Fair Market Rents, Hedonics, and the Annual Housing Survey

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I. Introduction and Overview

Fair Market Rents (FMRs) are ceiling rents established under the Section 8 housing program. Each geographic area of the country has assigned to it two schedules of FMRs, one for Section 8 Existing housing, and a higher schedule for Section 8 New Construction and Substantial Rehabilitation. FMRs for the Existing Section 8 program vary according to the number of bedrooms in the housing unit and are set for each SMSA and non-metropolitan county. The FMRs for the New Construction Section 8 program, which are set for about 450 areas, vary by bedroom size and by type of structure. Thus, there are different FMRs depending on the variant of Section 8, the area of the country, the number of bedrooms in the unit, and type of structure for new construction. It is likely that budget stringency will limit new construction in the future, so the remainder of the paper will consider only the Section 8 Existing FMRs.

Tenants contribute 25 percent[1] of their adjusted household income toward rent, and the federal subsidy equals the difference between the rent received by the landlord and the tenant contribution. Since the FMR is the maximum rent, the FMR also sets the maximum subsidy for the unit, and therefore the level at which FMRs are set is an important determinant of program costs. This function of setting the maximum allowable rent need not be accomplished by the FMR, which could still set the maximum subsidy. This would require removal of the requirement that tenants devote a specified percentage of their adjusted income for rent. For example, if the FMR were $300, the actual rent of a unit is $320, the

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[1] Regulations are in process to increase this to 30 percent.

tenant contribution (25% of adjusted income) $100, then the Section 8 subsidy would be $200. The tenant could remain in the unit only by devoting more than 25 percent of adjusted income for rent. Most proposals for housing vouchers try to set the subsidy at a level that will enable the recipient to occupy acceptable housing, but allow the tenant to supplement the rent beyond 25 (or 30) percent of adjusted income.

The Section 8 program limits eligibility to households with incomes below 80 percent of area median incomes for households of similar size. Since tenants pay a certain percentage of adjusted income for rent, once adjusted income reaches the FMR divided by this percentage, the household is no longer eligible for the program. For example, if the FMR is $200, a family with an adjusted monthly income of $800 (=$200/.25) receives no subsidy, even if it is technically eligible because its income is below 80 percent[2] of area median income. (It should be noted that the increase in rents to 30 percent of income lowers eligibility standards. In the example above, a family is ineligible if its income reaches $667 (=$200/.30)).

FMRs are intended to represent the cost of renting a unit which meets the Section 8 quality standards. There is an effort to ensure an adequate number of units in each area, and since not all adequate units rent for identical amounts, the FMR is set to capture "enough" of the rental stock to allow the program to operate. The original FMRs were determined on the basis of the median rent for newly occupied two-bedroom units in each area (after discarding units of inadequate quality) as

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[2] Proposed new regulations would restrict occupancy for Section 8 Existing to 50 percent of area median.

determined by data from the 1970 Census. The medians were adjusted for various number of bedrooms, and these FMRs were further adjusted in response to local public comments. Since 1979, an improved system using AHS data available for 59 SMSAs and the four Census Regions has been used to set FMRs. This is done by calculating the median rent of two-bedroom units of recent movers that meet the Section 8 housing quality standards and updating these medians through use of the Consumer Price Index. The FMRs for bedroom sizes other than two bedrooms are set using a 15 percent differential. (That is, the three-bedroom FMR is 115 percent of the two-bedroom FMR.) For counties and SMSAs other than the 59 SMSAs included in the AHS, the FMRs are derived from the Regional AHS and 1970 Census data.

The remainder of this paper consists of five parts. The first discusses the history of the concept of FMRs, and shows how the concept has changed through time. The next section discusses issues surrounding FMRs from two points of view: the point of view of the program administrator, and the public policy point of view, which takes a more fundamental look at the equity and efficiency issues surrounding the concept. Next, the hedonic approach is explained, along with the statistical hedonic technique. The next section discusses the relation of the FMR issue to new proposals for housing vouchers. The paper concludes with a discussion of alternatives that might be considered at this time, including use of the hedonic approach, and the hedonic statistical technique.

II. History of Fair Market Rents

Rent comparables in local markets have long been used to assess the economic feasibility of proposed housing programs seeking FHA mortgage insurance. FMRs are similar in that they adjust to market prices, but differ

in that they set standards for actual payments.[3] FMRs were proposed for the Experimental Housing Allowance program as early as 1973 as a means of determining subsidy levels, but not maximum allowable rents. FMRs were seized upon as a method of controlling subsidy costs in the Section 236 housing program. By 1973 it had become apparent that Section 236 rents were often above the rents of comparable units in the unsubsidized rental market. Rents paid by tenants depended only on income, so there was no incentive for tenants to object to overly high rents, since the government was paying the bill. Developers had every incentive to charge as much as possible, justified by inflated costs, to the extent allowed by the program. Thus, in 1974, rents on Section 236 units were limited to rents in comparable unsubsidized units.

This concept was carried over at the same time to the Section 23 leased housing program with the first published FMRs in 1973. Later, by legislation, it was incorporated in the new Section 8 program established by the Housing and Community Development Act of 1974. It seems clear that the legislation intended that maximum rents (FMRs) be used to safeguard against excessively high rents in Section 8 units, and that these maximum rents be adjusted annually "to reflect changes in the fair market rentals established in the housing area for similar types and sizes of dwelling units." Also, FMRs were to define the quality of housing to be used in the Section 8 program. Paragraph c(1) refers to"...

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[3] The Section 8 program also has a "rent reasonableness test" which looks for comparable units.

the fair market rental...for existing or newly constructed rental dwelling units of various sizes and types in the market area suitable for occupancy by persons assisted under this section." The presumption is that "suitable" housing meant decent, safe, and sanitary housing, but was not meant to include luxurious units. In the following discussion, the term "modest" will refer to "suitable" housing that is decent, safe, sanitary, and non-luxurious. Before continuing, it should be noted that the Section 8 Existing program is administered by Public Housing Agencies (PHAs) as is the Low Rent Public Housing program. Certification of Section 8 eligibility applies only to the PHA's jurisdiction. At the outset of the Section 8 program, a conflict developed between the goal of providing modest housing and the viability of Section 8. Several jurisdictions had fairly high quality housing, but had few if any units renting for the FMRs originally proposed. Generally, FMRs were raised in response to such comments, but the implication may have been to provide units of a quality above the modest units described above. Currently, jurisdictions within FMR areas that have higher cost housing are permitted to use exception procedures. This has resulted in higher program costs in these areas but has avoided use of higher rents throughout the entire fair market rent area.

As mentioned previously, the initial cut at FMRs used median rents for recent movers as determined in the 1970 Census. Initially, HUD argued for a relatively high FMR (about 120 percent of median rents in

each area) while OMB thought that 50 percent of median rents would be adequate. The compromise was the use of median rents themselves. A key issue to be discussed below is whether the use of median rents is appropriate.

In summary, FMR's were originally seen as a method of controlling program costs by limiting allowable subsidies to which was added a role in defining the cost and maximum rental of adequate units. A later section of this paper will consider how well these intentions are being met, what unforeseen problems have arisen, and will consider potential alternatives to the present system.

III. Issues

This section will consider the basic issues concerning FMRs, from two diverse perspectives. First, the point of view of the program administrator will be presented, in that this perspective has largely determined the current form of the Section 8 program, and the current system and levels of FMRs. Next, a more fundamental policy discussion will examine FMRs in the light of public policy objectives.

A. Program Administration

From the view point of an administrator in a local housing authority, the primary issue regarding FMRs is whether they are high enough to allow for an adequate supply of rental units in the local jurisdiction. In terms of the levels, an overly high FMR will be less of a constraint than an FMR that is too low. With low FMRs, certified tenants may not be able to find units readily, and since the tenant is not allowed to supplement the FMR by renting a higher-priced unit, the program may not

function well. If the FMR is set a bit too high, there should be an ample supply of units available for rent in the program, and perhaps some incentive for Section 8 units to rent for less than the FMR, although this is not often the case. There is some incentive to object to excessively high FMRs, since the allocation of the PHA may not subsidize as many units, but the job of administering the program is probably easiest if FMRs are on the high side rather than on the low side.

HUD administrators share the same incentives, but with some alteration in priorities. HUD is more interested in seeing that FMRs don't get too high, since fewer units can be subsidized if this is the case. HUD is also interested in issuing FMRs that are reasonably acceptable to local areas, so as to maximize program participation. On balance, however, it is probably true that HUD places more emphasis on holding down FMRs than does the typical PHA.

Aside from the level of FMRs, there are other factors that are of importance in program administration. The method of calculation of FMRs should be straightforward enough that the FMRs are defensible both in the rulemaking procedure and in courts. Since they are based on imperfect data, localities should also have a clear understanding of the policies and procedures in order that they can develop appropriate information to recommend changes through the public comment process.

One question which might be asked is whether FMRs are needed at all. As stated above, the FMR itself creates an implicit level of eligibility for the Section 8 program, and one could turn this around, and set the

maximum housing payment equal to 30 percent of the income level at which a household is no longer eligible for the program. For example, the maximum payment corresponding to the FMR could be set at 24 percent of area median incomes, if those with incomes just below 80 percent were defined as eligible for the program. (24 percent is 30 percent percent of 80 percent.) This alternative may cause problems because income is not closely enough correlated with rent; e.g., in some areas use of income would result in overly generous subsidy payments, whereas in others the subsidy would be inadequate to obtain standard quality housing.

B. Public Policy

This section will describe a framework for evaluating FMRs in terms of equity and cost effectiveness, and then apply this framework to the present system of FMRs.

One principle for evaluating FMRs is that of horizontal equity, implicitly alluded to earlier. Ideally, FMRs should be set so that they represent the average market rent for modest housing in various areas of the country. Rents should not be higher in certain areas because the overall quality of housing is higher there, it should adjust only for differences in the cost of providing a modest unit. If this principle is adhered to, recipients will receive equal treatment in different areas, providing that there is an adequate supply of modest units available. Housing costs may vary, but the percentage of rent will not. This principle does not preclude adjustments for climate. The amount necessary

to rent a unit (including utilities) in International Falls may be higher than in other areas because of higher heating costs, but this expense does not lead to an overall higher quality of housing in that area than in others.

Housing programs have long been criticized on the grounds that only a fraction of eligibles are served. FMRs are related to this issue in that if they are set too high, this problem may be exacerbated, since fewer units can be subsidized with a given pool of funds. In the broadest sense, one may achieve horizontal equity only if the program is an entitlement program, so that all who wish to be served are served. With a limited budget this could be achieved by reducing the average subsidy (as the subsidy is reduced, a larger number of subsidies can be given, and demand for such subsidies falls). Another approach, which may appeal to one's notion of vertical equity (discussed below) is to lower the standards for income eligibility until all those who are still eligible, and want to participate, can do so. However, to assure that vertical equity is attained, those who are subsidized after these adjustments must not be housed in units which are of better quality than the housing of those just above the income cut-off. If the income cut-off is too low, this may mean that housing standards have become overly "modest" by societal standards.

It is generally recognized that FMRs adjust for more than costs of modest units across areas. Median area rents for newly occupied units are the basis for determining FMRs. Since the quality of units, even after

throwing out the inadequate units, varies considerably from area to area, FMRs based on median rents treats persons differently in different areas. One might argue that local standards of acceptability should prevail, but this is tenuous given the federal funding of the program, and the need for equity across housing markets.

The second principle, vertical equity, concerns the treatment of households of differing income levels. Currently, housing assistance programs require that a certain percentage of income be devoted to rent, so this conforms to some notion of vertical equity. Lower income households pay lower rents. A more serious problem know as a "notch effect" arises if program recipients "leapfrog" those whose incomes are somewhat higher in that the lower income households enjoy better housing. One way to avoid this problem is to adjust FMRs to the level of housing expenditures of those barely ineligible for subsidies. A study by Olsen and Rasmussen (1979) indicated that Section 8 Existing FMRs were roughly equal to housing expenditures of those whose incomes were 80 percent of area medians, the upper income cut off for program participation. If housing assistance programs are targeted to those of very low income (below 50 percent of area medians), this implies that the standards for Section 8 should be revised downward. Otherwise, those whose incomes are below 50 percent of median, and who receive subsidies, will occupy better housing than those whose incomes place them between 50 and 80 percent of area medians.

It should be noted that the increase in rents to 30 percent of income may have a somewhat similar effect, in that the implicit income eligibility for the program is being lowered, while the quality standards are not.

Programs to assist households by providing housing subsidies are largely motivated by two considerations, the desire to transfer income to those households, and the desire to improve the quality of the housing stock. Without both these considerations, subsidized housing programs are inherently cost-ineffective from the government's point of view, since vigorous code enforcement could achieve the goal of better housing (making many households worse off because of forced expenditures), while a cash transfer program is a more cost effective way of augmenting incomes of the poor. Regarding FMRs, we assume these goals both exist, and the question is whether current FMRs achieve them better than alternative formulations. Critics of the Section 8 program have claimed that FMRs are set at levels in excess of that required for a functioning program, and also claim that the FMR itself works to raise rents not only in Section 8 but in other segments of the rental housing market. If FMRs are set too high in the sense used above, program funds will not support as many units, particularly if the FMR tends to become the actual rent in the Section 8 program even when it exceeds equivalent market rentals. Generally, the more units in the program for a given amount of funds, the greater is the impact on upgrading and improving the housing stock, measured by the number of units meeting program standards. With overly high FMRs, tenants may or may not receive greater subsidies in the form

of a higher quality unit for the same tenant contribution. Spreading the subsidy among more tenants, however, almost certainly comes closer to achieving the social goal of augmented incomes. As long as FMRs are not set so low as to leave allocations unspent, the lower, the better. More units, and more households, can be served with a given allocation of funds. Recall from the earlier discussion that the discussion that the implicit limit on program participation is the FMR divided by the percentage of income devoted to rent. A lowered FMR thus implies a smaller pool of eligibles.

In an unpublished paper, Olsen and Reeder contend that FMRs are much higher than is necessary to operate the program, even given current quality standards. They argue that FMRs could be reduced to an extent that the program could become an entitlement program with current funding levels. While their point may be overstated, the current methodology for calculating FMRs has several upward biases. Recent movers tend to pay higher rents than non-movers, so that if the FMR is to reflect average rents, this tends to overstate the average.[4] While units of low quality were deleted in determining median rents, units of high quality were not. Ideally, rents of modest quality units should be determined with references to the characteristics which define such units. One might use the median of these units for the FMR. Adjustments in response to local comments are almost always upward, and as discussed above, there

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[4] The Urban Institute has recommended separate FMRs, for movers, given that only about half of all new Section 8 Existing tenants actually move. See Ozanne and Thibodeau (1981).

seem to be incentives to overstate FMRs that are required, particularly by LHAs interested primarily in assuring an adequate supply of units for the program.

The process of setting FMRs can never be free from criticism, and FMRs will always be imperfect. Nonetheless, there is a prima facie case that a somewhat lowered set of FMRs would still yield a viable program. The problem has been addressed in a HUD paper which advocated changing the method of calculating FMRs to the 40th percentile rather than the median (50th percentile.) If assistance is targeted toward those of very low income, the problem of a "notch effect" can be avoided only with somewhat lower quality standards and lower FMRs. A combination of reduced FMRs and the scheduled increase in tenant contributions for rent would both serve to restrict the eligible population, perhaps rendering further targeting moot.

IV. The Hedonic Approach

One idea for an alternative method for determining FMRs is the use of the hedonic approach. While this proposal has been characterized as a totally different approach compared to the present sysem, the hedonic approach (as opposed to the hedonic statistical technique) is nothing more than a process of adjusting FMRs on the basis of the attributes of the rental unit. The hedonic approach is used currently within each area, FMRs are adjusted in accordance with the number of bedrooms in the unit and low quality units are excluded from the calculation. What is really being proposed is an expansion of this approach to include more variables. For example, the number of rooms (net of bedrooms) might be used to screen out units that are above "modest" quality. Careful consideration should be given to the selection of the variables, however,

to assure that current sources of data will yield an adequate sample to make these determinations.

All the hedonic approach suggests is that there can and should be some expansion of the number of factors used in this adjustment process. One method of developing this expanded list of factors is through the statistical hedonic technique. Put simply, this technique measures the effects on market rents of various quality characteristics. It answers questions such as the dollar impact of the existence of an additional bathroom in a unit, in a particular housing market. This technique is finding increased usage in many areas of the country for the purpose of assessing property values. Instead of relying on "comparables," of which very few may exist for a given property, the hedonic technique provides an estimate of market value based on the individual characteristics of the unit. The average impact of each characteristic on value and the sum of these impacts can be determined more precisely than the average value of a small sample of comparables. In fact, the accuracy of the method can be assessed using standard statistical measures. Rental values can be estimated in exactly the same manner, and the technique can generate estimated rents for any combination of measurable characteristics desired. Low quality units can be excluded from the calculations, as can luxurious units. Adjustments for various numbers of bedrooms can be accomplished on the basis of the conditions in each markets rather than using a national 15 percent adjustment factor. The method is limited by the underlying data, of course. Square footage and intra-city location are important

determinants of rent, but surveys such as the AHS have no such information available. Were the information available, the hedonic estimates would be improved.

The Urban Institute Index, based on the Annual Housing Survey, explains differences in rents across areas more adequately than any other existing measure, but there may be reasons why some other "hedonic" might be preferable. For one thing, as the number of adjustment factors increases, the adjustment process becomes more esoteric, which may not be politically or administratively desirable. A simpler measure which attempts to address the problem of defining a modest quality unit, and measuring the cost across areas is possible using the Annual Housing Survey. It is probably the case that a significant improvement could be made in the process of determining FMRs using the Urban Institute index, but this is not necessarily the only option. Broadly, the issue is whether the number of factors should be increased, in order to better approximate the concept of the rental cost of modest housing. The more it is desired that this approximation be substantially achieved in disparate subareas in order to effect equity across markets and across subgroups, the greater is the need for using more detailed and broadly based housing inventory data.

The statistical hedonic technique has been used by many researchers to analyze and estimate housing costs as well as in to assess property. The appendix to this paper shows the results of two such efforts, one (Urban Institute) which parallels the current method of setting FMRs, another (Yezer) which illustrates how FMRs might be calculated for areas outside the 59 AHS SMSAs. The Urban Institute Study indicates that FMRs are

perhaps one-third higher than the rents for modest units as predicted by the hedonic technique, due to the quality of units used to determine FMRs, the use of recent movers, and discretionary FMR adjustments.

The hedonic statistical technique, of which the Urban Institute and Yezer indexes are examples, relies on multiple regressions which explain variations in rent on the basis of the characteristics of the unit. Prior to 1973, the scope for such an index on a national scale was limited, but the Annual Housing Survey (AHS) provides a set of data which allows for the use of the technique. The Urban Institute index has been shown to be quite successful in explaining variations in rents across SMSAs, although the index applies to only 59 SMSAs. Cutbacks in the AHS, in particular reductions in sample sizes, make the procedure less tenable, but do not necessarily rule out its use. For one thing, simpler hedonic regressions, with fewer independent variables, could still be employed in order to estimate the rents of comparable units across areas. Alternatively, the National AHS could be used to predict rents of modest units according to region and size of city, location in an SMSA or other possible breakdowns, as in the Yezer study. This method would not be as valid statistically as the Urban Institute's results, which were based on separate regressions in each SMSA, but still might prove to be superior to the present method of calculating FMRs. Given the uncertainty of

funding for the AHS, the efficacy of this statistical hedonic approach is somewhat in question, but on the other hand the value of the AHS in determining FMRs could well exceed the entire cost of the survey.[5]

If it is decided to continue the current practice of allowing for an adequate number of units in order for the Section 8 Existing program to operate in every locality, there may be a potential for improving the accuracy of the required FMRs. A study of program experience ought to yield a relationship between the number of units of acceptable quality that are required relative to the number of subsidized units that can be funded. This may be a constant multiple of the number of potential subsidized units, or some more complicated relationship. It is highly unlikely that the same percentile of units would be required in every area. Instead, some areas may generate "enough" units using the tenth percentile of all acceptable rental units, while other areas may require a FMR which encompasses the median. This still ignores the possibility of upgrading units which need only minor repairs in order to meet program standards, but an evaluation of program experience might shed light on this as well.

V. Fair Market Rents and Voucher Programs

The President's Commission on Housing has recommended that a form of housing vouchers, Consumer Oriented Housing Assistance Grants, be established,

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[5]In 1981 computations of the Annual Adjustments Factor is estimated to save up to $15 million by more accurate adjustments of rents in the upper end of the relevant distribution, based on AHS data. This saving exceeds the cost of the entire survey.

and that this system ultimately replace existing forms of housing assistance. As discussed previously, there must be some form of limit on program payments as well as limits on eligibility for the program. Under the Section 8 program, the subsidy is limited by the FMR, since it is the maximum federal subsidy. Most housing voucher proposals include a similar mechanism, not for limiting rents that tenants may pay, but rather to limit federal subsidies. Whereas Section 8 tenants are precluded from renting units for more than the FMR, under a voucher system tenants would be allowed to supplement their housing subsidy beyond the 25 or 30 percent of income that the program envisages that they need to pay for adequate housing. Removal of the rent cap in itself may allow FMRs to be somewhat lower than otherwise. If the FMR is enough to rent adequate housing in lower income areas, the ability of potential tenants to supplement their payments may encourage some dispersal into higher income areas. Since the housing market considers this housing "better", it attaches higher rents to it, and it is not unreasonable to require those who choose to receive better housing to pay for it, and to establish FMRs on the basis of housing available in lower income areas.

Section 8 Existing housing is fairly close to being a voucher program now, the primary required modifications being the removal of the rent cap and revisions to the process of certifying units for the program. While the President's Housing Commission has not addressed the issue yet, it is possible that Section 8 Existing, with modification, may form the basis for a more detailed housing voucher program. In any event, the issues of FMRs are not likely to go away in the foreseeable future. Improvements made now may carry over into future programs, or new versions of present programs.

VI. Alternatives

The preceding discussion suggests the follolwing classes of alternatives regarding the issue of FMRs.

1. Continue the present technique for calculation of FMRs. This option has the advantage that it is in place, and easier to justify than a new system. Within this system, the Department could take a harder line regarding requests for FMR increases, reducing program costs. Reducing the initial FMRs to the 40th percentile of area rents would increase the pressure for discretionary adjustments in FMRs, but along with the "hard line" approach, would reduce program costs and more closely approximate the cost of modest housing. Another adjustment that might be accomplished is the use of units in addition to those occupied by recent movers, perhaps using the current FMRs for new movers only, another FMR for non-movers, better reflecting market realities.

2. Modify the present technique with the hedonic technique. The Urban Institute study found that rent differentials for units with different numbers of bedrooms varied widely across SMSAs. Beginning with the current estimate of median 2-bedroom rents, adjustments could be made on the basis of of actual rent differences in each area as measured by the hedonic technique, rather than an across-the-board 15 percent per bedroom adjustment. The hedonic technique could also be used to adjust for recent movers, as suggested above, and could be used to determine area-specific adjustments for tenant-paid utilities. Essentially, this type of alternative allows for greater precision in adjustment of FMRs without fundamentally altering the basic procedure.

3. Modify the present technique to account for "luxury" items.

Current practice excludes units with measurable defects, but makes no attempt to exclude units with "luxury" features. For example, Low Rent Public Housing units rarely consist of more rooms than a bedroom for every two persons, a kitchen, bath, a living room, and perhaps a dining room. Using present techniques, units with more than one bath, with additional rooms, and so forth could be excluded as providing more than modest housing. Other candidates for exclusion might be air conditioned units in cooler climates or single-family detached rental units in areas with numerous multi-family structures. The use of such criteria is limited by the data used, but exclusion of "luxury" units should be relatively easy to explain politically. As with other proposals which lower the initial FMR schedule, there will be increased pressure for discretionary adjustments in FMRs as discussed under alternative 1. This alternative essentially extends the currently used "hedonic" approach by including more variables.

4. Replace the present technique with FMRs based on the statistical hedonic technique. As a purely technical matter, the "state-of-the-art" method for estimating rents for typical units of a given quality standards is the hedonic technique. Hedonic measures out-perform other methods, and are the best way of using existing information to estimate market rents of a given quality. While limited by the underlying data, so are other techniques. The question is largely one of program administration rather than technical accuracy, however. One might argue that FMRs depend more on the discretionary adjustments than on the initially proposed FMRs. If so, precision in the initial estimates may be relatively unimportant.

Clearly, the implementation of lowered FMRs will generate local political opposition regardless of the method of generating these FMRS. The use of hedonics to calculate FMRs is feasible and is in fact technically superior to alternative methods. Other modifications might approximate the schedule of FMRs generated by means of hedonics, and might prove more politically palatable. Still, the ultimate test of the accuracy of those methods is the hedonic technique.

Appendix

I. An approach developed by Anthony Yezer of George Washington University has been used to analiyze the cost of physically adequate units in great detail with AHS data. It has provided estimates for 1975 and 1977 of the monthly cost of renting and of owning a unit which meets criteria for physical adequacy somewhat below those required in the Section 8 program and is large enough to provide one room per household member. The cost estimates include shelter and utilities (electricity, gas, oil, and water, but not furniture rental, trash collection, or parking).

ESTIMATED MONTHLY COST OF ADEQUATE HOUSING FOR A HOUSEHOLD OF 4, BY LOCATION AND TENURE IN 1977 AND PERCENT CHANGE 1975-77

Region	City Size (Degree of Urbanization)	Renter Cost	% Change 1975-77	Owner Cost	% Change 1975-77
Northeast	Rural, non-SMSA	$136.48	18.1%	$168.84	7.4%
	Non-metro, small urban	$146.72	19.8%	$176.92	12.2%
	SMSA under 250,000	$156.77	21.4%	$182.33	11.2%
	SMSA of 250,000	$156.41	20.5%	$181.50	11.3%
	SMSA of 500,000	$165.24	23.5%	$185.10	6.4%
	SMSA of 1,000,000	$156.64	17.6%	$176.79	4.9%
	SMSA of 1,500,000	$177.50	19.6%	$222.26	13.1%
	SMSA of 2,000,000	$165.93	22.0%	$204.70	18.8%
	SMSA of 3,000,000	$184.80	17.6%	$213.14	6.6%
	SMSA of 11,000,000	$170.79	17.5%	$286.70	27.0%
North Central	Rural, non-SMSA	$116.79	19.7%	$138.98	13.7%
	Non-metro, small urban	$125.55	21.7%	$145.63	16.1%
	SMSA of 250,000	$133.84	22.4%	$149.40	15.4%
	SMSA of 3,000,000	$158.13	18.8%	$175.44	10.6%
South	Rural, non-SMSA	$102.76	21.6%	$124.79	10.8%
	Non-metro, small urban	$110.47	23.7%	$130.76	15.5%
	SMSA of 250,000	$117.76	24.3%	$134.15	14.7%
	SMSA of 3,000,000	$139.13	21.4%	$157.53	10.0%
West	Rural, non-SMSA	$131.54	23.9%	$166.29	19.0%
	Non-metro, small urban	$141.42	26.2%	$174.26	23.5%
	SMSA of 250,000	$150.73	26.8%	$178.77	23.0%
	SMSA of 3,000,000	$178.10	23.4%	$209.93	18.2%

Table 3

FMRs, Median Rents and Hedonic Predictions of Rents in Dollars: 1974 SMSAs

	FMR	Median Rent	Predicted Rent	Prediction Interval Lower	Upper
Albany-Schenectady-Troy, New York	184.05	184.00	187.66	(165.19	213.19)
Anaheim-Santa Ana-Garden Grove, California	223.15	203.00	182.23	(169.57	195.84)
Boston, Massachusetts	248.04	230.00	201.17	(190.89	211.99)
Dallas, Texas	169.98	174.00	135.56	(122.29	150.26)
Detroit, Michigan	202.06	202.00	165.18	(157.01	176.44)
Fort Worth, Texas	169.98	160.00	115.69	(98.87	135.36)
Los Angeles-Long Beach, California	212.50	193.00	165.53	(157.95	173.48)
Memphis, Tennessee-Arkansas	161.04	161.00	94.31	(81.63	108.97)
[illegible]lis-St. Paul, Minnesota	206.94	207.00	155.50	(143.26	168.79)
[illegible], New Jersey	234.76	210.00	242.18	(221.25	265.10)
[illegible], Florida	204.98	205.00	207.93	(181.40	238.35)
[illegible]x, Arizona	196.95	197.00	165.33	(143.96	189.87)
[illegible]gh, Pennsylvania	178.00	178.00	162.65	(140.70	188.02)
[illegible] Lake City, Utah	165.98	166.00	126.43	(113.68	140.61)
[illegible]kane, Washington	181.69	172.00	144.08	(129.69	160.07)
[illegible]coma, Washington	173.37	165.00	149.72	(137.63	162.87)
Washington, D.C.-Maryland-Virginia	220.06	220.00	198.09	(191.14	205.30)
Wichita, Kansas	163.37	145.00	125.81	(112.95	140.13)

NOTES: FMR - Implemented FMRs for two-bedroom units as of March 29, 1979, deflated to the midpoint of the AHS survey year in which the data were collected. The deflation factors, based on CPI rent and fuel and utilities components, are reported in the Federal Register for June 22, 1979, pp 36701-2.

Median Rent - Median rent of two-bedroom recently occupied standard quality units in the AHS SMSA survey. Units are accepted as meeting the quality standard if they have none of 28 deficiencies identified in the AHS.

Predicted Rent - Expected rent predicted from hedonic equation for HEDFMR1 identified in Table 2.

Prediction Interval - The inverals are derived from 90 percent confidence intervals for the logarithm of rent. Confidence levels for rent are approximate 90 percent confidence intervals.

II. This section shows rents as predicted by the Urban Institute for comparison with FMRs.

Table 3 (continued)

FMRs, Median Rents and Hedonic Predictions of Rents in Dollars: 1975 SMSAs

	FMR	Median Rent	Predicted Rent	Prediction Interval Lower	Upper
Atlanta, Georgia	225.42	205.00	138.65	(131.14	146.58)
Chicago, Illinois	260.10	223.00	186.27	(180.15	192.60)
Cincinnati, Ohio-Kentucky-Indiana	184.05	184.00	138.25	(127.77	149.58)
Colorado Springs, Colorado	167.03	167.00	137.98	(129.80	146.68)
Columbus, Ohio	186.03	186.00	126.17	(115.63	137.67)
Hartford, Connecticut	237.91	234.00	197.35	(183.81	211.89)
Kansas City, Missouri-Kansas	185.98	186.00	149.80	(137.18	163.59)
Madison, Wisconsin	198.93	199.00	160.15	(149.67	171.37)
Miami, Florida	274.92	275.00	177.94	(165.64	191.15)
Milwaukee, Wisconsin	218.80	199.00	167.41	(154.71	181.15)
New Orleans, Louisiana	185.02	185.00	114.08	(98.72	131.85)
Newport News-Hampton, Virginia	195.05	195.00	154.48	(142.15	167.89)
Paterson-Clifton-Passaic, New Jersey	260.59	259.00	267.95	(245.33	292.66)
Philadelphia, Pennsylvania-New Jersey	235.02	235.00	176.10	(167.63	184.99)
Portland, Oregon-Washington	181.02	181.00	162.29	(149.90	175.69)
Rochester, New York	224.15	225.00	198.07	(185.22	211.81)
San Antonio, Texas	200.00	200.00	136.61	(119.77	155.83)
San Bernardino-Riverside-Ontario, California	208.70	174.00	140.38	(125.25	157.33)
San Diego, California	225.31	196.00	135.89	(123.93	149.02)
San Francisco-Oakland, California	227.94	228.00	178.12	(170.53	186.05)
Springfield-Chicopee-Holyoke, Massachusetts-Connecticut	209.03	205.00	203.84	(187.08	222.10)

NOTES: FMR - Implemented FMRs for two-bedroom units as of March 29, 1979, deflated to the midpoint of the AHS survey year in which the data were collected. The deflation factors, based on CPI rent and fuel and utilities components, are reported in the Federal Register for June 22, 1979, pp 36701-2.

Median Rent - Median rent of two-bedroom recently occupied standard quality units in the AHS SMSA survey. Units are accepted as meeting the quality standard if they have none of 28 deficiencies identified in the AHS.

Predicted Rent - Expected rent predicted from hedonic equation for HEDFMR1 identified in Table 2.

Prediction Interval - The inverals are derived from 90 percent confidence intervals for the logarithm of rent. Confidence levels for rent are approximate 90 percent confidence intervals.

Table 3 (continued)

FMRs, Median Rents and Hedonic Predictions of Rents in Dollars: 1976 SMSAs

	FMR	Median Rent	Predicted Rent	Prediction Interval Lower	Upper
Allentown-Bethlehem-Easton, Pennsylvania-New Jersey	225.59	213.00	172.11	(152.15	194.69)
Baltimore, Maryland	220.94	221.00	181.99	(167.77	197.43)
Birmingham, Alabama	187.00	187.00	79.42	(68.66	91.85)
Buffalo, New York	207.41	195.00	211.90	(192.85	232.83)
Cleveland, Ohio	196.93	197.00	158.12	(146.41	170.76)
Denver, Colorado	234.28	206.00	166.71	(155.08	179.21)
Grand Rapids, Michigan	178.97	179.00	177.82	(161.88	195.33)
Houston, Texas	224.92	225.00	207.72	(196.42	219.66)
Indianapolis, Indiana	195.98	196.00	155.13	(144.60	166.42)
Las Vegas, Nevada	239.97	240.00	181.05	(168.38	194.38)
[illegible]ville, Kentucky-Indiana	174.98	175.00	152.56	(137.85	168.83)
[illegible] York, New York	294.82	260.00	222.05	(211.63	232.97)
[illegible]homa City, Oklahoma	179.95	180.00	147.60	(133.48	163.21)
[illegible], Nebraska-Iowa	201.93	202.00	152.55	(141.63	164.31)
[illegible]ence-Pawtucket-Warwick, Rhode Island-Massachusetts	218.86	197.00	211.29	(191.44	233.19)
[illegible]gh, North Carolina	196.99	197.00	180.36	(166.04	195.91)
[illegible]cramento, California	200.00	200.00	152.33	(137.82	168.37)
St. Louis, Missouri-Illinois	195.01	195.00	162.58	(152.75	173.04)
Seattle-Everett, Washington	215.01	215.00	177.91	(169.62	186.60)

NOTES: FMR - Implemented FMRs for two-bedroom units as of March 29, 1979, deflated to the midpoint of the AHS survey year in which the data were collected. The deflation factors, based on CPI rent and fuel and utilities components, are reported in the Federal Register for June 22, 1979, pp 36701-2.

Median Rent - Median rent of two-bedroom recently occupied standard quality units in the AHS SMSA survey. Units are accepted as meeting the quality standard if they have none of 28 deficiencies identified in the AHS.

Predicted Rent - Expected rent predicted from hedonic equation for HEDFMR1 identified in Table 2.

Prediction Interval - The inverals are derived from 90 percent confidence intervals for the logarithm of rent. Confidence levels for rent are approximate 90 percent confidence intervals.