a normative decision model for determining national housing policy. (See the Technical Note at the end of this chapter for a formal presentation of the benefit-cost model). The model uses a rational choice paradigm that assumes the

2. Currently, states and local communities receive categorical grants and aid for housing assistance and community development, for example, public housing, Section 236 FHA mortgage-insured rental housing, or Model Cities grants. Under revenue sharing, these would be replaced by more discretionary, unearmarked federal block grants.

end of decision making to be the maximizing of national housing objectives, within existing constraints. Under this paradigm, the selection of an optimum housing strategy involves the following steps:

✓ 1. Specify national housing goals and objectives:

Federal legislation and administrative guidelines have set forth a number of national housing objectives. These multiple objectives (such as providing decent shelter and a suitable living environment for every household, eliminating economic and racial discrimination in the housing market) fall into broad economic, social, and environmental categories.

✓ 2. Formulate alternative strategies:

There are a range of federal housing programs and alternative courses of action that may be combined in various ways to achieve national goals. Among the available options are housing allowances, subsidized construction programs, mortgage insurance, preferential tax treatment, rehabilitation loans and grants.

✓ 3. Determine the constraints:

In practice, there are constraints—political givens, institutional weakness, constitutional and other legal provisions, limitations on physical resources, and production technologies, and budget ceilings—which delimit the set of feasible alternatives and the success with which each can be pursued.

✓ 4. Evaluate the alternatives:

The implementation of each alternative generates a stream of costs and benefits that accrue over time. For comparative purposes we calculate the costs of the resource inputs (land, labor, and capital) and the benefit of the socially valuable outputs (decent shelter, employment income, degree of social and economic integration, and so forth).

✓ 5. The decision rule—choose the optimal strategy:

A rational choice of a housing policy requires the selection of the strategy alternative for which the net value (benefits minus costs) is highest. In other words, in choosing the optimal strategy, policy makers should try to provide the greatest amount of social welfare possible from the resources allocated to government housing activities.

The Nation's Housing Goals

In any decision process, the choice and evaluation of objectives constitute the point of departure. Thus the national commitment to "a decent home

and a suitable living environment for every American" is the goal against which any housing program must be measured. Inherent in this goal are three standards: a shelter that meets minimum health, safety, and sanitary code requirements; a neighborhood free of blight, secure from crime and violence, and adequately supplied by public services; and an equal opportunity for every household to seek such a shelter and neighborhood in any location, according to its individual needs and preferences.

Most Americans do, in fact, occupy decent homes in suitable living environments and enjoy unrestricted access to a wide variety of housing styles, tenure arrangements, and geographic areas. But there are many families, however, who cannot obtain housing that satisfies the minimum standards set forth in our national housing goal either because of inadequate incomes, discriminatory practices, or institutional barriers. The persistence of physical squalor, even in times of unequalled prosperity, continues to frustrate the designers of federal housing policy. As the search for solutions has evolved, this policy has come to embrace an ever more diverse set of economic, social, and environmental objectives—some explicit in the enabling acts themselves, others implicit in the manner of their execution. These objectives, and their corresponding measures of performance, are outlined in Table 2.1.

For the purpose of our analysis, economic welfare consists of both aggregative and redistributive effects. The government's investment in low-income housing increases real national income (real individual consumption) through its direct and indirect effects on housing consumption, municipal revenue, and employment. Besides contributing to economic growth, these housing investments redistribute income from corporate and higher-bracket taxpayers to the poor.

First among the social benefits to be examined are the changes in housing consumption resulting from the impact of housing programs upon the price and quantity of dwelling units.³ (See Chapter 3.) Both direct tenant

3. Since the theoretical foundation of the formal decision model is from welfare economics, we examine how each of the economic benefits derives from welfare considerations. In Western nations economic welfare accrues to individuals, not the state. Thus the net social benefit of a particular housing subsidy program is the value, at the time of the decision making, of the net addition to individual consumption which will result from the project. This is the definition of net social benefit (NSB) presented by Martin S. Feldstein, "Net Social Benefit Calculation and Public Investment Decision," *Oxford Economic Papers*, March 1964.

Table 2.1 Major Objectives of Federal Housing Subsidies

| Impact of Housing Subsidies | Objectives | Measurements |
|-----------------------------|--|--|
| ✓ Economic | Increase aggregate real income (mitigate poverty) Redistribute income | ✓ Housing services added ✓ Municipal services added ✓ Employment income added ✓ Housing services distributed equitably |
| ✓ Social | Enhance consumer sovereignty Encourage fair housing opportunities Foster social stability | ✓ Scale of satisfaction ✓ Segregation index ✓ Sociometric scale |
| ✓ Environmental | Upgrade deteriorated neighborhoods Stabilize neighborhood environment Decrease social costs of slum living | ✓ Fire insurance rates, property assessments, capital investments ✓ Vacancy and turnover rates, abandonment ✓ Crime statistics, morbidity rates, fire damage |

benefits and indirect spillover effects on the rest of the housing market are included. The subsidized tenant experiences an improvement in his housing condition (the move from substandard private dwellings to standard public or private housing), a reduction in housing expenditure, and a corresponding increase in his disposable income for nonhousing goods and services. Normally the unit vacated by the subsidized tenant filters down to another low-income family who, in turn, improves its housing consumption. Also, social benefits accrue if the federal assistance increases the supply of standard housing—by inducing either new construction or rehabilitation of an abandoned unit—since theoretically, at least, the equilibrium price of other low-income housing units falls as a result.

The second aggregate measure of social benefit derives from the value added in municipal revenue. (See Chapter 5.) Strengthening the fiscal capacity of central cities—the predominant users of housing programs—tends to offset some of the inefficiencies and inequities that stem from jurisdictional balkanization. Central cities provide services to suburban dwellers without receiving sufficient revenue in compensation; because of the arbi-

trariness of municipal boundaries, core-city governments also find themselves saddled with the problems of the impoverished and disadvantaged, even though these problems arise from conditions in the same regional economy from which all the residents in a given metropolitan area draw their sustenance and shelter. Moreover, any net additional revenue allows an increase in the level of municipal services—a result normally consistent with the preferences of local consumers.

The final aggregate contribution of housing expenditures to social welfare is the creation of net gains in employment income. (See Chapter 6.) Under full-employment conditions, with only frictional unemployment, the demand for labor generated by the government's housing investments merely shifts workers among jobs without lowering unemployment (that is, without adding any real income). However, when housing programs generate additional demand for idle workers—or provide more stable, higher-paying employment for victims of discrimination, part-time laborers, or other underutilized workers—a genuine social gain occurs. Thus in depressed regions or geographically delimited ghettos characterized by high unemployment, government-assisted housing investments tend to increase aggregate national income.

The income distributional effects are overlooked in the aggregate measures of traditional welfare economics, which implicitly assigns an equal value to each dollar of income added by a government program. Some economists defend this equal valuation by arguing that government fiscal programs, such as housing subsidies, should aim for maximum efficiency, while income redistribution objectives are best accomplished through tax or transfer schemes.⁴ But as Stephen Marglin⁵ and Arthur Maass⁶ point out, communities are not indifferent to the means by which income redistribution is achieved, nor is there a realistic likelihood of enacting an adequate transfer or tax program in the immediate future. On welfare grounds, those families with the most urgent housing need should be selected for

4. This approach, called the Wicksell-Lindahl tradition by Richard A. Musgrave, argues that a more useful theory of public finance can be developed by separating efficiency and equity questions. See Richard A. Musgrave, "Cost-Benefit Analysis and the Theory of Public Finance," *Journal of Economic Literature*, September 1969, pp. 797–806.

5. Stephen Marglin, *Public Investment Criteria* (Cambridge, Mass.: MIT Press, 1967).

6. Arthur Maass, "Benefit-Cost Analysis: Its Relevance to Public Investment," *Quarterly Journal of Economics*, May 1966.

admission, since a marginal dollar of benefit brings more satisfaction (utility, value, worth) to them than to more privileged households. (See Chapter 4.)

In addition to economic objectives, housing subsidies serve a variety of important social and environmental ends as well. (See Chapter 8.) Program performance with respect to these noneconomic objectives has received increasing public recognition in recent years but is difficult to measure, particularly in monetary terms. While the housing census documents that the number of dwelling units lacking full plumbing facilities and having other structural deficiencies has declined continuously over the last twenty years, more inner-city neighborhoods than ever seem to have become uninhabitable—plagued as they are by financial disinvestment and social disruption. This fact has led some critics to claim that the contemporary housing problem is not one of inadequate shelter but of unlivable environments, that housing relief cannot be separated from overall community development, and that any subsidy program that helps upgrade deteriorating neighborhoods, or at least slows down the rate of decline, is contributing to social welfare.⁷ Such a contribution—insofar as it takes the form of increased personal security, less drug abuse, greater neighborhood cohesiveness and stability, and so on—is all but impossible to value in monetary amounts yet nonetheless may be worth as much, if not more, than benefits that can be easily measured in dollars and cents.

Common experience suggests that one's physical environment (space, light, air) has some effect on the quality of social relationships, child-rearing practices, and physical and mental health, even if the causal relationships are hard to establish empirically, and the benefits of environmental improvements too elusive to measure. Locational mobility is yet another social objective espoused by national housing legislation that frustrates precise quantification; nevertheless, since equal opportunity to secure a home anywhere throughout a metropolitan housing market determines one's access to jobs, educational opportunities, neighborhood amenities, and other goods and services, any evaluation of housing programs should assess their ability to foster consumer choice and residential integration. Conversely, the isolation of subsidized tenants within concentrated ghetto areas im-

7. See, for example, George Sternlieb and Robert Burchell, *Residential Abandonment: The Tenement Landlord Revisited* (New Brunswick, N.J.: Transaction Books, 1973).

poses costs on society as a whole as well as on the tenants themselves. Tight housing market conditions and neighborhood (or suburban) resistance have often undermined efforts to disperse subsidized units, yet the ability of housing policies to promote equal residential opportunities, and thereby relieve impacted areas, is an important welfare contribution.

Strategies for Housing the Urban Poor

National housing objectives, once identified in operational terms, must be the basis for selecting an optimal strategy (or combination of strategies) for their attainment. There are at least five major alternative housing strategies:

1. Eliminate all federal government support for housing, and rely solely on the private market.
2. Abolish direct federal housing subsidies, but retain favorable income tax and mortgage-insurance provisions.
3. Continue to rely on new construction programs for the poor.
4. Develop subsidies for using the existing housing stock such as direct consumer subsidies or management and maintenance incentives.
5. Develop a mixture of subsidies for new construction and use of the existing stock.

Elimination of Government Subsidies

The first alternative calls for the elimination of all subsidies, direct and indirect, including favorable income tax provisions and mortgage-insurance programs. Surprisingly, this alternative, which reflects total distrust of federal involvement, emanates from both extremes of the political spectrum. Conservatives such as Edward Banfield⁸ complain that insofar as housing subsidies, urban renewal, and other forms of government "meddling" have any effect whatsoever, it is to aggravate the very problems they are supposed to solve. Banfield would argue that the "so-called" housing crisis is, in fact, largely nonexistent and that whatever residual problems may remain are solvable, if at all, through the natural workings of the private market.

Radical critics, on the other hand, contend that housing ills are deeply rooted in our present economic system, based as it is on the concentration

8. See Edward C. Banfield, *The Unheavenly City* (Boston: Little, Brown, 1970), pp. 14-16.

of property and the means of production in the hands of a few. Little use is seen in treating a symptom while the disease remains.⁹ Radicals contend that the state is merely an instrument of capitalist interests so that government activities will necessarily profit those in control at the expense of those in need.

While agreeing with the radical critique that the solution to housing problems is ultimately bound up with more fundamental issues such as the maldistribution of wealth and income, I would still argue that—pending a political millennium—some government action is better than none, even if the treatment is merely palliative, the relief stopgap, and the results insufficient. Indeed, ministering to symptoms is often the humane imperative when the ambulance is nowhere in sight and major surgery must be postponed. As for the conservative case, one need only note that the government originally entered the housing field with reluctance and only after serious and chronic deficiencies in the private market had shown no evidence of healing themselves. Since the first decision to intervene, government housing activities—no matter how inefficient, wasteful, and, at times, even corrupt—have demonstrably improved living conditions for millions of households. Moreover, government intervention finds support in the notion that housing is a merit good¹⁰—like education and medical care—which should at least meet the minimum standards embodied in municipal building, health, and housing codes. Since housing supplied by the private market does not always meet these minimal standards, collective action is justified.

Also, housing generates significant side effects or spillovers not fully reflected in market prices. The provision of better housing for the poor, for example, can generate additional housing improvements while reducing the social cost of blight.¹¹ A further rationale for public action derives from the existence of housing market imperfections. Discrimination, restrictive zoning, and collusive real estate practices limit the free flow of information

9. Although not a radical himself, Michael Stegman has articulated this view in a recent article. See Michael A. Stegman, "The New Mythology of Housing," *Society*, Vol. 7, No. 3 (January 1970).

10. Richard Musgrave has justified government activity that assists in meeting the minimum standards as the provision of a merit good. See Richard A. Musgrave, *The Theory of Public Finance* (New York: McGraw-Hill Book Co., 1959), pp. 13-55.

11. For an account of the social externalities created by slum housing, see Jerome Rothenberg, *Economic Evaluation of Urban Renewal* (Washington, D.C.: Brookings Institution, 1967).

and accessibility, two necessary prerequisites for an efficient housing market. Much economic and racial stratification is the direct consequence of explicit institutional and real estate practices, which accounts for some of the differences in prices paid for the same quality of housing and residential services.

Relying on the Filtering Process

The second alternative—the elimination of direct federal subsidies for low- and moderate-income housing, but retention of favorable tax laws for the affluent—relies entirely on the “trickle-down” process to provide shelter for the poor. All new construction would be for households in the upper half of the income scale, while those of poor or moderate means would upgrade their housing by moving into the units previously occupied by higher-income families. Although it is true that the normal turnover of housing improves the quality of shelter for many low-income households, a number of recent studies reveal basic shortcomings in the filtering or trickle-down process as a strategy for improving the living conditions of the poor.

Bernard Frieden, in an article on housing and national urban goals, reviewed the spatial aspects of the filtering strategy.¹² As a large number of middle-income people moved from the central city to new suburban developments in the 1950s and 1960s, the units they vacated were occupied by lower-income whites, blacks, and other minorities. This led to increasing segregation of the population along racial and economic lines and left the core cities with a multiplicity of employment, fiscal, health, education, and other problems. As Frieden concludes, it is fair to say that this approach to the national housing problem causes or, at least, exacerbates many of our other urban problems. Other limitations of the filtering process were cited in two recent empirical studies, which suggest that the segmentation of local urban housing markets along racial and class lines prevents the full benefits of housing turnovers to reach the black poor or other inner-city residents. Lansing, Clifton, and Morgan provide well-documented evidence from their surveys that new construction opens up some improved housing for

12. Bernard J. Frieden, “Housing and National Urban Goals: Old Policies and New Realities,” in James Q. Wilson, ed., *The Metropolitan Enigma* (Cambridge, Mass.: Harvard University Press, 1968).

poor whites, but that blacks improve their housing conditions much less than their incomes would lead one to expect.¹³ Similarly, Brueggeman, Raester, and Smith, in a study of various housing programs in Columbus, Ohio, found that the higher the value of the new homes built in the suburbs—where most new housing is located—the smaller the proportion of units experiencing turnover in the inner city.¹⁴ Higher-income households usually vacate units in the suburbs, and, for the most part, the chain of moves triggered by new construction peters out before reaching central-city residents. Thus, whatever role the filtering process may play in metropolitan housing markets as a whole, it has dubious value as a strategy designed to aid urban families concentrated in the older neighborhoods of central cities. Moreover, even this residual value continues to decline as the locus of new construction follows the sprawl of the urban fringe in its advance outward into the open countryside.

Subsidizing New Construction for the Poor

The third strategy—subsidizing the cost of new construction—has been the approach traditionally adopted by the federal government—for example, through its direct mortgage subsidies and land write-downs (as in conventional public housing and Section 236 developments); its efforts to encourage new construction technology (such as Operation Breakthrough), to unify local building codes, and to promote land banking; and its secondary mortgage operations. All these activities aim at reducing the price for the basic factors of production—labor, land, materials, and capital. Those who favor subsidies for the direct construction of low- and moderate-income housing claim such an approach serves several critical ends:¹⁵

- Expansion of the total supply to relieve pent-up housing demand and help keep prices from rising;
- Dispersal of poor families throughout the metropolitan area, particularly

13. John Lansing, Charles W. Clifton, and James N. Morgan, *New Homes and Poor People* (Ann Arbor: Survey Research Center, Institute for Social Research, University of Michigan, 1969).

14. William B. Brueggeman, Ronald L. Raester, and Halbert C. Smith, "Multiple Housing Programs and Urban Housing Policy," *Journal of American Institute of Planners*, May 1972.

15. See Anthony Downs, "Federal Housing Subsidies: Their Nature and Effectiveness and What We Should Do About Them: Summary Report" (Chicago: Real Estate Research Corporation, October 1972), processed.

in those rapidly growing suburbs having few available units on the market;

- Creation of certain types of units not available in the existing inventory and, without subsidies, unlikely to be built by private developers;
- Stimulation of increased construction activity and maintenance of employment in the building trades;
- Provision of dramatic, highly visible upgrading in older deteriorated areas as a spur to private reinvestment.

Defenders of federally assisted construction programs premise their case on the debatable assumption that the availability of subsidies actually increases production above levels that would prevail in their absence. More skeptical observers maintain that subsidized housing starts merely replace building activity that would have otherwise occurred, in effect, shifting laborers, machinery, capital, and entrepreneurial energy from purely private to publicly supported developments. Thus, in debating the efficacy of construction, it is the *net* impact of federal policy that emerges as the major area of contention. And, as previously noted, macroeconomists have just begun to research this issue.

Using the Existing Stock

If the government chooses to move toward a demand-side approach, the fourth housing strategy alternative, it could enhance the purchasing power of the poor in several ways: by subsidizing the actual rents paid by low-income tenants (as in the public housing leasing program); by providing a general income maintenance subsidy (an unearmarked cash transfer); or by making available an earmarked income transfer for housing (a restricted cash transfer through housing allowances, rent certificates, or rent vouchers). Advocates of demand- or consumer-oriented strategies argue that cash transfers or housing allowances would offer several distinct advantages when compared to existing production subsidies:

- They would be less costly since tax shelters, developer profits, and increases in municipal service requirements would no longer be involved.
- With fewer administrative intermediaries, more of the subsidy dollars would actually reach the target households.
- The choice of housing type, structural quality, and location would be left with the individual beneficiary.
- The increased rental payments would promote better use of the existing

housing stock, by offering inducements to landlords to upgrade their structures, and thereby reduce housing deterioration and abandonment.

—They would overcome many of the hurdles blocking the construction of subsidized units in the suburbs and thus offer a greater potential for the geographic dispersal of the poor.

—They are more equitable and less politically explosive for local communities.

Demand subsidies contain an implicit argument for conserving the existing housing stock and stabilizing demand in otherwise declining areas. Yet the use of housing allowances, rent certificates, or other consumer-oriented strategies assumes a reasonably competitive housing market in which landlords will respond to higher rental payments by improving their housing units. A critical question, then, is whether or not landlords will respond as predicted or will merely raise prices instead.

A Mixture of Programs

The fifth and final of the strategy alternatives is to adopt a mixture of housing programs. Given the range of federal housing objectives, some contend that it is unrealistic to assume that any single strategy will be preferable for all housing market conditions, for all phases of the economic cycle, and for all geographic locations. Such a perspective might argue for special revenue sharing for housing programs, with each state and local community choosing a complement of housing and community development activities best suited to its own circumstances.

Policy Constraints

In theory, rational decision makers can maximize benefits at a given cost through the choice of appropriate housing policies. In practice, however, a variety of institutional, financial, legal, and political constraints prevent federal housing programs from achieving policy objectives in an optimal manner.

One of those constraints is the availability of land. For example, in most central cities, particularly the older ones, little vacant land remains for new multidwelling construction. Available sites are limited by established patterns of land use, neighborhood resistance to public housing projects, and the controversy that often accompanies the use of eminent domain powers.

On the other hand, it is questionable whether construction labor constitutes a real constraint. During the short run, labor shortages may occur in specific skilled trades in particular localities, but over longer periods the construction labor force normally adjusts in response to changing demand. Estimating the short-term labor constraint in a single construction subsector (for example, high-rise residential) in a single central city presents difficult conceptual and empirical problems. These problems arise from considerations of both the supply and demand for construction manpower. On the supply side, we confront several definitions of the construction labor force.¹⁶ While one can make an assumption about the most appropriate definition, it is extremely difficult to account for geographic, occupational, and industrial mobility. There is little empirical knowledge regarding labor flows into and out of the construction industry, between the major construction sectors, and among local labor markets. And actual measurement of the cross-elasticities of supply is limited. Statistical series on mobility, employment, and unemployment by craft are nonexistent, and the ability to project changes in labor productivity is minimal.

Establishing the labor constraint for residential rehabilitation is even more complex than for new construction. While the product is just as heterogeneous, there is even less information about labor supply requirements. The relationship with other construction sectors is limited. As an industry, residential rehabilitation is weakly organized, in most cities dominated by small nonunion specialty firms. The absence of a formal industrial relations system, work rules, or institutionalized entry ports further discourages us from predicting future labor conditions.

The most binding constraint on housing subsidy programs, however, is the annual federal budgetary appropriation. Labor and land constraints may be binding in the short run, but theoretically, at least, they can be removed whenever the government is willing to pay the necessary price for

16. Anyone who has read John T. Dunlop and D. Quinn Mills, "Manpower Construction: A Profile of the Industry and Projections to 1975," in the *Report of the President's Committee on Urban Housing*, Vol. 2 (Washington, D.C.: U.S. Government Printing Office, 1968), will recognize my indebtedness to their analysis of construction manpower. They indicate that one can define the construction labor force as the current employees of construction contractors, the unemployed whose last job was in construction, persons with building trade skills working in other occupations, those reporting any earnings in contract construction, or workers whose longest period of employment during the year was in the construction sector.

attracting enough craftsmen or purchasing adequate sites. As Samuelson points out in his basic economics text, these constraints, as experienced by a single producer, are not ones of supply or capacity but of cost.¹⁷ On the other hand, the annual appropriation is a binding constraint, since we assume that dollar scarcities will continue to be the rule throughout the economic life of federal housing programs. Exceedingly high mortgage interest rates discourage private construction and, in turn, limit the number of possible rent supplement or leasing units in new private developments. And federally regulated ceilings on the interest rate associated with long-term serial bonds may prevent a local housing authority from borrowing development capital and thus frustrate plans to construct public housing.

Other institutional, political, and financial constraints further circumscribe the feasible policy choices. For example, community demands for construction jobs pose legitimate issues whose resolution can dilute economic efficiency, since the training and supervision of unskilled laborers generally entails higher construction costs, at least over the short run. Institutional factors such as the categorical nature of federally assisted housing programs, or the limited capabilities of LHA personnel, can also inhibit the optimal allocation of federal housing appropriations.

Financial realities comprise yet another set of boundary conditions, as is the case with limitations on the availability of mortgage capital. With conventional public housing, for example, the semiannually adjusted ceiling on the interest rate associated with long-term serial bonds may prevent the housing authority from offering a rate of return competitive enough to attract the investment funds needed to finance new projects. On the other hand, exceedingly high mortgage interest rates, or a shortage of mortgage capital, may very well discourage private construction, thereby limiting the number of FHA mortgage-insured units.

Evaluating the Alternative Strategies

The policy constraints reviewed in the last section establish the limitations within which housing strategies are implemented. Once the respective strategies are carried out, they generate a stream of benefits and costs which provide the basis for our comparative analysis.

17. Samuelson refers to this situation as the "fallacy of composition." See Paul A. Samuelson, *Economics*, 8th ed. (New York: McGraw-Hill Book Co., 1970), pp. 11-12.

The theoretical foundation for the benefit-cost model used in our analysis is derived from traditional welfare economics; the model is normative rather than behavioral or descriptive and is intended to facilitate the systematic evaluation of alternative housing policies. Specifically, the model tells us how a purely private market system would allocate housing appropriations and examines the extent to which this solution represents the economic welfare optimum.¹⁸ Properly used, it can prescribe the single housing strategy (or mix of strategies) most likely to maximize social benefits within any given budgetary constraint.

The basic structure of the decision model is straightforward. Housing programs are viewed as alternative production processes, with each program using a variety of inputs (land, labor, and capital) to produce certain socially valuable outputs (standard housing, municipal revenue, and employment opportunity). A decision is seen as a choice among this set of feasible production alternatives, delimited by a set of constraints (such as physical resources, production technologies, congressional funding, and legal prohibitions). The choice proceeds from the evaluation of both output (social benefits) and input (resource costs) for each alternative followed by the application of a rational economic criterion for selecting the optimum combination of programs.¹⁹ Although set forth in linear programming terms, the existence of only one binding constraint allows for the use of a benefit-cost calculation.

The approach used in this analysis differs from the traditional welfare model in several respects. First, while most benefit-cost models rank programs only in terms of their economic efficiency or contributions to aggregate national income, this model incorporates other public policy goals as well—above all, equity considerations such as the redistribution of income to low-income groups. Second, the study goes beyond previous attempts to attach a higher social value to the benefits received by specific subgroups;

18. In this study "economic welfare" is defined as the difference between the present value of the economic benefits associated with the housing programs' output and the present value of the associated input costs.

19. For a detailed theoretical explication of the public expenditure approach, see Otto Eckstein, "A Survey of the Theory of Public Investment Criteria," in James M. Buchanan, *Public Finances: Needs, Sources and Utilization* (Princeton, N.J.: Princeton University Press, 1961), and Richard Zeckhauser and Elmer Schaefer, "Public Policy and Normative Economic Theory," in Raymond A. Bauer and Kenneth J. Gergen, eds., *The Study of Policy Formation* (New York: The Free Press, 1968).

weighting schemes have generally relied on a single attribute—the recipient's income—while the present methodology uses several additional characteristics (race, family size) to determine a distributive weight. As a result, the model is better attuned to assessing program performance with respect to congressional directives and federal regulations specifying that federal housing programs are intended to benefit not simply those of low income but those who are *most* disadvantaged in the private housing market.

Third, while the formal model is confined to economic measures of benefits and costs, program effects not amenable to quantification have been added to the analysis to account for the fact that policy makers consider both economic and noneconomic objectives in their decisions, for example, racial and economic dispersal or environmental impact.²⁰

Measuring Housing Policy Performance: Benefits and Costs

BENEFITS

The economic benefit attributable to any particular housing strategy is represented as the value of the net addition to individual consumption that results from its implementation. Government investment in low-income housing increases real national income (aggregate real individual consumption) through its direct and indirect effects on housing consumption (see Chapter 3), municipal services (see Chapter 5), and employment income (see Chapter 6). To this end, we apply a distributive weight—based on the socioeconomic characteristics of the tenants served—to the consumption benefit of each housing program. (See Chapter 4.)²¹ The respective distributions of housing benefits, then, are used to weight the aggregate social benefits of each program. Since a nation's economic welfare involves the distribution as well as the magnitude of its national income, integrating the efficiency (aggregative) and equity (redistributive) objectives yields a more appropriate measure of national economic welfare. The gross contribution of housing programs to national economic welfare, then, can be expressed as

20. By restricting the formal model to economic benefits, I do not mean to minimize the relative importance of social and environmental factors but only to limit the formal model to factors of dollar value. For the other benefits an ordinal scale is developed (see Chapter 8).

21. For each program we establish weights that reflect the probability that an average subsidized tenant would live in substandard housing in the absence of government assistance.

$$B^G = (1 + X)B^H + B^M + B^E \quad (2.1)$$

where

B^G = the gross economic benefit of a housing program,

X = the distributive weight on housing consumption (Chapter 4),

B^H = the housing consumption benefit (Chapter 3),

B^M = the municipal service consumption benefit (Chapter 5),

B^E = the employment income consumption benefit (Chapter 6).

COSTS

On the cost side of the equation, it is important to understand the basic distinction made by economists between social (or opportunity) cost and contractual cost.²² Social cost is the overall cost to society of a particular resource use, as valued in terms of the alternative uses to which it could have been put (that is, the amount that users of displaced goods or services would have been willing to pay for the goods or services forgone). Contractual costs, on the other hand, are actual payments between a buyer and a seller.

In an ideal market situation (one characterized by perfect competition, mobility, and free access to information), the social value of a given resource is equivalent to its market price. But where the market is imperfect or non-existent, disparities may emerge between the market price and the social value of a resource and therefore between any given program's opportunity and contractual costs. For example, where slum dwellings generate negative spillovers (fire hazards, family disorganization, crime), collective and private interests differ, and the market price of the property may well exceed its social value.²³

The social cost that results from the disparity between private and collective interest may be best addressed through government action. But federal

22. See any of the public expenditure analysis literature, such as Feldstein, "Net Social Benefit Calculation"; Stephen A. Marglin, "The Opportunity Cost of Public Investment," *Quarterly Journal of Economics*, May 1963; Otto Eckstein, "A Survey of the Theory of Public Investment Criteria," in Buchanan, ed., *Public Finances*.

23. For a detailed discussion of the social costs of deteriorated housing, see Jerome Rothenberg, "Urban Renewal Programs," in Robert Dorfman, ed., *Measuring Benefits of Government Investments* (Washington, D.C.: Brookings Institution, 1965), pp. 306-307.

expenditures also involve social costs. Taxation and the sale of bonds (the primary sources of federal funding) lead to a reduction in household consumption and a decline in corporate investment and hence to forgone opportunities in the private sector. Moreover, the displacement of alternative government programs by a particular resource allocation results in unrealized consumer benefits.²⁴ To determine the effectiveness of government intervention, then, it is necessary to estimate the social as well as the contractual costs of federal financing. (See Chapter 7.) In general, if the benefits of a program exceed the social or opportunity cost, government investment in that program represents an efficient use of resources. If, on the other hand, the economic benefits generated by a housing investment fall below its opportunity or social cost, then capital would be more efficiently allocated if it remained in the private sector.²⁵

Looking specifically at the resource inputs for federally subsidized housing—capital, labor, and land—we note some disparities between social and market prices. Because the market for building supplies is reasonably competitive, the price of materials and equipment used in subsidized housing reflects their social value. In the case of labor, however, there is often a divergence between social and contractual costs. When pockets of local unemployment or underemployment exist or when construction activity is slack, for example, the social cost of hiring underutilized labor is less than the prevailing wage. In depressed regions, then, the cost to society of constructing new housing falls below the nominal development cost. On the other hand, during periods of high construction activity and labor shortage, the wages of skilled craftsmen are less than their social value, since the levels of compensation are fixed for several years under collective bargaining agreements.

Finally, the market value of low-rent housing projects on urban land is usually lower than the value of the site and improvements in its alternative private use. This means that in the absence of federally assisted housing

24. The satisfaction or benefits of public projects depend on both the direct increases in the consumption of individual project tenants and the indirect increases in the consumption of others due to the private investment induced by project outputs.

25. When a budget constraint exists, the social value of a dollar of government expenditure usually exceeds the value of a dollar in private use. Where this is not the case, the government should tax the private sector until the marginal social value of a dollar of government expenditure equals the marginal social value of the forgone private expenditure.

the land parcels would yield a higher property tax payment to the city. Social costs are included in our discussion because a conceptually meaningful model should take into account the overall costs of housing programs to society at large. These overall costs can be categorized into federal and associated expenditures (private as well as state and local government):

$$C^G = C^F + C^A \quad (2.2)$$

where

C^G = the gross economic cost of a housing program,

C^F = the federal government expenditures (Chapter 7),

C^A = the nonfederal or associated expenditures (Chapter 7).

The Decision Rule

So far, the model has been presented in a static manner, as if all costs and benefits occur in the same year. However, since federal housing programs generate streams of benefits and commit resources for the future, it is necessary to bring intertemporal considerations into the analysis. This is accomplished by selecting an interest rate that reflects the relative social value of marginal output and resource inputs at different points in time.

The social discount concept, which has been embraced by most economists, as well as the Joint Economic Committee of Congress, uses an interest rate reflecting the opportunity cost of displaced private spending.²⁶ Because it implies that investments in the public sector have to yield at least as high a rate of return as the funds would otherwise have earned in the private sector, this approach is consistent with welfare economic criteria. Since the funds drawn from the private sector for public investments involve both forgone investment and consumption, the opportunity cost must represent some weighted average of the two.

The actual cost of displaced private spending depends on the method of government financing—whether, in fact, public revenues are obtained through taxation or borrowing. In either case, the ultimate source of government funds must be traced so that we can estimate the rates of return

26. Report of the Subcommittee on Economy in Government, Joint Economic Committee, U.S. Congress, *Economic Analysis of Public Investment Decisions: Interest Rate Policy and Discounting Analysis* (Washington, D.C.: U.S. Government Printing Office, 1968).

on the forgone uses. For funds withdrawn from private investment, the respective rates of return are calculated in the affected sectors, while forgone consumption is valued at the interest rate used by households in their saving-spending behavior. The social discount rate, itself, represents a weighted average of those rates found applicable in the relevant private consumption and investment sectors.

By estimating the opportunity cost of displaced private investment and spending, we implicitly enter into the analysis the weighted average allowance for risk and uncertainty used in the private sector. Since we cannot establish probabilities for each possible outcome, we rely on the private sector's recognition of uncertainty, as well as our own sensitivity testing with a range of interest rates and time horizons.

The final task is to establish a decision rule (or test of preferredness) for comparing and ranking alternative housing strategies. If the costs and benefits of all housing programs could be valued in terms of a single unit of measure, such as dollars, it would be possible to make objective decisions on the basis of public expenditure efficiency criteria. We could compare, for example, the discounted present value of the benefit-cost ratios of the various housing strategies. Alternatively, it is possible to rank strategies by their net contribution to economic welfare (gross benefits minus gross costs) subject to the limitation of federal budgetary dollars. This welfare economic decision rule—ranking programs according to their net benefit per dollar of scarce federal funds—is a convenient approximation to the standard maximization problem and can be expressed as

$$\lambda = \frac{B^G - C^G}{C^F}$$

$$= \frac{[(1 + X)B^H + B^M + B^B] - (C^F + C^A)}{C^F} \quad (2.3)$$

The foregoing benefit-cost calculation ranks alternative housing strategies in terms of their economic efficiency or contribution to aggregate national income. Much of our comparative analysis reflects this traditional welfare economic approach. However, our analysis is not confined to economic criteria since federal housing subsidies have many social and environmental as well as economic objectives. (See Table 2.1.) Because the mea-

surement of these noneconomic objectives is seldom amenable to quantification, non-dollar-valued effects are usually omitted from public expenditure analysis. Yet this is inappropriate since the effects of housing programs on racial and economic segregation, neighborhood stability, and environmental conditions are at least as important as, if not more important than, their relative economic efficiency. For a meaningful policy analysis, then, it is necessary to supplement the formal benefit-cost evaluation with a qualitative assessment as well. Since most of the social and environmental effects do not lend themselves to a market valuation, we compare their performance on the basis of an ordinal ranking scheme. The inclusion of this type of qualitative analysis means that the various measures of program performance are incommensurable (for example, how much racial integration can be traded off for each additional dollar of housing consumption). Therefore, it is impossible to formulate a determinate decision rule. In this situation each decision maker has to establish his own subjective weighting scheme for comparing and ranking the alternative strategies. It is the purpose of our analysis to facilitate this effort by making the social, environmental, and economic trade-offs as explicit as possible.

Technical Note: An Exposition of the Formal Welfare Economics Model

In this technical appendix the basic structure of the traditional welfare economics model is outlined. We provide an operational definition of economic welfare in the production of housing and examine the constraints which delimit a solution. Finally, we discuss the interest rate, time horizon, and decision rule appropriate for such a model.

The Production Function: Benefits and Costs

The objective or production function expresses the net social benefit (or economic welfare) contributed by each program. As Bergson²⁷ has suggested, the function for social economic welfare can be expressed as

$$W = \sum_{i=1}^n W_i \quad (2.4)$$

where

27. Abram Bergson, "A Reformulation of Certain Aspects of Welfare Economics," *Quarterly Journal of Economics*, February 1968.

W_i = the economic welfare of individual i .

The contribution of any housing program, measured as the change in total economic welfare, can be written

$$\Delta W = \sum_{i=1}^n \Delta W_i. \quad (2.5)$$

The net economic benefit associated with a housing activity consists of the gross benefit or program output minus the associated cost of resource inputs. The social benefits accrue to individuals as increments of income (or consumption) and are measured by the amount the individuals are willing to pay for the program's output. The costs are the sum of the real inputs valued at their opportunity cost, that is, the forgone marginal consumption in the next-best use. In evaluating the benefits and costs of a housing program, then, we compare the aggregate growth of the economy with and without the government activity. Symbolically, we can express the change in economic welfare attributable to any housing program as

$$\Delta W = \sum_{i=1}^n (\Delta B_i - \Delta C_i), \quad (2.6)$$

where

B_i = the economic benefit of the housing program to the i th individual,

C_i = the economic cost of the housing program to the i th individual.

Traditional welfare economics assumes that the marginal utility of income is the same for every individual, $\Delta W_i = \Delta W_n$. As noted earlier, however, our analysis assigns a higher social value ($\$1 + X$)²⁸ to every dollar of additional income received by those who are most disadvantaged in the housing market.²⁹ Moreover, the value of the equity weight itself is nonlinear since the social value of benefits declines as a household's advantage in the housing market increases. This provides an equity or

28. As Maass has suggested, we can call the X a shadow premium on redistribution benefits. Maass, "Benefit-Cost Analysis."

29. Chapter 4 provides a detailed statistical definition of housing disadvantage and the associated weighting scheme used in our analysis.

distributive weight for the production function. The social welfare contribution of any program, therefore, is a weighted sum of net efficiency benefits:

$$\Delta W = \sum_{i=1}^n \Delta [B_i + (1+X)B'_i - C_i], \quad (2.7)$$

where

B'_i = the economic benefit to individual i who, without government assistance, would otherwise live in substandard housing.

As noted in the previous section, the benefits of federally assisted low-income housing are increments in housing consumption, municipal service consumption, and goods and services consumption associated with the value added in employment income. Since the programs are designed to redistribute income from corporate and individual taxpayers to the subsidized tenants, a special equity weight may be assigned to the housing benefit of the tenants. We can express the gross economic benefit, then, as

$$B = \sum B_i^h + (1+X)B_i^{h'} + B_i^e + B_i^m, \quad (2.8)$$

where

B_i^h = the housing consumption benefit for nonsubsidized tenant i ,

$B_i^{h'}$ = the housing consumption benefit for subsidized tenant i ,

B_i^m = the municipal service consumption benefit for individual i ,

B_i^e = the employment income consumption benefit for individual i .

With respect to real costs, we make an arbitrary distinction between federal and nonfederal costs (or project and associate costs); this allows us to express each program's net benefit per dollar of scarce resource. Symbolically, the real costs of federal housing programs are represented as

$$C = \sum_{i=1}^n C_i^F + C_i^A, \quad (2.9)$$

where

C_i^F = the gross economic cost of federal expenditures that accrue to individual i ,³⁰

C_i^A = the gross economic cost of associated expenditures that accrue to individual i .

The annual federal project cost consists of capital and operating expenditures. We represent these cost factors as follows:

$$C^F = \sum O_i^F + K_i^F \quad (2.10)$$

where

O_i^F = the annual federal operation and maintenance cost for individual i ,

K_i^F = the annual federal capital cost (principal and interest payment) for individual i .

The associated cost, required to make federal housing programs available, includes costs to state and local government as well as private expenditures and can be written as

$$C^A = \sum_{i=1}^n (O_i^P + K_i^P + O_i^L + K_i^L + T_i^F), \quad (2.11)$$

where

O_i^P = the annual private operating and maintenance cost for individual i ,

K_i^P = the annual private capital cost for individual i ,

O_i^L = the annual state and local government operating and maintenance cost for individual i ,

K_i^L = the annual state and local government capital cost for individual i ,

T_i^F = the annual federal forgone tax revenue—due to exemptions, accelerated depreciation provisions, and abatements—which results in real costs for individual i .

30. Since it is only the welfare of individuals that concerns us, we express the cost of federal housing projects in terms of the individuals upon whom the incidence of federal tax or debt revenue ultimately falls.

The Constraints

In a traditional linear programming model, the resource constraints are represented as factor inputs: land, labor, and capital.³¹ For computational purposes, one can assume linear constraints or, in other words, fixed input coefficients for any given program. One should assume, however, that the input coefficients are fixed *only* for a particular central city at a particular time. For any location outside the designated central city (including suburbs within the same metropolitan area) or for any other time, the coefficients would be adjusted to reflect changes in technology, production techniques, or relative supply costs. Otherwise, the choice of fixed input coefficients for public construction seems reasonable, because of the fixed dollar ceilings per dwelling unit and the standard specifications for materials, prevailing wage rates, and other relatively stable construction conditions.³² The notation for the factor input constraints is as follows:

LAND

The effect of land scarcity as a limitation on the production of subsidized dwelling units can be expressed as

$$\sum_{j=1}^n A_j \leq D, \quad (2.12)$$

where

A_j = a site of sufficient land area for the construction of one minimum size (a minimum of 100 units) development of federal program j ,

D = the total number of sufficient-size development sites in the city for program j .

LABOR

In practice, for the reasons elaborated earlier in the text of this chapter, we are unable to measure the labor constraint; however, the formal concept of such a measurement can be expressed symbolically as

31. The amount of rehabilitation is also limited by the number of existing substandard dwelling units. But since there are large numbers of dilapidated or deteriorated dwellings within most of the nation's older central cities, we assume this is not a real constraint on program size.

32. Fixed input coefficients approximate the constraints on new construction more closely than those of rehabilitation, since rehabilitation requirements may vary substantially from dwelling to dwelling.

$$\sum_{j=1}^n \sum_{k=1}^n b_{kj} \leq L_k, \quad (2.13)$$

where

b_{kj} = the number of craftsmen of craft k necessary to construct or rehabilitate one dwelling unit of program j ,

L_k = the total number of craftsmen available in craft k at a specific time in a particular city.

CAPITAL

Assuming, for purposes of simplification, that a city receives a single federal block grant for low-income housing programs rather than separate categorical grants,³³ one can express the budgetary constraint as

$$\sum_{j=1}^n C_j^F \leq Y, \quad (2.14)$$

when

C_j^F = the annual federal expenditure for debt service, rent assistance, administration costs, and other housing subsidies for one dwelling unit of project j in a given city,

Y = the annual federal budgetary appropriation allocated for a given city's low-income housing.

Interest Rates, Discounting, and Time Horizons

So far, our discussion of performance measures has been presented in a static manner, as if all costs and benefits occur in the same year. However, since federal housing programs generate streams of benefits and commit resources for future years, it is necessary to allow for the relative social value of resource inputs and marginal outputs at different points in time. Capital costs can be expressed in terms of level annual interest and amortization charges, but other costs, such as forgone federal revenue from accelerated depreciation, vary over a program's life, and still others, such as land write-downs, are incurred only once. Similarly, the

33. The categorical nature of federally assisted housing programs can itself be a constraint that limits the optimal allocation of resources.

value of program benefits, such as municipal revenue and services added, may fluctuate over time.³⁴

Public expenditure analysis generally either uses a social discount rate to give future benefits and costs at present value or relies on the benefits and costs of a typical or average year. Because of the uncertainty inherent in any projections of operating expenses and consumer benefits, this analysis will use estimates of benefits and costs for an average year.

The Decision Rule

Having outlined the structure of the decision model, we must now establish a decision rule to rank alternative housing programs.

As in traditional normative economic studies, the decision rule reflects welfare considerations as well as the constraints and timing of benefits and costs. Programs are ranked by their net contribution to economic welfare—that is, by the difference between the money value of benefit streams and the costs incurred in their production. Thus the rule is to maximize the net social benefit of low-income housing programs, within the limits imposed by the availability of federal funds. We express this rule as

$$\lambda = \sum_{i=1}^n \sum_{t=1}^T \frac{B_{it} - (C_{it}^F + C_{it}^A)}{C_{it}^F}, \quad (2.15)$$

where

λ = the net social benefit per dollar of federal budgetary funds,

B_{it} = the weighted economic benefit of the housing program to individual i in time t ,

C_{it}^F = the economic cost of federal expenditures to individual i in time t ,

C_{it}^A = the economic cost of associated expenditures to individual i in time t .

By separating federal project from associated costs, one is able to place in the denominator those project expenditures subject to the federal budget constraint—as a result maximizing the net benefits per dollar of scarce resources.

34. See John Krutilla and Otto Eckstein, *Multiple Purpose River Development* (Baltimore: Johns Hopkins Press, 1958); William J. Baumol, "On The Discount Rate for Public Projects," in *The Analysis and Evaluation of Public Expenditures: The PPB System*; Report of the Subcommittee on Economy in Government, *Interest Rate Policy and Discounting Analysis*, pp. 12-15.