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A TOPICAL GUIDE TO HASE RESEARCH

Ira S. Lowry

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Rand
SANTA MONICA, CA. 90406

PREFACE

This document is a topically organized guide to the research methods and findings of the Housing Assistance Supply Experiment (HASE). It was prepared specifically to assist the Brookings Institution in its evaluation of the Experimental Housing Allowance Program (EHAP), of which HASE is a part. Both EHAP and the Brookings evaluation are sponsored by the Office of Policy Development and Research, U.S. Department of Housing and Urban Development (HUD).

The author gratefully acknowledges the assistance of the HASE research staff, who reviewed each section for emphasis, accuracy, and documentation. The complete document was reviewed by C. Lance Barnett and C. Peter Rydell. The draft was typed by Gwen Shepherdson and Jan Newman. Charlotte Cox supervised production of final copy.

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SUMMARY

To evaluate HUD's Experimental Housing Allowance Program (EHAP), the Brookings Institution has commissioned a paper on each of the following topics:

- o Critique of EHAP design
- o Policy implications of EHAP
- o Participation of eligible households
- o Mobility and search behavior
- o Other household behavior
- o Housing market effects of EHAP
- o Administrative lessons from EHAP
- o A universal housing allowance program

Each paper will draw on reports and papers prepared by EHAP's several research contractors, each of whom has been responsible for a specific part of the overall EHAP research agenda. The Housing Assistance Supply Experiment, conducted by The Rand Corporation, is one element of EHAP.

Although the Supply Experiment will not be finished until 1981, it has published over 150 reports, working notes, and papers. This note assists the prospective author of each evaluative paper by summarizing the relevant features or findings of our research and citing selected documents that should be consulted for details. It also contains a topical index of HASE publications that is current through March 1979.

CONTENTS

INTRODUCTION

The Experimental Housing Allowance Program (EHAP) is a large, complex social experiment with housing allowances for low-income families. Allowance programs were begun in twelve housing markets distributed across the nation for periods ranging from two to ten years, in order to learn whether or not housing allowances are a feasible and desirable instrument of federal policy; and, if so, how a permanent program should be designed.*

EHAP has four components: the Demand Experiment, conducted by Abt Associates; the Supply Experiment, conducted by The Rand Corporation; the Administrative Agency Experiment, conducted jointly by Abt Associates and local agencies; and the Integrated Analysis, conducted by the Urban Institute. Planning for EHAP began in 1971; the field operations at the various sites began on different schedules, 1972-1974.

Fieldwork is now complete for all except the Supply Experiment, whose allowance program has the longest lifespan (10 years, of which five are to be monitored). The final report on the Administrative Agency Experiment has been submitted. Final reports on the Demand Experiment and Integrated Analysis are due in 1979. The final report of the Supply Experiment is scheduled for submission in September 1981.

HUD's Office of Policy Development and Research, the sponsor of EHAP, has asked the Brookings Institution to evaluate EHAP research methods, the findings to date, and their implications for federal policy. Pursuant to that charter, Brookings has commissioned eight evaluative papers to be presented and discussed at a conference scheduled for 15-16 November 1979. The prospective authors and their topics are listed below.

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*For a detailed account of EHAP's origins, purposes, organization, and current status, see *Experimental Housing Allowance Program: A 1979 Report of Findings*, U.S. Department of Housing and Urban Development, Office of Policy Development and Research, Division of Housing Research, April 1979.

Harold Watts	Critique of EHAP design
Henry Aaron	Policy implications of EHAP
Mahlon Straszheim	Participation of eligible households
Peter Rossi	Mobility and search behavior
Eric Hanushek and John Quigley	Other household behavior
Edwin Mills	Market effects of EHAP
David Kershaw	Administrative lessons from EHAP
John Kain	A universal housing allowance program

The Supply Experiment will not be completed until two years after this conference is held, so its assessment now will undoubtedly pose some problems for the authors. For Rand, the mid-experimental evaluation could be especially useful. Although data collection is virtually complete, we may still be able to readjust our analysis plans in the light of the conference's critique.

Because the interim reports of the Supply Experiment are voluminous, cumulatively redundant, and organized on different principles than the topical division specified for the conference papers, we have prepared this guide to help the authors find the materials relevant to their assignments. For each topic listed above, we reprint the prospectus prepared for the author by Brookings, summarize the relevant features or findings of our research, and cite the documents that should be consulted for details.

In each case, our response is governed by the prospectus, but is organized around its major themes rather than the specific questions posed for the author's consideration. Certainly, our responses reflect some judgment on our part as to the best way to approach each assessment, and refer to various inferences and conclusions drawn by HASE staff that we suppose will stand up under the author's scrutiny. But we have done our best not to preempt the evaluation itself under the guise of assisting the evaluator.

The documents cited as sources for each topic were selected for relevance and currency from among approximately 150 reports, working notes, and papers published by HASE staff. They also include a few

that have not yet been published but that we expect to issue in May or June, so that conference authors will have adequate time to review them. Our text also mentions some studies now under way from which we anticipate publishable findings by September. The published documents can of course be supplied immediately to conference authors; the others will be delivered as soon as they are available.

The appendix is a topical index of all HASE documents published before 31 March 1979.

SESSION I, PAPER A

CRITIQUE OF EHAP DESIGN

PROSPECTUS

Specific critique of the overall experiment design as well as component parts. What were the treatments (what was varied)? Does the variation provide important additional information? With benefit of hindsight, should there have been other variations? What were the important differences between supply, demand, and administrative experiments? Were these differences useful in adding to our understanding?

What research questions were the experiments designed to answer? What were the most important design choices? Did we succeed in obtaining answers to the questions? Were we surprised by any results or was it only magnitudes that we obtained better estimates of? Are the findings important?

Can we make reasonable extrapolations from the EHAP results to other geographic areas? To the degree that we cannot, is it because of experimental problems of which we were aware before the experiment (but couldn't correct because of program constraints such as costs) or because of unforeseen difficulties or limitations? Or are we no better off in our ability to generalize than we would be without the EHAP results?

What lessons can be learned from EHAP about the effectiveness of large-scale social experiments, society's ability to learn from them, and how (or whether) they should be conducted in the future? How much of what we learned could have been discovered through other (perhaps less costly) methods such as empirical work with existing data or simulations with new or existing models? What did we learn that we could not have learned without the experiments? Were lessons from previous social experiments useful (used) in designing this one? Overall, has the investment in EHAP been worthwhile?

GUIDE TO HASE RESEARCH

The design of the Supply Experiment is abundantly documented at both the conceptual and technical levels. The account below summarizes the evolution of that design, discusses three general design issues that bear powerfully on the fruitfulness of the experiment, and reviews some of the salient findings. References are provided at the end of each topic.

EVOLUTION OF THE EXPERIMENTAL DESIGN

The Supply Experiment was conceived in 1972 when it became apparent to HUD that a single experiment could not both test participant responses to program variations and market responses to a fullscale program. The former task was assigned to the Demand Experiment, the latter to the Supply Experiment.

The Supply Experiment was explicitly designed to answer four clusters of questions concerning the effects of a fullscale housing allowance program for low-income renters and homeowners:

1. How do suppliers respond to program-induced housing demand? Do housing prices increase? Are substandard dwellings improved?

2. How do market intermediaries respond to participants' attempts to improve their homes, rent or buy better homes, or move to better neighborhoods?

3. Do participants often use their allowances to move rather than to repair their current dwellings? How do the moves affect the neighborhoods of origin and destination?

4. How do nonparticipants perceive and evaluate the program's consequences for them personally and for their communities?*

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*The items above are paraphrased. The exact wording of the initial experimental charter is given on pp. 8-9 of the *General Design Report*.

An experimental design that addresses these questions was proposed in the *General Design Report* of May 1973, reviewed by a panel of experts in June, and approved by HUD with minor changes in October 1973. After the sites were selected and certain legal problems with program funding were settled, Rand revised the first four sections of the *General Design Report*. As revised early in 1975, that report governed the experiment until September 1978.

As the experiment proceeded, it became apparent that the program's market and community effects were less pronounced than had been expected. On the other hand, the program itself--its administrative features, its effects on participants, the dynamics of eligibility and participation--was proving a fruitful topic for analysis. Moreover, the data on local housing markets had stimulated new hypotheses about market structure and processes that were essentially independent on the housing allowance program. Consequently, in September 1978, Rand and HUD agreed to revise the experimental charter to reflect a broader agenda. Program administration, eligibility and participation, and effects on participants would be given equal emphasis with market effects. Housing market analysis would continue under a separate grant whose terms are now under negotiation.

Because the market effects were manifestly slight, the plan for market surveys was curtailed from a possible six annual surveys to four. Otherwise, the new charter did not affect the experimental design, only the uses to which the data were to be put.

References

Ira S. Lowry (ed.), *General Design Report: First Draft*, WN-8198-HUD, May 1973. Updated by WN-9098-HUD (Secs. I and II), May 1975; WN-9070-HUD (Sec. III), April 1975; and WN-9051-HUD (Sec. IV), April 1975.

HASE Staff (ed.), *Proceedings of the General Design Review of the Housing Assistance Supply Experiment*, WN-8396-HUD, October 1973.

Ira S. Lowry (ed.), *General Design Report: Supplement*, WN-8364-HUD, August 1973.

HASE Staff, *Completing the Supply Experiment*, WN-10223-HUD, June 1978.

SITE SELECTION AND GENERALIZATION

In most social experiments, the focus of interest has been on the behavior of individuals or households in response to programmatic incentives; consequently, the experimental design compares the behavior of the members of various treatment groups to that of the members of a control group. Program effects are inferred from differences in treatment- and control-group responses, assuming a shared market or community context.

In the Supply Experiment, the treatment was an open-enrollment housing allowance program; the purpose was not except incidentally to learn how eligible or participating individuals responded to the program; rather it was to learn how the market responded to the cumulative actions of program participants. Consequently, the unit of analysis was a housing market rather than a household. This fact rules out conventional experimental design and poses serious difficulties for statistical inference.

The high costs of a fullscale allowance program limited HASE to two sites, each with under 250,000 inhabitants occupying a self-contained housing market. Those sites were carefully chosen to offer contrasts in market structure and initial conditions. Although we considered various options for economically expanding the sample of housing markets to be treated and for choosing and monitoring "control" cities, neither scheme was technically feasible. We concluded that the problems of measuring program-induced effects and generalizing from those measurements would have to be solved within the context of two "treated" sites.

Our design solution was to mount a marketwide data collection plan (see below) that was comprehensive enough to allow detailed analysis of market dynamics subsequent to the program's introduction. By modelling market processes in two contrasting markets, we hoped to arrive at response parameters that were reasonably portable.

Although observers generally agree on the relevance of the market contrasts we sought (segregated vs. unsegregated; tight vs. loose), the sites chosen have been criticized both as "unrepresentative" and too

few for statistical inference; furthermore, the absence of classical experimental "controls" has been alleged to be a fatal design defect. We have yet to see a critical discussion of the techniques we proposed to surmount those difficulties.

References

HASE Staff, *Site Selection for the Housing Assistance Supply Experiment: Stage I*, WN-7833-HUD, May 1972.

R. Dubinsky, *Collected Site Selection Documents: Housing Assistance Supply Experiment*, WN-8034-HUD, January 1973.

HASE Staff, *First Annual Report of the Housing Assistance Supply Experiment*, R-1659-HUD, October 1974, pp. 31-51 (comparison of experimental sites).

Ira S. Lowry (ed.), *General Design Report: First Draft*, WN-8198-HUD, May 1973, pp. 10-18 (experimental strategy) and pp. 289-307 (analytical generalization).

Ira S. Lowry (ed.), *General Design Report: Supplement*, WN-8364-HUD, August 1973, Sec. III (site selection, program variations, experimental controls).

THE EXPERIMENTAL TREATMENT

When the Supply Experiment was being planned, there was a persistent tension between two views of the desirable experimental treatment. One view was that it should as nearly as feasible simulate a permanent housing allowance program suitable for national implementation; the main motivation for the experiment was, after all, to forecast the market consequences of such a program. The opposing view was that the treatment should be designed to produce a specific demand shock, a shock that was large enough to permit the reliable measurement of market response. The two views were consistent only if one assumed that the preferred national program would produce the desired shock.

Because of uncertainties about eligibility, participation, benefit entitlement, the income elasticity of housing demand and the effectiveness of the contemplated earmarking device, there was room for

disagreement about the size and nature of program-induced demand changes, as well as about the market's capacity to absorb them. In fact, the demand changes have been smaller than most observers anticipated, and the market has absorbed the extra demand without visible disturbance. Retrospectively, critics of the experiment have charged that the treatment was faulty *because* it failed to disturb the market.

Although participation has been lower than most observers expected, and our estimates of the unconstrained income elasticity of housing demand are far below those prevailing when the experiment was designed, the criticism has focused on the program's housing standards. These standards serve indirectly to earmark allowances for housing expenditure, inasmuch as only occupants of acceptable dwellings qualify for payments.

Although about half of all dwellings fail their initial inspections, their occupants are nearly always able to repair those dwellings at nominal cash expense. Consequently, the demand shock is essentially limited to that produced by the few who choose to move to more expensive dwellings. One critic in particular argues that much more stringent housing standards should have been imposed in order to force participants to spend more for housing.

References

HASE Staff, *Proceedings of the General Design Review of the Housing Assistance Supply Experiment*, WN-8396-HUD, October 1973, pp. 33-34 (demand shock), 93-98 (earmarking), 108-122 (treatment strategy).

I. S. Lowry (ed.), *General Design Report: Supplement*, WN-8364-HUD, August 1973, Sec. II (treatment design) and Sec. IV (measuring market impacts).

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, May 1978, Sec. V (market effects).

Ira S. Lowry and C. Lance Barnett, *How Housing Allowances Affect Housing Prices*, R-2452-HUD, forthcoming (predicted vs. actual effects).

DATA COLLECTION

The experimental design specified two major sources of data. Administrative records of the allowance program have provided full information on all enrollees, including their family compositions, incomes, housing expenditures, allowance entitlements, housing quality, and changes of residence. A marketwide probability sample of residential properties was surveyed annually to learn about market events subsequent to the beginning of the program.

The marketwide survey of residential properties was the most ambitious undertaking. Beginning with an exhaustive sampling frame, a stratified sample of properties was chosen for baseline surveys. Those with complete interview records were eligible to be included in a longitudinal panel of about 2,000 properties in each site. We estimated that up to six annual survey cycles in each site might be necessary to follow program effects to a new market equilibrium.

The annual survey cycle included interviews with homeowners, landlords and their tenants; and less frequent field observations of each property and all neighborhoods. The data thus gathered are the most comprehensive ever assembled for an entire housing market.

An important feature of the surveys is that they followed residential properties, not their owners or occupants. The panel was updated annually with a sample of newly constructed or converted residential properties, and, within the panel, vacancies and terminations of residential use were duly noted; so each year's surveys provided a full description of the current housing stock and the current populations of landlords, tenants, and homeowners.

Although the sample size and stratification were explicitly designed to achieve specified levels of reliability in estimating the price elasticity of supply, they have proven to be robust for nearly all analytical purposes within the experimental charter. Response rates have been good as judged by other contemporary survey experience.

The main issues pertinent to the data collection are (a) the possible record-selection biases and (b) the curtailment of the survey

schedule. Although nonresponse and other record defects that force deletion of records from our analytical files have not been troublesome in terms of remaining sample sizes, they have required us to correct potential biases by a complex record weighting scheme. Because the allowance program was having so little effect on the housing market, the market surveys were terminated after the fourth (rather than the sixth) annual cycle. Thus, the survey data capture only the first three years of market events following the beginning of the allowance program.

References

Ira S. Lowry, *Monitoring the Experiment: An Update of Sec. IV of the General Design Report*, WN-9051-HUD, April 1975.

T. Corcoran, E. C. Poggio, and T. Repnau, *Sample Design for the Housing Assistance Supply Experiment*, WN-8029-HUD, November 1972.

HASE Staff, *Fifth Annual Report of the Housing Assistance Supply Experiment*, R-2434-HUD, forthcoming, Sec. III (final field results for HASE surveys).

D. A. Relles, *Using Weights to Estimate Population Parameters from Survey Records*, WN-10095-HUD, April 1978 (record-selection bias).

Ira S. Lowry, *Are Further Survey Cycles Needed in Site I?*, WN-9541-HUD, July 1976.

UNEXPECTED FINDINGS

HASE's data analysis will not be completed until 1981, and we expect the data to be widely studied thereafter. But what we have learned so far from preliminary analyses and simply from conducting the experiment is often at variance with theories and opinions prevailing among housing market and program analysts in 1972. Below, we list a selection of findings that are new (in the sense of disagreeing with conventional wisdom) and important for federal housing or transfer policies.

- Only about half of those eligible are likely to participate in a general entitlement transfer program at any given time.

Our data are unique in allowing close comparisons between the eligible and participating populations, and the patterns we have observed can now be perceived in other transfer programs.

- The housing occupied by low-income families today is often defective in ways that present health or safety hazards, but most of the defects can be inexpensively corrected by amateur labor. Lack of means is not the primary obstacle to securing decent, safe, and sanitary housing; rather, those in substandard housing are either unaware of or unconcerned by the hazards identified by our inspections. When offered a bribe in the form of a housing allowance, they are willing to make the necessary repairs.
- The unconstrained income elasticity of housing demand is much lower than was generally believed a decade ago. Based on our cross-section analysis and "permanent" income, the figure is about .19 for renters and .45 for owners. The evidence is consistent with constant or slightly increasing elasticity as income increases
- Traditional theories and current models of housing market response to demand shifts greatly exaggerate price movements and misunderstand the relationship between rent levels and property values. The inconsistency of HASE data with conventional wisdom sparked development of a powerful theory of shortrun market adjustments that assigns a key role to vacancies rather than rents as market equilibrators.
- In combination, the findings itemized above provide virtual assurance that a fullscale national housing allowance program similar to the experimental program would not cause rent inflation or otherwise much disturb housing markets. On the other hand, it would be equally unlikely to have large positive externalities. Housing allowances help those who receive them; others are unaffected except as contributors to program costs.
- When full costs are counted, homeowners' housing expenses are generally greater than those of renters with comparable incomes,

and there are about as many poor homeowners in the nation as poor renters.

- When confronted with a new social program, the concerns and expectations of civic leaders are more global and less realistic than those of ordinary citizens. The latter tend to appraise the program in terms of its most direct and reliable consequences.
- Given a careful administrative design, a largescale transfer program can be operated efficiently by a staff hired locally at prevailing wages. Consideration for clients' dignity and convenience appears to yield efficiency gains despite substantial direct costs.

References

C. P. Rydell, J. E. Mulford, and L. W. Kozimor, *Dynamics of Participtation in a Housing Allowance Program*, WN-10200-HUD, June 1978.

James L. McDowell, *Housing Allowances and Housing Improvements: Early Findings*, N-1198-HUD, forthcoming.

John E. Mulford, *The Income Elasticity of Housing Demand*, R-2449-HUD, forthcoming.

C. P. Rydell, *The Shortrun Response of Housing Markets to Demand Shifts*, R-2453-HUD, forthcoming.

Ira S. Lowry and C. Lance Barnett, *How Housing Allowances Affect Housing Prices*, R-2452-HUD, forthcoming.

Lawrence Helbers, *Measuring Homeowner Needs for Housing Assistance*, WN-9079-HUD, February 1978.

Phyllis L. Ellickson and David E. Kanouse, *Public Perceptions of Housing Allowances: The First Two Years*, WN-9817-HUD, January 1978.

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, May 1978, Sec. VI (program administration).

SESSION I, PAPER B

POLICY IMPLICATIONS OF EHAP

PROSPECTUS

What are the "housing problems" of the United States and what do the results of EHAP imply about our ability to solve them? Do we have appropriate and useful national housing policies? What changes should be made in specific policies or the weighting of effort among policies in light of EHAP findings? What is the appropriate mix of construction-related or rehabilitation-related (supply side) subsidies and income-related (demand side) subsidies?

What have we learned about the relative effectiveness of different policies in improving the quality of housing consumed by low-income people? What does the evidence from these experiments as well as the income maintenance experiments tell us about the effectiveness of unconstrained cash allowances versus earmarked subsidies with quality standards imposed? Are these more effective ways to improve the quality of the housing inventory than earmarked housing allowances, for example, code enforcement or direct subsidies for housing improvements (or, as some argue, the elimination of rent control)?

Is geography an important aspect of housing policy? Have we learned anything about where subsidized housing should be located or in what locations housing subsidies should be available? In light of the experimental results on mobility, would a metropolitan housing authority produce results different from fragmented individual municipal housing authorities? Do the EHAP mobility results suggest that targeting of housing programs to specific areas would be effective in increasing racial and economic integration? What are the implications of the participation results from EHAP of the various types of housing subsidy programs for low-income families? What has been learned about the relative importance of so-called decent housing to low-income families? How are differences of importance explained? What do these mean for housing policy?

GUIDE TO HASE RESEARCH

The Supply Experiment has published much that is relevant to national housing policy, but has rarely commented directly on policies other than housing allowances. The following guide specifies four fundamental issues of federal housing policy and indicates what HASE research is pertinent to each.

HOUSING CONSUMPTION

Existing federal policy is premised on the assumption that there is a national shortage of "decent, safe, and sanitary" housing which should be remedied or at least ameliorated by federal action. For lack of explicit legislative guidelines, each housing assistance program develops its own consumption standards and enforcement methods, which vary greatly. Although organizations such as the American Public Health Association and the Building Officials and Code Administrators International have promulgated model housing codes, these are unsupported by scientific evidence as to the effects of specific housing defects on the occupants' health, safety, or social performance.

Policy Issue

What should be the goal of federal policy with respect to housing consumption standards? Is a national minimum appropriate? If so, what features of a dwelling's structure or performance should it encompass? Is subsidized new construction appropriate for housing low-income families?

Relevant HASE Findings

Forty years ago, occupied dwellings were often quite crowded, had severe structural defects, or lacked basic plumbing, food preparation, and space-heating equipment. Both the Annual Housing Survey and HASE data show that those conditions are now rare in *occupied* dwellings, even for low-income households. Instead, housing defects (as defined by national model codes) are essentially maintenance problems. Although undermaintenance may create genuine (if unmeasured) hazards to the

occupants' health or safety, the hazards can usually be remedied without major rehabilitation.

The housing defects encountered by the HAOs' inspectors are nearly always covered by local housing codes, but those codes are not systematically enforced. In the HASE sites, about half of all enrollees' dwellings (whether occupied by renters or homeowners) failed the HAOs' housing evaluations. Nearly all the defects were correctable with amateur labor and inexpensive materials.

Finally, we find only a loose inverse association between housing cost and the incidence of housing defects. The aspects of housing quality that have consumer appeal are not primarily those covered by housing codes. We judge that most enrollees are either unaware of or unconcerned by the defects discovered by the HAOs' inspectors. About two-thirds of those in defective dwellings are willing to repair or move in order to qualify for allowances, but only rarely is the allowance essential to pay for the repairs.

References

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, May 1978, Sec. IV.

Bruce W. Lamar and Ira S. Lowry, *Client Responses to Housing Requirements: The First Two Years*, WN-9814-HUD, February 1979.

James L. McDowell, *Housing Allowances and Housing Improvements: Early Findings*, N-1198-HUD, forthcoming.

HOUSING EXPENDITURES

Although federal policies to encourage housing consumption may lead to greater housing expenditures, expenditure increases are not themselves a policy objective. Federal policy has instead been concerned with housing expense burdens for low-income families. The most common rule of thumb embodied in federal legislation is that those who are poor enough to need help should not have to spend more than a fourth of income for housing. Each housing assistance program has its own rules as to who needs help (income, assets, family composition), the income eligibility limits generally rising with the quality of the

housing offered by the program (subsidy amounts do not necessarily fall). Income definitions, the role of assets, and income certification methods vary greatly between programs and in some programs are matters of local option.

Policy Issue

What should be the goal (if any) of federal policy with respect to housing expenditure as a component of total household spending? Does the earmarking of transfers for housing reflect public priorities about consumption or merely the legislative and executive fragmentation of policy making? Is there any basis in science for the fourth-of-income rule?

Relevant HASE Findings

HASE survey data merely confirm wellknown patterns of housing expenditure by renters but add hitherto unavailable data on housing expenditures by homeowners. When implicit as well as explicit expenses are counted, homeowners generally spend more for housing than renters of comparable income. Moreover, both in HASE sites and nationally, there are about as many low-income homeowners as low-income renters. We estimate that in 1976 about 8.2 million low-income renters and 7.8 million low-income owners spent more than a fourth of their incomes for housing.*

Contrary to many earlier studies, HASE analysts find that housing expenditures do not vary much with either current or permanent income. For renters (not program participants, but all renters), the elasticity of gross rent with respect to current income is about .11; with respect to permanent income, the expenditure elasticity is about .19. For owners, the corresponding figures are .33 and .45. Renters' expenditures also increase with household size; family composition and race seem to have little effect, but our models characteristically explain

*For these calculations, low-income households include all those whose gross annual incomes are under $7,000.

only a fourth to a third of the variance in housing expenditures.

Among the low-income households that enroll in the allowance program, housing expense burdens are high. For renters in 1976 the median ratio of housing expense to gross income was .48 in Brown County and .57 in St. Joseph County; when income is adjusted for family size and composition according to program rules, those median ratios rise to .56 and .75, respectively. Estimates for homeowners are less reliable because some of their expenses must be imputed, but they fall in the same range.

HASE does not gather data on the composition of nonhousing expenditures, so we cannot directly assess the specific effects of "excessive" housing costs in nonhousing consumption.

References

Kevin F. McCarthy, *Housing Choices and Residential Mobility in Site I at Baseline*, WN-9029-HUD, August 1976.

Kevin F. McCarthy, *Housing Choices and Residential Mobility in Site II at Baseline*, WN-9737-HUD, September 1977.

Lawrence Helbers, *Measuring Homeowner Needs for Housing Assistance*, WN-9079-HUD, February 1978.

HASE Staff, *Two Years of Housing Allowances: Income and Housing Expenditures*, N-1209-HUD, forthcoming.

John E. Mulford, *The Income Elasticity of Housing Demand*, R-2449-HUD, forthcoming.

RESIDENTIAL LOCATION

Federal policy on residential location within metropolitan areas has two aspects. It is concerned on the one hand with residential land use as an element of urban form and on the other with the social composition of residential neighborhoods.

With respect to urban form, there are many vigorous opinions, but no policy consensus except that comprehensive longrange planning by local agencies is desirable and should be fostered by federal subsidies. With respect to neighborhood social composition, the only generally accepted principle is that neighborhood exclusiveness is undesirable;

there exists no coherent policy as to the desirable social composition of neighborhoods or the desirable pace of neighborhood change.

Policy Issue

Should federal housing assistance promote explicit objectives as to urban form or neighborhood social composition? What public purposes would be served thereby?

Relevant HASE Findings

With respect to urban form, the two HASE sites offer an interesting contrast. In Brown County, the urban center is gaining and the outlying rural areas are losing population. In St. Joseph County, the urban center is losing and the suburban areas are gaining population. Although we have not measured trends, we judge that net residential density is increasing in the first case and decreasing in the second.

HASE data do show gross as well as net geographical flows of local moves, and the social composition of those flows. In general, the findings confirm those of other studies. Young adults without children move from low to high density areas, those with children move from high to low density areas, and the elderly converge from both extremes to areas of intermediate density.

The two HASE sites likewise contrast in social segregation. Brown County, lacking racial minorities except for a small group of American Indians, does not have a racially segregated housing market; economic segregation is visible but weak. St. Joseph County has a racially segregated market, the blacks nearly all living in central South Bend; and economic segregation is stronger than in Brown County, partially due to the large scales of recent suburban developments whose housing is uniform in cost.

The allowance program has had no perceptible effect on either urban form or on the social composition of neighborhoods. Many program participants have moved, but the pattern of their movements does not imply significant redistribution either by race, income, or life-cycle stage.

Although some local jurisdictions in St. Joseph County were reluctant to join the program for fear of invasion by poor or black residents of South Bend, such invasions have not in fact occurred.

References

Brian C. Ellickson, *Neighborhoods in Brown County*, WN-8468-HUD, November 1973.

John E. Bala, *Neighborhoods in St. Joseph County*, N-1205-HUD, forthcoming.

Kevin F. McCarthy, *Housing Choices and Residential Mobility in Site I at Baseline*, WN-9029-HUD, August 1976, Sec. VI.

Kevin F. McCarthy, *Housing Choices and Residential Mobility in Site II at Baseline*, WN-9737-HUD, September 1977, Sec. VI.

Mark David Menchik, *The Residential Mobility of Allowance Recipients*, N-1144-HUD, forthcoming.

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, pp. 118-133 (residential mobility and neighborhood change).

S. B. White, *Market Intermediaries and Indirect Suppliers: First Year Report for Site I*, WN-9400-HUD, September 1976.

S. B. White, *Intermediaries and Indirect Suppliers: First Year Report for Site II*, WN-9020-HUD, August 1977.

Kevin F. McCarthy, *Housing Search and Residential Mobility*, R-2451-HUD, forthcoming.

TARGETING HOUSING ASSISTANCE

The variety of forms for federal housing assistance is usually justified by reference to a corresponding variety in target populations. Specific programs are explicitly or implicitly designed to help renters or homeowners, poor or middle-income families, urban or rural residents, young parents with children, elderly persons, people living in substandard dwellings, and residents of particular neighborhoods.

However, federal housing assistance programs rarely serve more than a small fraction (either locally or nationally) of those eligible under program rules. Moreover, many households fall between the cracks of categorical eligibility even though they seem to be as needy as those

who are eligible for assistance. Finally, targeting in some programs is curiously myopic, oblivious to any effects except the shortrun benefits to those directly assisted; for example, moving a given family from substandard to standard housing is assumed to be a global and permanent improvement in housing conditions.

Overall, existing policy strongly favors low-income urban renters, certainly as measured by their share of federal subsidies and fairly consistently as measured by the per capita amount of subsidy. Low-income urban homeowners, on the other hand, get virtually nothing either as direct subsidy or as indirect tax benefits. High-income homeowners are not directly aided but get substantial tax benefits.

Policy Issue

What is the appropriate targeting philosophy for federal housing assistance if we assume that full horizontal and vertical equity would reduce per capita benefits to trivial amounts? Should limited resources be focused entirely on the neediest? Spread more widely among those close to some threshold of self-sufficiency? Bestowed in token amounts on a variety of identifiable constituencies, so that a few families in each get substantial aid? Used to support a few model communities within a matrix of needy ones?

Relevant HASE Findings

HASE surveys describe two different but characteristic metropolitan populations; the HASE housing allowance program has a much broader definition of eligibility than any existing program, and all eligible applicants may enroll. These features give us an unusual opportunity to test alternative targeting strategies against population characteristics and self-assessment of need for assistance. We have not systematically reviewed alternative targeting strategies in this context, but experimental findings are nonetheless revealing.

Briefly, we find that about a fifth of all households are eligible for assistance when the income limit is four times the standard local cost of adequate housing. The income-eligibles are about equally divided

between renters and homeowners. The gross incomes of eligible renters average about $4,000, owners about $5,000; the latter typically have home equities of about $11,000. Single parents and elderly persons constitute more than half of all eligibles; young couples with children are often eligible but usually only briefly so. Eligibles are geographically concentrated in low-income neighborhoods but nonetheless are common in urban, suburban, and rural areas. About half live in housing that is below program standards.

Overall, about half of those eligible are likely to be enrolled at any given time; but the turnover is substantial, a third of all enrollees terminating each year. Among eligibles, renters are much more likely to enroll than homeowners; single persons (with or without children) than couples; blacks than whites; and those with very low incomes (and large entitlements) than those with higher incomes (and small entitlements). Those whose housing needs the greatest amount of repair to qualify them for payments are more likely to terminate though still eligible. Young couples are the most likely to terminate because they have lost their eligibility.

References

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, May 1978, pp. 50-66.

Lawrence W. Kozimor and Ira S. Lowry, *Public Housing and Housing Allowances in South Bend, 1975-76*, WN-9714-HUD, February 1977.

Lawrence W. Kozimor, *Eligibility and Enrollment in the Housing Allowance Programs: Brown and St. Joseph Counties through Year 2*, WN-9816-HUD, August 1978.

C. Peter Rydell, John E. Mulford, and Lawrence W. Kozimor, *Dynamics of Participation in a Housing Allowance Program*, WN-10200-HUD, June 1978.

SESSION II, PAPER A

PARTICIPATION OF ELIGIBLE HOUSEHOLDS

PROSPECTUS

What do theory and previous experience (in subsidy programs, in social experiments) lead us to predict about likely participation rates? What do the data show? How important are participation rates in determining the overall effects of EHAP; that is, would a small change in participation rates, given the pool of eligibles, greatly change the scale of the program? Do we now know things that might increase participation of eligibles in such a program?

The EHAP produced some new information on the housing conditions of low-income households in general (prior to EHAP). Are there surprises in these data? Does this information help explain the participation results? Does this information revise our opinions of what comprise the most serious housing problems in the U.S. today?

What are the most important determinants in participation in EHAP? How do participation rates vary across groups of households with different characteristics such as composition, size, race, age? Over time do various household types participate differently? Can we explain these variations? What other factors seem to be important determinants of participation rates--program characteristics such as benefit rates, quality standards and other rules, or housing market conditions such as prices, vacancy rates, local diversity of stock, and neighborhood factors? What are the effects of the housing quality standards on participation rates? In particular, were the poorest-housed households least likely to participate because they were initially farthest from compliance with the standards? Can or should anything be done about this?

GUIDE TO HASE RESEARCH

The Supply Experiment has conducted an open-enrollment housing allowance program for low-income renters and homeowners in two midwestern counties, each of which includes cities, suburbs, and rural areas. Each program was legally and publicly committed to continue for ten years, so that at least the early enrollees were assured of a long stream of benefits if they stayed eligible and met the program's housing requirements. Moreover, each program was widely and imaginatively publicized; our surveys show that nearly everyone in each community has heard about the program and most have at least a general idea how it operates. Finally, the programs' income limits and benefit levels are adjusted annually for local inflation in housing costs, so that both eligibility and benefits have retained their initial economic significance. Given all these circumstances, actual participation in the experimental program should be quite similar to participation in an operating program of the same general design.

Equally important, HASE annually surveys a large stratified probability sample of households in each site. The information obtained from each respondent covers nearly all the criteria used by the housing allowance program to determine eligibility and benefit entitlement. The surveys thus enable us to estimate the size and composition of the pool of eligible households in each site with unusual precision. Very few studies of transfer programs have been able to obtain more than crude estimates of these parameters, which are essential for the analysis of participation.

However, it should be noted that the HASE analysis of participation only recently began in earnest, and our published findings fall far short of exploiting the data described above. There are several reasons for this circumstance. First, participation research was not part of the formal charter until September 1978. Second, participation did not approach a steady state until the third year of program

operations; conclusions drawn from enrollment in the early stages were necessarily limited in scope and reliability. Third, the long pipeline of survey data collection, preparation, and audit has delayed availability of postbaseline representations of the eligible population.

We now have both the charter and the data for participation research, and work is under way on a detailed behavioral model that emphasizes the dynamics of eligibility status and participation. We hope by September 1979 to be able to supply a draft report on the decision to apply and another on participation and turnover during the first three program years.

The remainder of this section summarizes the salient findings from published research and provides the appropriate references. We have divided the summary into three topics, eligibility, enrollment, and participation. One can enroll in the housing allowance program upon passing a means test. An enrollee does not receive benefits unless and until his housing meets program standards; in the comments below, a participant is defined as an enrollee who is currently receiving benefits.

ELIGIBILITY

Only residents of Brown County, Wisconsin, and St. Joseph County, Indiana, are eligible. They must fall within certain limits as to family composition, income, and assets. Occupants of federally subsidized dwellings (such as public housing) are eligible and may enroll, but cannot become participants until they move to unsubsidized housing. In most HASE analyses, however, they are deleted from the count of eligibles that is used as the denominator for the participation rate.

Before August 1977, households consisting either of elderly single persons or two or more persons related by blood or marriage were eligible; single persons under 62 years of age were excluded unless handicapped, disabled, or displaced by public action. After

that date, all nonelderly single adults except fulltime students became eligible.

Household gross income includes the earnings, property income, pensions and transfer payments of all members of the household. For homeowners, 5.0 percent of equity is counted as annual income. Adjustments to income include deductions for the elderly, for dependents, for work-related expenses, and for unusual medical or childcare expenses. On average, the deductions reduce income by about $700.

Allowance entitlement is based on adjusted gross income, household size, and the current standard cost of adequate housing in each site for the relevant size of household; it is independent of actual housing expenditures. The income limit for enrollment is the income at which allowance entitlement drops to $10 per month; unlike some transfer programs, this one has virtually no income discontinuity between eligibility and ineligibility.

Asset limits are set high enough to enable owners of modest homes to qualify if their incomes are low. The initial limit (1974) was $20,000 for nonelderly households and $32,500 for elderly households; these figures were subsequently indexed for inflation.

At baseline, about 20 percent of all households in each site were eligible to enroll. By household type, the largest group was elderly single persons, followed by single adults (usually female) with children, elderly couples, and young couples with children. These four groups account for about 85 percent of all eligibles. In each site, at least half of the eligibles were homeowners.

Among the elderly and the single parents, eligibility is a durable status; but for young couples and others it is episodic, reflecting periods of unemployment. Much of the turnover in participation reflects changes in eligibility status that led to enrollment or termination. Preliminary analysis of postbaseline data indicate that the size of the eligible pool does not change much from year to year.

References

Lawrence W. Kozimor, *Eligibility and Enrollment in the Housing*

Allowance Program: Brown and St. Joseph Counties through Year 2, WN-9816-HUD, August 1978. (The turnover analysis in Sec. IV is not entirely supported by subsequent studies.)

Lawrence Helbers, *Measuring Homeowner Needs for Housing Assistance*, WN-9079-HUD, February 1978, Sec. IV (tests appropriateness of eligibility standards for homeowners).

John E. Mulford, Grace M. Carter, and P. L. Ellickson, *Eligibility and Participation Research Plan for the Housing Assistance Supply Experiment*, WN-10328-HUD, October 1978.

ENROLLMENT

Enrollment grew rapidly in each site as knowledge of the program spread during its first two years of operation. During the third and subsequent years, terminations nearly offset new enrollments, so program growth was slow. Most of the data we have analyzed pertains to the first two years, at the end of which about 54 percent of the eligible renters and a third (Brown County) to a fourth (St. Joseph County) of the eligible homeowners were enrolled.*

The striking differences between renter and homeowner enrollment rates partly reflects the typically higher (by about $1,000) incomes of eligible homeowners, but we judge that it also reflects a differential perception of need and, given need, of willingness to seek public

*As of 30 September 1978, after 51 months of open enrollment in Brown County and 42 months in St. Joseph County, the current enrollment figures were as follows:

	Brown County		St. Joseph County	
	Number	Percent of Eligibles	Number	Percent of Eligibles
Renters	2,686	76	3,005	65
Homeowners	1,215	30	3,534	32

Additional unpublished tabulations for September 1978 are available from Rand on request.

assistance. Enrollment rates are higher for single household heads (both young single parents and elderly single persons) than for couples, for blacks than for whites, and for those with very low incomes than for those near the income limit. We do not yet have a good multivariate analysis of the factors affecting willingness to enroll. However, we have seen little evidence that eligible households are dissuaded from applying because they anticipate trouble in meeting the program's housing standards.

A preliminary analysis of enrollment dynamics uses Markov methods to estimate an equilibrium enrollment rate equal to 51 percent of all those currently eligible. It assumes that the eligible pool is fixed as to size and composition, but its membership turns over rapidly. The equilibrium would be approached asymptotically within about six years of open enrollment.

Some observers are surprised that no more than half the eligibles are enrolled at any given time. However, the few available studies indicate comparable outcomes in long-established transfer programs such as public assistance and foodstamps.

References

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, pp. 51-59

Lawrence W. Kozimor, *Eligibility and Enrollment in the Housing Allowance Program: Brown and St. Joseph Counties through Year 2*, WN-9816-HUD, August 1978.

C. Peter Rydell, John E. Mulford, and Lawrence Kozimor, *Dynamics of Participation in a Housing Allowance Program*, WN-10200-HUD, June 1978.

John E. Mulford, Grace M. Carter, and Phyllis L. Ellickson, *Eligibility and Participation Research Plan for the Housing Assistance Supply Experiment*, WN-10328-HUD, October 1978.

Phyllis L. Ellickson, *Public Knowledge and Evaluation of Housing Allowances: St. Joseph County, Indiana, 1975*, R-2190-HUD, February 1978.

PARTICIPATION

Each enrollee is informed of his allowance entitlement and his current dwelling is inspected. If the dwelling conforms in all particulars

to program standards, it is certified by the HAO and allowance payments are authorized. Otherwise, the enrollee is informed of the housing defects noted. To receive payments, he must either arrange for the necessary repairs or move to an acceptable dwelling. There is no time limit for action, so a household can stay enrolled indefinitely without qualifying for payments.

Over half of all dwellings are initially unacceptable, so the majority of enrollees must take some action to qualify for payments. Among those in substandard dwellings, two-thirds repair and about 10 percent move. About 80 percent of all enrollees eventually qualify for payments. Repairs are usually completed within 3 months, moves within 5 months after enrollment. Voluntary terminations by nonparticipants usually occur at the end of six months when eligibility is recertified.

The probability of qualifying for payments, given enrollment, varies with housing tenure, age of household head, and household income (which varies inversely with allowance entitlement). Controlling on the other variables, we find that owners, elderly persons, and those with below-average incomes are more likely to qualify than their opposites. Among those in defective dwellings, those with the most defects are least likely to repair, most likely to move or terminate their enrollments. Those who terminate without ever qualifying for payments rarely try to repair or to find an alternative dwelling.

References

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, pp. 59-66.

Bruce W. Lamar and Ira S. Lowry, *Client Responses to Housing Allowances: The First Two Years*, WN-9814-HUD, February 1979.

SESSION II, PAPER B

MOBILITY AND SEARCH BEHAVIOR

PROSPECTUS

What does previous analysis imply about the patterns of search and mobility we should expect to observe in EHAP? What are the important findings: have we made discoveries about the search procedures and subsequent mobility of participant households and others, or are the important results behavioral estimates of response specific to such a program?

Can we separate out the important determinants of the decision to move and the criteria used in selecting a new unit? Do household characteristics strongly condition the mobility and search behavior? Are there underlying market characteristics that condition the mobility response?

Moving into a different unit is one means of attaining the required quality standards. How prevalent is moving as opposed to upgrading in place? Can the choice between moving and upgrading be explained largely by the initial condition of the unit? Do movers improve the quality of housing they consume generally or do they improve only on the dimensions specified in the quality standards required for participation? How do mobility patterns affect the long term effect of allowances for households?

What are the effects of mobility responses to payments on neighborhoods? Do households move to different neighborhoods in choosing a new housing unit? When the responses of individual households are aggregated, are some neighborhoods net gainers and others net losers? Do the movements have effects on neighborhood homogeneity or on segregation by race or by income?

GUIDE TO HASE RESEARCH

The prospectus for this paper focuses on EHAP's contributions to knowledge in three areas of mobility analysis--one general and two programmatic:

- What are the determinants of the decision to move and the choice of a new residence?
- How do the allowance program's housing standards affect participants' mobility decisions?
- Where do participants move and how do these moves affect the neighborhoods of origin and destination?

Although HASE has published research findings that bear on all three issues, the work is both exploratory and disconnected.

One reason for that state of affairs is poor preexperimental problem definition, reflecting the misperception that the amount of moving induced by the allowance program and associated neighborhood changes would be the salient research issues. We now think that the details of move-related changes in housing consumption are much more important, a shift in focus that requires us to develop complex housing consumption measures.

Another reason why mobility research has lagged is that moves by participants in a new program are cumulative; early analysis offers guidance for future research but few solid conclusions. As the program continues, both the number of participants and the average duration of enrollment increase, hence the sample of moves increases.

We now have both a clearer view of our target and a larger data base. By September 1979, we expect to be well into a solidly structured analysis of participants' housing decisions, with moving treated as one

alternative among several responses to programmatic incentives. In the meantime, we summarize our mobility research to date and cite the relevent documents.

RESIDENTIAL MOBILITY AND HOUSING CHOICE

It is generally agreed that local moves are the principal means by which households adjust their housing consumption, neighborhood environments, and daily travel patterns to changes in their circumstances. It is well established that different types of households characteristically occupy different types of housing and move with different frequencies; and there is also evidence for characteristic transitions from one type of dwelling or neighborhood to another. However, these empirical regularities have yet to be subsumed under a general theory of residential mobility, one that identifies the observed typologies of households and housing choices as positions in a universal, multidimensional parameter space. Instead, analysts offer reasonable but ad hoc explanations of why, say, young singles live in urban apartments and middle-aged couples with children live in suburban, single-family homes.

Analyses of baseline (preprogram) moves and housing choices in our two experimental sites generally confirm the findings of other studies, but are richer than most because of the unusually comprehensive data base. The household lifecycle provides a powerful principle for distinguishing characteristic choices as to tenure, type of dwelling, location, frequency of moves, and expressed motives for moving. Income and race condition decisions in many ways, but are less influential than is often assumed. The relative costs of owning and renting differ in our two sites, powerfully affecting tenure choice at the extremes of the lifecycle. Vacancy rates have little effect on the frequency of moves.

Housing search behavior appears to be strongly conditioned both by income and the probability of encountering discrimination in the housing market. Low-income renters in particular are reluctant to

search the market thoroughly, partly because prospective landlords often respond negatively to their age, marital status, race, family composition, or source of income. Housing bargains are generally found not through assiduous search but personal contacts.

References

Kevin F. McCarthy, *Housing Choices and Residential Mobility in Site I at Baseline*, WN-9029-HUD, August 1976.

Kevin F. McCarthy, *Housing Choices and Residential Mobility in Site II at Baseline*, WN-9737-HUD, September 1977.

Kevin F. McCarthy, *Housing Search and Residential Mobility*, R-2451-HUD, forthcoming.

PROGRAM-INDUCED MOBILITY

The housing allowance program may induce residential mobility in either of two ways. Enrollees living in substandard dwellings must either repair them or move in order to qualify for allowance payments. In addition, the allowance, considered as income, may shift housing or neighborhood preferences in ways most economically satisfied by moving.

Despite a flurry of postenrollment moves by renters, their mobility rates annualized over the period of enrollment are no greater than those of the renter population at large. Participating homeowners are distinctly less mobile than all homeowners, probably because they are older.

Among renter enrollees whose dwellings are substandard, about a fifth move in order to qualify for payments; the others either repair (half repair in Brown County, a third in St. Joseph County) or drop out. Homeowners rarely move in order to qualify for payments.

The proportion of enrollees who move rather than repair rises sharply with the number of housing defects reported. Moving is a more common response among younger renters than older ones, among those with low incomes (large allowances) than high incomes, and among middlesized than large or small households.

Those who do move generally pay substantially more for their new dwellings. In St. Joseph County, contract rents increased by an average of 46 percent for enrolled renters who moved from unacceptable dwellings, 32 percent for those who moved from acceptable dwellings. Since rents hardly changed for nonmovers, the larger expenditures appear mostly to reflect greater housing consumption.

Although those who moved from unacceptable dwellings nearly all chose dwellings that conformed to HAO standards, we judge that their new homes were also better in other respects. At least, the preliminary evidence indicates that they typically could have repaired their enrollment dwellings for not much more than one month's rent increment.

Post-certification moves are common enough among renters so that it is plausible over time that the majority of renter participants will move. If so, and if their housing consumption increases as did that of the early movers, the amount of housing improvement achieved by moving will be considerably larger than our initial studies indicate. During the first two years of program operations in St. Joseph County, two-fifths of all renters who ever qualified for payments had moved at least once after enrollment. In Brown County, the corresponding figure is one-third. However, it is not yet clear how much of the moving and consumption change is program-induced and how much would have occurred in any event.

References

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2303-HUD, May 1978, pp. 63-66 and 119-128.

Bruce W. Lamar and Ira S. Lowry, *Client Responses to Housing Requirements: The First Two Years*, WN-9814-HUD, February 1979.

Mark David Menchik, *The Residential Mobility of Housing Allowance Recipients*, N-1144-HUD, forthcoming.

Ira S. Lowry and C. Lance Barnett, *How Housing Allowances Affect Housing Prices*, R-2452-HUD, forthcoming (estimates price and quantity changes for enrolled movers).

RESIDENTIAL MOBILITY AND NEIGHBORHOOD CHANGE

A major preexperimental concern about the implementation of a housing allowance program was the possibility that moves by program participants would disturb neighborhood housing markets and social systems in undesirable ways. (There was, however, less agreement as to which disturbances would be undesirable.) In fact, the volume and pace of moves by program participants is unremarkable; and preliminary analyses show that the flows are nearly balanced geographically, so that no neighborhoods have lost or gained many participants.

The issue was particularly pertinent for St. Joseph County, whose large population of blacks nearly all lives in a deteriorated section of central South Bend. Enrollment in central South Bend was high during the first two years (13 percent of all whites, 35 percent of all blacks). Although a fourth of all moves by program participants crossed the boundary between central South Bend and the rest of the county, the directional flows balance almost exactly for each racial group, yielding no net change in numbers of resident participants of each race. However, there were characteristic net flows by household lifecycle stage and tenure. Shifts of the latter kind are visible in the data for all movers in the HASE sites and are consistent with other studies of local mobility.

References

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, May 1978, pp. 128-133.

Bryan C. Ellickson, *Neighborhoods in Brown County*, WN-8468-HUD, November 1973.

John W. Bala, *Neighborhoods in St. Joseph County*, N-1205-HUD, forthcoming.

SESSION III, PAPER A

OTHER HOUSEHOLD BEHAVIOR

PROSPECTUS

What are the effects of the payments on housing consumption? What do housing allowances accomplish in terms of improvement in the quality of housing consumed by non-movers? Are there effects on quality other than those required to meet the program minimum quality standards? Can we separate the effects of the payments from the effects of the minimum standards? How much physical improvement in housing can be stimulated by payments, and obversely, what types of housing improvements are undertaken without payments? What are the differences in response to unconstrained versus earmarked assistance?

Do the payments have an effect on tenure choice (owning versus renting)? Are landlord/tenant relationships affected by the allowances? Do homeowners and renters respond differently to the payments?

How effective is the program in reducing excessive rent burdens and housing deprivation--among participants, in the population at large?

What have we learned from EHAP about the demand side of the housing market more generally? How do estimates of price and income elasticities of demand derived from EHAP compare to other estimates? Have we learned anything about how (or whether) households trade off among housing (or neighborhood) characteristics in choosing a unit? Have we added to our knowledge of the determinants of tenure type? Does EHAP indicate anything new about what housing or neighborhood characteristics are especially valued by low-income households?

GUIDE TO HASE RESEARCH

The prospectus for this paper focuses on the normal relationships between income, housing prices, and housing consumption and how those relationships are altered by participation in a housing allowance program. To avoid overlap with the preceding paper (II.B), the means by which consumption changes are achieved (repairing vs. moving) have been subordinated, though they cannot be entirely neglected. Some phrases in the prospectus suggest an interest in marketwide consumption changes as distinguished from outcomes for program participants; however, the marketwide effects seem to us best left to Paper III.B.

This guide to HASE research therefore addresses only the micro issues of housing demand and household response to an allowance offer. It is organized around three topics:

- o General characteristics of housing demand
- o Program effects on housing expenditures
- o Dimensions of program-related consumption changes

Within each topic, we distinguish renters and owners. Tenure choice is discussed in connection with expenditure decisions. References to relevant HASE reports are given at the end of each section.

GENERAL CHARACTERISTICS OF HOUSING DEMAND

Conventional demand analysis has not been very fruitful when applied to housing. The quantity of housing service emitted by a dwelling is difficult to measure directly, so housing consumption (Q) is not readily distinguishable from housing expenditure (PQ). In consequence, the price elasticity of housing demand is especially hard to estimate; furthermore, absent firm knowledge of price variations, the income elasticity of housing demand is uncertainly estimated by a proxy, the income elasticity of housing expenditures. The housing bundle itself is a complex package and

is bought jointly with neighborhood quality and locational convenience. Finally, homeowners buy housing for both consumption and investment; also, their current cash outlays account for only part of their housing costs. All things considered, it is unsurprising that no study to date has accounted for more than a small fraction of the large variance among households in their housing expenditures.

The Demand Experiment was designed to produce clear evidence as to the price and income elasticities of housing demand for renters. Although the Supply Experiment had different objectives, it has contributed to our knowledge of housing demand in three ways. First, we have published unusually comprehensive descriptions of the household populations of our two experimental sites and their housing choices. Second, we have compiled comprehensive annual housing accounts for homeowners, including both cash and noncash transactions and both current and capital outlays; these accounts yield annual expense data that are comparable to gross rent as measures of housing expenditures. Third, we have estimated the income elasticity of housing expenditures for both renters and homeowners in our two sites.

The work has yet to yield a new synthesis of demand theory, but it strongly favors a dynamic as opposed to a static approach. Household lifecycle stage seems to be the most powerful discriminant of housing preferences (tenure, type of structure, size of dwelling, location). Consumption adjustments lag changes in household circumstances and are most often accomplished in large steps, by moving. For home purchasers, the consumption adjustment often seems to anticipate future household size and income.

Although only about two-thirds of all households are currently owners, nearly all will be or have been owners during part of the household lifecycle. Their housing expenses turn out to be a linear function of property value, a great empirical convenience. Cash outlays account for about two-thirds of annual consumption expenses; the cash proportion, but not the total expense, varies considerably with the amount of mortgage debt outstanding. Annual investment (mortgage amortization and capital improvements) amounts to about 17 percent of annual consumption costs.

Working with cross-sectional data for individual households, we estimate income elasticities for housing expenditures that are considerably below those derived from either aggregate or multimarket, household data: about .19 for renters and .45 for owners, based on "permanent" income. The elasticities do not seem to vary substantially with income. Renters' expenditures for space do not rise much with income; more prosperous renters tend to buy "better" rather than "more" housing, and to trade nearness to urban activities for neighborhood quality.

References

Kevin F. McCarthy, *Housing Choices and Residential Mobility in Site I at Baseline*, WN-9029-HUD, August 1976.

Kevin F. McCarthy, *Housing Choices and Residential Mobility in Site II at Baseline*, WN-9737-HUD, September 1977.

Lawrence Helbers, *Measuring Homeowner Needs for Housing Assistance*, WN-9079-HUD, February 1978.

John E. Mulford, *The Income Elasticity of Housing Demand*, R-2449-HUD, forthcoming.

C. Lance Barnett, *Using Hedonic Indexes to Measure Housing Quantity*, R-2450-HUD, forthcoming, Sec. IV (marginal expenditures for housing attributes).

PROGRAM EFFECTS ON HOUSING EXPENDITURES

Our data on the general income elasticity of housing demand suggests that housing allowances, which typically increase income by about 20 percent, would cause a relatively small voluntary increase in housing expenditures under a regime of constant prices. Program data are clouded by rapidly changing fuel and utility prices, but generally confirm this expectation.

Among renters whose enrollment dwellings met program standards, the average expenditure increase has been small. However, the group divides into the great majority who stayed in their enrollment dwellings (contract rent increased by about 1-3 percent during the first postenrollment year)

and the small minority who moved (contract rent increased by 23-32 percent). Without further modelling, we are unable to say whether the moves and associated consumption increases were allowance-induced.

Among homeowners, we find a modest increase in voluntary expenditures for home repair during the first postenrollment year, especially among the elderly. Preliminary modelling of homeowner repair activity indicates that the income effect of allowance payments falls considerably short of accounting for the expenditure increase. In any event, the extra repairs, if they recur annually, will add 5 to 10 percent to homeowners' housing expenditures.

Allowance payments are earmarked by requiring their recipients to live in dwellings that meet explicit standards as to space, domestic facilities, and freedom from health or safety hazards. Although over half of the enrollees' dwellings initially fail these standards, compliance with them does not generally entail a substantial increase in housing expenditures.

Among renters, the cash costs of the required repairs are small because most of the defects are remedied by unpaid amateur labor and inexpensive materials. However, a minority, especially those whose dwellings were seriously defective, move. Among those who move in order to meet program standards, contract rents increase by an average of 42 to 46 percent. Homeowners' repairs are also inexpensive, and they rarely move from defective dwellings.

The allowance program appears to have induced or facilitated a small number of home purchases by low-income renters. It is not clear that the tenure changes have entailed increased housing expenditures, but the allowances have clearly facilitated obtaining mortgage credit.

Generally, allowances have done more to decrease housing expense burdens than to increase housing expenditures. The expense burdens were initially quite high; for example, in St. Joseph County, 60 percent of the enrolled renters spent over half of preallowance adjusted gross income for housing.

References

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, May 1978, Sec. IV.

Bruce W. Lamar and Ira S. Lowry, *Client Responses to Housing Requirements: The First Two Years*, WN-9814-HUD, February 1979.

HASE Staff, *Two Years of Housing Allowances: Income and Housing Expenditure*, N-1209-HUD, forthcoming.

James L. McDowell, *Housing Allowances and Housing Improvement: Early Findings*, N-1198-HUD, forthcoming.

Lawrence Helbers, *Determinants of Homeowner Maintenance and Improvement Expenditures*, forthcoming.

PROGRAM-RELATED CONSUMPTION CHANGES

Simply measuring housing expenditure changes does not capture the nature of the implied consumption change. Indeed, it is possible for housing consumption to alter radically without an expenditure change, for instance, if space is traded for quality.

The program's main effects on consumption have operated through its housing standards. In order to qualify for payments, over 8,400 enrollees have repaired specific defects noted by HAO housing evaluators and about 2,000 have moved from defective dwellings to acceptable ones. Annual reinspections have generated over 3,600 additional repairs and 1,100 additional moves to avoid payment suspensions.

Forty years ago, many poor families were badly overcrowded or lived in dwellings that were structurally unsound or lacked basic domestic facilities. Such conditions are now rare both in our sites and nationally. The housing defects we identify are mostly maintenance and repair problems which result in health or safety hazards. Over half of enrollees' dwellings have one or more such defects.

We judge that most enrollees are either unaware of or unconcerned by the hazards revealed by HAO housing inspections. Offered a bribe in the form of a housing allowance, about two-thirds promptly remedy the

defects, incurring only small cash outlays; a fourth of the repairs require no cash outlays, only the owners' or occupants' labor. These repairs have only a negligible effect on the market value of the property or monthly housing expenses.

Voluntary repairs by homeowners are different. They often entail structural improvements or subsystem replacement, items that add substantially to the useful life of the dwelling.

As noted earlier, movers from both unacceptable and acceptable dwellings substantially increase their expenditures. Those who move from unacceptable to acceptable dwellings manifestly have altered their consumption pattern with respect to the noted defects. However, we have yet to undertake a close comparison of pre- and post-move dwelling characteristics.

References

James L. McDowell, *Housing Allowances and Housing Improvement: Early Findings*, N-1198-HUD, forthcoming.

HASE Staff, *Fifth Annual Report of the Housing Assistance Supply Experiment*, R-2434-HUD, forthcoming, Sec. II (housing repairs and moves through September 1978).

SESSION III, PAPER B

HOUSING MARKET EFFECTS OF EHAP

PROSPECTUS

What are the effects of EHAP that operate through the supply side of the housing market? To what degree are housing prices affected? Does EHAP encourage new housing construction? Is the maintenance behavior of landlords and owner-occupants affected? Does the overall quality of the housing stock change in response to EHAP? How much are market effects conditioned by initial market characteristics at the neighborhood or market-wide level?

To what degree are the EHAP effects felt broadly by nonparticipants in addition to being felt directly by participants? What are the neighborhood effects (if any) of changes in individual (participating) housing units? Do effects spread to "nonparticipating" units--through filtering of individuals, price changes, externalities of neighborhood change?

What do the data developed in EHAP tell us about how housing markets in general operate? Can we derive price elasticities of supply of housing through the two modes, new construction and rehabilitation? What do we learn about housing market segmentation--are there housing "submarkets"--by tenure type, race, structure type, neighborhood?

GUIDE TO HASE RESEARCH

The Supply Experiment was explicitly designed to show the market effects of a fullscale allowance program for low-income renters and homeowners. With that purpose in mind, we chose two sites that differed sharply as to market structure and initial conditions, conducting an open-enrollment allowance program in each. The programs were guaranteed to continue for ten years; we planned to monitor local housing markets until their responses were clear, and estimated that up to five years of data would be needed.

Before the experiment, most observers expected substantial or even catastropic market disturbances to occur at the beginning of the program, when enrollment was growing rapidly. In both sites, the phase of rapid growth occupied the first two program years; by the end of Year 3, enrollment had nearly stabilized at about two-thirds of the eligible renters and one-third of the eligible homeowners. Market disturbances during those three years were manifestly so slight that Rand and HUD agreed to curtail market monitoring. Consequently, data were collected from a marketwide probability sample of residential properties at baseline (just before enrollment began) and for three years thereafter. Those data are the basis for our as-yet-incomplete assessment of market and community effects.

In the following pages, we first summarize our salient findings as to the specific effects of the allowance program, then our broader research into housing market behavior. Under the latter rubric, we include analyses of housing production functions, market segmentation, and market dynamics. References to the relevant HASE documents are given at the end of each topic.

PROGRAM EFFECTS

What happened in Brown and St. Joseph Counties during the first two years of their allowance programs is compactly summarized in the

Fourth Annual Report. As later program and survey data become available, those findings will be extended to cover the third program year and we will try for greater precision in our estimates of market response.

However, we are already confident of the main conclusions. Using rents for a marketwide panel of dwellings as the barometer of market effects, we have analyzed rent changes during the first 33 months of program operations in Brown County and the first 17 months in St. Joseph County. In both cases, the observed rent increases are fully explained by background inflation, principally rising fuel prices. That finding holds for central South Bend, the area with the highest enrollment rates, as well as for Brown County, the area with the tightest housing market.

About 30 percent of the enrollees (36 percent of those who qualified for payments) have repaired their homes directly as a consequence of program requirements and about 10 percent have moved from substandard to standard dwellings. On rental properties, landlords and tenants participated about equally in program-induced repair activity. There is some evidence that homeowners, after meeting program requirements, make more voluntary repairs than they did before enrolling. For both homeowners and renters, annual housing evaluations lead to additional required repairs by about a fourth of the participants. About 7 percent of each county's housing stock has been repaired one or more times to meet program requirements.

We have found little evidence that the program has affected dwellings other than those occupied by participants, either as to price or quality. Neither the example of participants' repairs, landlords' knowledge of program requirements, nor moves by participants appear to have resulted in general housing improvements, even in neighborhoods where enrollment is high.

Given the findings summarized above, the salient question is why the outcome is so much at odds with expectations. The emerging answer has two parts:

- An open-enrollment program that earmarks allowances by imposing reasonable housing standards on the recipients causes only a small increase in housing demand by each participant; and the number of participants is in any case small relative to the size of the housing market. Even if all allowances were spent for housing, the countywide demand increase by renters would be about 7.5 percent; by homeowners, about 2 percent. The actual increases were much less.
- The program's housing standards rarely shifted participants' housing demand from initially substandard to initially standard dwellings; instead, they usually repaired the substandard dwellings. The required small increments to housing quality can be supplied inexpensively when the interested parties have nothing to gain by extravagance. Only 8-10 percent of the repairs to rented dwellings were done by contractors, the rest being done either by tenants or landlords; homeowners used contractors for only 13-19 percent of their repairs. Cash costs were low, averaging $38 for renters, $75 for homeowners who made repairs.*

That the program's housing standards could usually be met by minor repairs was a genuine surprise to most of us, conditioned to believe that poor people lived in dwellings that were badly overcrowded, structurally dilapidated, and lacking ordinary domestic facilities. However, the Bureau of the Census's Annual Housing Survey confirms that such conditions are now rare, especially in urban areas. The general misperception may reflect the high visibility of dilapidated *unoccupied* dwellings in neighborhoods with housing surpluses; such dwellings are often vandalized after they are withdrawn from the market.

Two other findings that bear on market effects are worth mentioning. One is that neither black nor white enrollees in central South

*For both renters and homeowners in both sites, the medians were about $10; nearly a fourth of the repairs entailed no cash outlay, only unpaid labor.

Bend seemed eager to spend their allowances on "better" neighborhoods. Most moves were within neighborhoods, and seem to have been prompted by housing, not neighborhood, preferences. The other is that few renter enrollees used their allowances to buy homes. Those that did so usually either bought mobile homes or inexpensive ($10,000) single-family houses in central South Bend. Their allowances helped to qualify them for mortgage credit.

References

HASE Staff, *Fourth Annual Report of the Housing Assistance Supply Experiment*, R-2302-HUD, May 1978, Sec. V (summarizes market effects during the first two program years).

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Ira S. Lowry and C. Lance Barnett, *How Housing Allowances Affect Housing Prices*, R-2452-HUD, forthcoming.

James L. McDowell, *Housing Repairs and Improvements: Early Findings*, N-1198-HUD, forthcoming

Sammis B. White, *Market Intermediaries and Indirect Suppliers: First Year Report for Site I*, WN-9400-HUD, September 1976.

Sammis B. White, *Market Intermediaries and Indirect Suppliers: First Year Report for Site II*, WN-9020-HUD, August 1977.

Michael G. Shanley and Charles M. Hotchkiss, *Financing Home Purchases: The Experience of Low-Income Households*, N-1208-HUD, forthcoming.

HOUSING PRODUCTION FUNCTIONS

Economists have done little empirical work on housing production functions; the examples in the literature, moveover, concern capital formation rather than the production of housing services. The HASE surveys of residential properties were designed to provide complete annual accounts of factor inputs by type as well as measures of output. Consequently, they provide a rare opportunity for analyzing the housing service production process.

Compiling the relevant accounts from survey data is a major task. The accounts must group expenditure items functionally, distinguish expenditures on capital and current account, estimate the value of inputs such as unpaid labor and capital depreciation, and correct for input price changes over time. For rental properties, landlord and tenant expenditures must be combined. In the case of owner-occupied homes, output must also be estimated by modeling.

To test the accounting system, we used baseline data to estimate a three-factor CES production function for rental housing services in Brown County. The estimated parameters were both reasonable and informative, and the exercise revealed weaknesses in the data and the accounting system that we have since corrected. We are currently compiling comparable four-year accounts for individual properties in both sites, both rental and owner occupied, and plan additional work on production functions when the full data base is ready.

In the case of owner-occupied homes, the salient production issue is repair policy. By September 1979, we hope to be able to report on a model of homeowner repair and improvement expenditures. Also in the works is an analysis of fuel and utility expenditures for both rental and owner-occupied homes.

References

Ira S. Lowry, ed., *General Design Report: First Draft*, WN-8198-HUD, May 1973, appendices A through D (production function models and accounting systems).

C. Peter Rydell, *Rental Housing in Site I: Characteristics of the Capital Stock at Baseline*, WN-8978-HUD, August 1975 (exploratory analysis of capital inputs).

C. Peter Rydell, *Measuring the Supply Response to Housing Allowances*, P-5664, January 1976 (3-factor CES production function).

C. W. Noland, *Indexing the Cost of Producing Housing Services in Site I, 1973-75*, WN-9979-HUD, June 1978 (example of index construction; other notes in this series are WN-9022-HUD, WN-9735-HUD, WN-9736-HUD, WN-9980-HUD).

Lawrence Helbers, *Measuring Homeowner Needs for Housing Assistance*, WN-9079-HUD, February 1978 (Sec. III analyzes homeowner housing expenditure accounts in a production context).

MARKET SEGMENTATION

Whether or not strongly bounded housing submarkets exist is of some importance because federal policies and other exogenous forces often act directly on demand or supply in a specific part of a local housing market. If the effects are confined within a bounded submarket, they will be stronger than if they are diffused throughout the broader market.

For submarkets to exist, the housing stock must divide into groups of dwellings between which the cross-elasticities of demand are low. Tenure, type of structure, size of dwelling, location, and neighborhood characteristics have all been proposed as bases for market segmentation. More often than not, market analyses assume segmentation without testing for it.

One way to identify submarkets is to look for housing price variation in cross-sectional data. We have used hedonic index techniques to search the rental market of Brown County for such differences, with negative results. A parallel study of St. Joseph County is under way, and we hope to report its findings by September 1979.

The absence of price differences does not guarantee the absence of submarkets, since demand-supply imbalances are also needed to generate submarket price differentials. A direct measure of demand-supply imbalance is vacancy duration. Vacancy statistics for Brown County show substantial differences (15 to 30 percent) in vacancy duration both by tenure and type of structure. The same is true for St. Joseph County outside central South Bend. Within central South Bend, homeowner vacancy duration is more than twice that for single-family rental houses. Vacancy duration also differs substantially between comparable structures in central South Bend and the remainder of St. Joseph County. More generally, national data for 1975 show a coefficient of variation on vacancy duration of 2.3, as compared to the expected value, absent submarkets, of 1.0.

Our cross-site analysis of vacancy statistics highlights a neglected fact that is important for understanding market structure: Tenant turnover rates vary greatly between property types, but seem to be almost independent of market tightness. We think that turnover is a functional characteristic of demanders whose housing tastes concentrate them in a particular market segment. Since turnover causes vacancy losses and other expenses for the property owner, it follows that suppliers in various market segments must charge different turnover premiums to equalize longrun rates of return. If so, residential mobility could be a more persistent basis for market segmentation than the physical characteristics or location of dwellings.

References

C. Lance Barnett, *Using Hedonic Indexes to Measure Housing Quantity*, R-2450-HUD, forthcoming (tests for submarket differences in attribute prices).

C. Peter Rydell and Joseph Friedman, *Rental Housing in Site I: Market Structure and Conditions at Baseline*, WN-8980-HUD, April 1975.

C. P. Rydell, *Vacancy Duration and Housing Market Condition*, WN-10074, January 1978 (develops theory of vacancy duration as an indicator of submarkets).

HOW HOUSING MARKETS WORK

Despite the failure of the experimental allowance program to cause major market disturbances, the data collected by HASE have illuminated housing market dynamics. Comparing baseline data for groups of properties within each site and between the two sites, we have encountered empirical surprises that have prompted us to search for theoretical explanations. Except for the rent inflation analyses discussed earlier, we have so far done little with time series, finding it more economical to await the completion of our four-year data base.

Perhaps our most surprising empirical finding from baseline data was that monthly rents for physically equivalent dwellings hardly varied between central South Bend, the rest of St. Joseph County, and Brown County, despite abundant evidence (e.g., vacancy statistics) of different market conditions in those three areas. On the other hand, property values varied enormously. In central South Bend, where the rental vacancy rate was 12.3 percent, the gross rent multiplier in 1974 was about 4.0. In Brown County, where the rental vacancy rate was 5.1 percent, the multiplier was 6.9.*

Analysis of these data suggests that current price (contract rent) adjustments play at most a subsidiary role in market equilibration following a shift in housing demand. Absent a price change, a change in the vacancy rate ensues and is reflected in more or less revenue for the owners. Insofar as the altered market conditions are expected to persist, the associated revenue expectations will be capitalized into property values.

We have developed the algebra of this theory of shortrun market adjustments and have used crossmarket HASE data to estimate the parameters of the process. Preliminary calculations indicate that under typical market conditions (6.0 percent vacancy rate), a 1.0 percent increase in housing demand should cause rents to rise by .25 percent and property values to increase by up to 4.0 percent. The results are symmetrical for a demand decrease.

The theory rests on a model of a landlord's profit-maximizing strategy for filling vacancies. The algebra, when combined with HASE data, implies that the price elasticity of housing demand is less than unity, and that the price elasticity of "occupied supply" is close to 3.0. The percentage change in rent resulting from a 1.0 percent shift in demand equals the inverse of the sum of those two elasticities, or .25.

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*The gross rent multiplier, a common tool of real estate investment analysis, equals property value divided by annualized monthly contract rent. However, the rent figures used in our calculation includes tenant-paid utilities.

References

C. Peter Rydell, *Effects of Market Conditions on Prices and Profits of Rental Housing*, P-6008, September 1977 (shows how rents, property values, and profits vary with market conditions in Brown and St. Joseph Counties).

C. Peter Rydell, *Shortrun Response of Housing Markets to Demand Shifts*, R-2453, forthcoming (develops theory and reports parameter estimates).

SESSION IV, PAPER A

ADMINISTRATIVE LESSONS FROM EHAP

PROSPECTUS

What have we learned about administering housing assistance programs that we did not already know through administering existing programs? What could we have learned in any experimental setting (e.g., in the supply and demand experiments) and what did we learn only because of the innovative Administrative Agency Evaluation? Did the AAE introduce important variations that might otherwise not have been included in the Experiment? Where do administrative differences have their most important impacts--on costs, effectiveness (participation rates, error rates), relations with participants or the community at large, or other local programs?

What has been learned about the program implementation process that could affect program design? What have we learned about outreach activities from all three experiments (HADE, HASE, AAE)? What have we learned about income verification and re-certification of income--what methods are more effective--how frequently should they be done? How critical are housing inspections and who should do them? Were legal services for the protection of equal opportunity effective? To what extent were these services used? How valuable were the supporting services such as counseling on dealing with the housing market and other social services?

GUIDE TO HASE RESEARCH

Because the Supply Experiment has administered ten-year, full-scale allowance programs in its two administrative sites, it has had to deal with most of the administrative issues of a permanent program. The programs were conducted by nonprofit corporations, using locally hired staff but with policy guidance and technical assistance from Washington. Research activities on site were strictly separated from program administration.

Program administration was carefully planned before operations began and no major changes in organization or procedures were made subsequently. Details of program rules and office procedures were added or revised as experience warranted them, but with careful attention to intersite consistency. Experimentation with programmatic alternatives was conducted for the outreach and client information functions; otherwise, administrative improvements were generally derived by operations analysis.

If a national housing allowance program were to be legislated, we are confident that the HASE program handbooks and administrative experience would both shorten the administrative planning process by at least a year and enable the planners to avoid a number of administrative errors. Although much that we have learned from HASE might have been acquired by nonexperimental means, the specific integration of functions required to administer a housing allowance program is not elsewhere duplicated. It is also worth noting that the administrative procedures adopted for HUD's Sec. 8 Existing Housing Program were substantially influenced by EHAP planning documents.

A formal analysis of our administrative experience is given in the *Fourth Annual Report*; by September 1979, we expect to have published a more detailed report on the reliability of the program's means test. Below, we comment briefly on our experience with

selected aspects of administration. References are given at the end of the section.

Outreach

The housing allowance offices used newspaper, radio, television and direct mail advertising to inform local residents about the program. We found that by varying the intensity of advertising, we could control the flow of applications, matching it roughly to processing capability. However, advertising cost per application generated rose sharply over time as enrollment grew and as the communities approached saturation in terms of program knowledge. Only the simplest messages were successfully conveyed by advertising. About half of all applicants learned about the program from friends, relatives, or social service agencies; blacks and welfare recipients were less attentive to the media than were whites or wage-earners.

The Enrollment Process

Enrollment processing accounts for a substantial share of administrative cost--in HASE, nearly $100 per enrollee. Under our open-enrollment program, only about a third of all applications resulted in an enrollment, so early screening to eliminate ineligibles could in principle save about $25 per enrollee. However, inexpensive screens do not reliably distinguish the marginally eligible.

Being considerate of clients' convenience and dignity through appointment scheduling and interview procedures adds to direct costs, but elicits client coooperation and raises staff morale; on balance, we judge that indirect savings more than cover the costs.

The Means Test

HASE obtains income data from its enrollees by means of an annual office interview; amounts are verified on a sample basis, the sampling rate depending on the level of documentation provided at the interview. For a small sample in each site, we have also conducted a systematic search for unreported sources of income. We find that quite accurate income data can be gathered from such interviews; when

misreporting does occur, it is usually inadvertent. Staff errors are at least as common as client reporting errors, but nearly always can be corrected by internal quality controls. Although the direct fiscal savings from our error control procedures were somewhat less than their cost, the known existence of the procedures probably reduces the incidence of client and staff errors and improves the program's reputation with both clients and the general public.

For means-conditioned transfers, the income-accounting period critically affects the benefits received by many clients because benefits change asymmetrically with respect to increases and decreases in income. HASE adopted a prospective income concept, using up to a year of past income, current income, and expected nearterm changes in household circumstances to estimate income over a one-year benefit period. Midway during that year, the client completes a brief mailback questionnaire confirming his income of record; otherwise, a special interview is conducted. Special interviews are also scheduled when the prospective income reflects apparently temporary circumstances. HASE has not experimented with alternative accounting periods and cannot report on the potential fiscal effects of such alternatives.

Housing Evaluations

HASE housing evaluations are similar to municipal housing code inspections in scope, standards, and methods. Because municipal authorities generally inspect only after receiving a complaint, uninspected substandard dwellings are common. Over half of those evaluated by HASE were failed for one or more defects. Most of the defects are health or safety violations that are inexpensively corrected by amateur labor.

Quality control tests show a very high level of consistency among independently conducted evaluations pursuant to HASE housing standards. However, it is clear both from internal evidence and cross-evaluations by Supply and Demand Experiment staffs that differently phrased standards with the same underlying intent can lead to substantial differences in failure rates.

Finally, we note that annual reevaluations fail about a fourth of recipients' dwellings. The defects are rarely ones that were noted and corrected earlier; instead, they are conditions that developed during the year since the preceding evaluation.

Supporting Services

Federal housing assistance programs have variously imposed upon the administering agency the duties of a landlord, rental agent, referee in landlord-tenant disputes, guarantor of tenant debts or landlord maintenance obligations, mortgage lender, or insurer against the normal risks of real property investment. The experimental housing allowance program was designed to test the effectiveness of a very limited intervention on the demand side of the housing market. Its only obligations to enrollees are to pay their allowances; it has no obligations to landlords, mortgage lenders, real estate brokers, repair contractors, or other market participants, and does not intervene in their dealings with clients.

The HAOs have provided only two kinds of service to their clients besides allowance payments: housing information and legal aid in housing discrimination cases. Very few enrollees have attended voluntary housing information sessions or asked for help with housing discrimination. About 80 percent of all enrollees nonetheless resolve their housing problems well enough to qualify for payments. We are currently studying the circumstances and problems of the other 20 percent; early results do not indicate that many of them would benefit from additional counseling or front-end financing of repairs.

References

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Paul Tebbets, *Maintaining Program Integrity: Certification, Verification, and Quality Control*, WN-9961-HUD, forthcoming.

Phyllis L. Ellickson and David E. Kanouse, *Public Perceptions of Housing Allowances: The First Two Years*, WN-9817-HUD, January 1978, Sec. VII (client perceptions of program administration).

SESSION IV, PAPER B

A UNIVERSAL HOUSING ALLOWANCE PROGRAM

PROSPECTUS

What did the experimental implementation of housing allowances in EHAP teach us about a national program? On the basis of EHAP can we choose a specific set of program parameters as the basis of a national program? Could we then produce reliable estimates of costs, participation, housing consumption responses, target-efficiency? Were the experiments a useful administrative rehearsal?

What are the specific problems in extrapolating EHAP results to a national program--duration of the experiment, general awareness of the availability of such a program, magnitudes of behavioral responses? To what kinds of variations in assumptions or errors are the overall estimates of a universal program particularly sensitive? These questions form the basis for a critique of the cost estimates of a national program. Are these cost estimates much better than estimates without the benefit of EHAP results?

How do costs of a housing allowance program compare with the costs of other housing policies? How do they compare with the costs of an unconstrained income transfer program?

How do the benefits of a housing allowance program for households compare with other housing policies? On issues of equity, both horizontal and vertical, how do housing allowances compare with other policies?

GUIDE TO HASE RESEARCH

The central purposes of EHAP was to assess the feasibility and desirability of a national housing allowance program as an alternative or supplement to existing federal programs of housing assistance; and, within that framework, to evaluate alternative program designs. Because of EHAP's division of labor, each experiment can contribute only part of the information needed to reach policy conclusions. The Urban Institute was chartered to integrate data from the Demand, Supply, and Administrative Agency experiments into an overall assessment of the housing allowance concept.

This guide to HASE research therefore indicates what kinds of information the Supply Experiment has contributed or will contribute to the general assessment. It is worth noting here that, although HASE was designed primarily to test the market effects of a fullscale program, the prospectus for this paper assumes (we judge, correctly) that the market effects are unimportant for that assessment.* It asks instead about program parameters, participant responses, costs, benefits, and equity.

PROGRAM PARAMETERS

Housing allowances are earmarked transfers of cash to low-income households which are intended to serve two purposes: to relieve "excessive" housing cost burdens, and to increase the recipients' housing consumption. They key elements of program design are:

- o The definition of excessive housing cost
- o The target for recipients' housing consumption
- o The method by which transfers are earmarked

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*See the guide to HASE research on market effects (Session III, Paper B).

Specification of these design elements implies general rules for eligibility and allowance entitlement. How faithfully those rules are followed depends further on the administrative procedures that enforce them.

The two experimental allowance programs conducted by HASE are intentionally identical as to design and administration, so we cannot offer direct evidence as to the merits of design alternatives. However, it is possible from the results of those programs to infer flaws in their design, and to speculate about the marginal effects of design changes. Below, we indicate what seem to us the most significant consequences of the design that was in fact implemented.

Targeting

The HASE allowance program is open to nearly all households whose adjusted gross incomes were less than four times the "standard cost of adequate housing" for the relevant size of household. HASE data show that about a fifth of all households in each of two contrasting housing markets fall into this category: about 28 percent of all renters and 16 percent of all homeowners. Nearly half of those eligible are elderly single persons or couples and a fifth are single parents. Clearly, eligibility for housing allowances overlaps considerably with eligibility for other federal transfers; but about half of the income received by eligibles is from earnings and only about 6 percent is from AFDC.

Housing expenses account for a large share of the budgets of eligible households, and their dwellings are often substandard. The median ratio of housing expense to adjusted gross income is .45 for eligible renter households in Brown County and .57 in St. Joseph County.* For

*The median gross income is about 25 percent greater than the adjusted gross income, which is used here primarily because the adjustments crudely normalize income with respect to household size. Based on gross income, the rent/income ratios cited for eligible renters would be .38 and .46; and for enrolled renters, .48 and .57. Homeowners' housing expenses are harder to measure, but a complete accounting indicates that eligible homeowners spend larger proportions of their incomes for housing than do renters.

renters who enrolled in the program, the figures are even higher: .58 and .80, respectively. More than half of those who enrolled were then living in substandard dwellings. Failure rates for renters and homeowners were similar.

Benefit Formula

Under the "housing gap" allowance formula, allowance entitlement varies inversely with income and positively with household size; it is linked to current local housing costs, but is independent of the participant's housing expenses. In 1978, the average annual entitlement for enrollees was $972 in Brown County and $864 in St. Joseph County. Those amounts add about a fourth to the typical enrollee's adjusted gross income ($4,100 in Brown County, $3,300 in St. Joseph County) and equal almost half of the typical annual housing expense. The program thus enables participants either to reduce their housing expense burdens substantially or to increase their housing consumption substantially, or to do some of each.

Earmarking

Allowance payments are earmarked only by the requirement that recipients must occupy dwellings that meet program standards for space, domestic facilities, and health and safety conditions. The standards are similar to those of national model housing codes. The constraint affects over half of all enrollees (those whose dwellings fail their initial evaluations) and about a fourth of all recipients (those whose dwellings fail annual evaluations). However, enrollees rarely must spend more than a small fraction of their allowances to remedy their housing defects. During the first year of their enrollments, about a third of all renters moved; and for those movers, the median increase in contract rent was 23 percent. Among nonmovers (two-thirds of the renters and nearly all of the homeowners), housing expenditures changed very little.*

*See guide to Session III, Paper A, Program Effects in Housing Consumption, for more detail.

Administration

The program is administered separately from other transfer and housing programs, conducting its own means tests and housing evaluations. In 1976 dollars, intake costs averaged $249 per new recipient; subsequent maintenance costs average $133 per recipient year. Amortizing intake costs over a three-year enrollment, the average annual administrative cost was $216, of which $70 was attributable to the enforcement of housing standards. Those expenses are associated with programs that served 3,000-4,000 current recipients. Relative to most other transfer programs, standards are more rigorously applied, records are more accurate, and clients are treated more considerately.

Participation

Only about a third of those who have inquired about enrolling were actually enrolled; the others dropped out or were screened out as ineligible. Many enrollments are brief, as enrollees lose their eligibility, move away from the site, or decide to drop out of the program. In equilibrium, about two-thirds of the eligible renters and one-third of the eligible owners are enrolled at any given time. About four-fifths of those who enroll eventually meet the program's housing standards and thus qualify for payments.

Not surprisingly, eligibles with the lowest incomes and the largest allowance entitlements are the most likely to enroll. Although some observers have speculated that enrollment decisions anticipate housing evaluation results, we have yet to find evidence that supports this view. Once a household is enrolled, evaluation results do affect its subsequent participation: Those in the worst housing and those with the smallest allowances are more likely than their opposites to drop out before qualifying for payments. Taking into account both the incidence of evaluation failure and enrollees' responses to failure, those most likely to qualify for payments are elderly homeowners with incomes under $4,000; those least likely to qualify are nonelderly renters with incomes over $4,000.

Program Variations, Participation, and Housing Consumption

Because the Supply Experiment does not include program variations, we can only speculate about their consequences by noting the different responses to a fixed program that characterize differently situated eligibles and enrollees. We judge that increasing allowances relative to income and local housing costs would cause participation to increase without much effect on participants' housing consumption. Increasing minimum housing standards for participants (say, by requiring them to live in good-as-new dwellings) would necessarily force participants to increase their housing consumption, but would cause participation to drop sharply.

The behavioral observation underlying these judgments is that enrollees find the cash transfer useful, but are not generally dissatisfied with their housing. They can be bribed to improve their dwellings, but most would decline the offer if the cost of required housing improvements approached the value of the allowance.

References

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Lawrence Helbers, *Measuring Homeowner Needs for Housing Assistance*, WN-9079-HUD, February 1978.

Lawrence W. Kozimor, *Eligibility and Enrollment in the Housing Allowance Programs: Brown and St. Joseph Counties through Year 2*, WN-9816-HUD, August 1978.

EXTRAPOLATING FROM EXPERIMENTAL FINDINGS

The preceding pages summarize early findings as to program outcomes in the two HASE sites. During the remainder of the experiment, we will be modeling the observed behavior of eligibles and enrollees to extract from it a variety of parameters that are more "portable" than the directly observed outcomes. Given the fixed program design, we can model only (a) how responses to that program vary with household characteristics and circumstances, and (b) how the responses of similar households differ as between the two sites. Given the richness of the household data and the sharp differences between the sites, we expect such analyses to be quite helpful for policy generalization.

Most critical discussion of the HASE experimental design has concerned the prospects for generalization about market effects, not participation or participant behavior. Critics of the experiment have argued that the two sites are "unrepresentative" as to market size, structure, and conditions; that no provision was made for "control" sites; and that no useful statistical inferences can be drawn from a sample of two markets. Whatever the merits of those arguments, they have less force in relation to the issues to be covered by this paper (participation, costs, housing consumption responses, targeting efficiency, equity). As concerns participant behavior, the HASE sites combine readily with the ten other EHAP sites to form a larger and more diverse sample of community contexts.

As a basis for policy generalization, the HASE data have at least one powerful advantage: The experimental allowance programs conducted in Brown and St. Joseph counties more nearly resemble permanent programs than is common in social experiments. The ten-year program life and the periodic revision of allowance schedules offers a reliable stream of benefits to those who contemplate enrolling or who, after enrolling, are faced with housing decisions. Open enrollment, combined with extensive local publicity, has drawn the assortment of clients and achieved the program size that could be expected from a permanent program. The countywide jurisdictions of the programs have

provided a suitable assortment of urban, suburban, and rural candidates for enrollment. The programs have been administered by quasi-permanent institutions that were locally staffed but received policy guidance and technical assistance from Washington. Research activities on site have been strictly separated from program administration.

One way to judge whether EHAP has improved the assessment of a national program's parameters is to compare current with preexperimental estimates of those parameters. In 1973, Rand used 1970 census data and participation rates supplied by HUD to estimate that about 14.5 million households would enroll in a permanent national program like the one to be experimentally implemented in HASE. In 1978, the Urban Institute used early EHAP and national data to estimate that only 7.2 million households would participate. The estimate of aggregate allowance payments dropped from $12.0 billion to $5.7 billion.* These changes reflect reestimation of the number of eligible households and their allowance entitlements; but most of the reduction in estimated program size and cost reflects a decrease in the assumed national participation rate from 70 to 40 percent of those eligible.**

Although a reliable participation model is manifestly important for reliable national estimates, detailed and accurate descriptions of the national population and housing stock are equally necessary; and those descriptions are not provided by experimental data. In any case, improving on preexperimental estimates of national program size or cost does not seem to us nearly so important as learning more about how a national program might work and what it would accomplish. In those respects, we think that EHAP (and the Supply Experiment in particular) has radically altered the extravagant expectations of both advocates and opponents of housing allowances.***

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*For purposes of comparison, both amounts are expressed in 1976 dollars.

**The Urban Institute's chosen participation rate is "extrapolated" from early HASE experience in Brown County and is described as an "upper bound." It seems to be a simple average of the renter and homeowner rates prevailing in 1977 (during the second program year), unconditioned by income or preenrollment housing quality. See Carlson and Heinberg, *How Housing Allowances Work*, pp. 44-47.

***See guides to Session III, Paper A (program effects on housing consumption) and Paper B (housing market effects of EHAP).

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COSTS AND BENEFITS OF HOUSING ALLOWANCES

Housing allowances are a halfway house between unrestricted cash transfers and transfers in kind. Although one can compare housing allowance costs with those of other transfer and housing programs, such comparisons are uninformative without some reference to the benefits achieved by each program. Unfortunately, benefit measurement is closer to metaphysics than to science.

Economists are most comfortable with the view that the beneficiaries of a transfer are best able to assess its value. If so, housing allowances are inefficient insofar as their earmarking provisions alter the consumption choices that would ensue from an unrestricted cash transfer. HASE has not tried to measure the transfer inefficiency, but it is manifestly small, given participants' small changes in housing expenditures.

The congressional interest in housing assistance programs has reflected a different premise: Program cost should be measured against

the resulting increase in housing consumption, which is considered more a public than a private benefit. However, the marginal public value of additional private consumption is inconsistently specified by housing legislation. One view is that the public interest is served by setting a minimum for housing consumption, above which public benefits are negligible. That view is reflected in municipal housing codes. On the other hand, some federal housing assistance programs subsidize consumption that is well above the code-defined minimum.

The Supply Experiment has certainly been informative as to program costs, both for allowances and administration. Its main contribution to measuring benefits has been to assure us that transfer efficiency and housing improvement are competitive rather than complementary policy objectives: To substantially alter their housing consumption, recipients of a cash transfer must be compelled to spend more for housing than they would freely choose.

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EQUITY ISSUES

By far the largest federal housing assistance program is public housing, restricted to low-income renters and limited in size by the number of dwellings under annual contributions contracts; nationally, it serves less than 15 percent of those who are nominally eligible.

Benefits to public housing tenants vary inversely with income and positively with household size. Other federal housing assistance programs are variously targeted on low- or middle-income renters or on specific neighborhoods. Homeowners are rarely assisted.

As a means-tested, general entitlement program, open to both renters and homeowners, housing allowances would score higher on horizontal equity than existing federal programs, individually or jointly. They would score below a general entitlement, negative income tax program for the reason that participation among eligibles would probably be higher in a program offering unrestricted cash transfers.*

Vertical equity can be variously defined. All we can say on this subject is that housing allowance transfers vary inversely with income, and there is no discontinuity in benefits at the income limit for eligibility. Not all federal housing assistance programs can make those claims.

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*However, HASE participation experience does not differ much from welfare participation.

Appendix

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