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Revised Methods of Providing Federal Funds for Public Housing Agencies

Final Report

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Prepared for:
Office of Policy Development and Research
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FOREWORD

The Brooke Amendment, passed in 1969, limited the amount of rent paid by public housing residents to a set percentage of income. This limitation on rents as a source of operating funds for public housing authorities (PHAs) has led Congress and the Department to explore different ways of providing the subsidies necessary to operate, maintain, and modernize public housing. Research in the 1970s led to the development of the present system of providing operating subsidies for PHAs. This new report considers how alternatives to the current system of subsidies would affect the distribution of funds among PHAs.

This report, prepared by Abt Associates, responds to Section 525 of the National Affordable Housing Act of 1990, which requires that HUD assess alternative methods of providing PHAs with sufficient funds to operate, maintain, and modernize public housing. Congress specifically asked the Secretary to review and update a 1982 HUD study titled, *Alternative Operating Subsidy Systems for the Public Housing Program* (Washington DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research, May 1982).

HUD now provides public housing subsidies under two major, formula-based programs: The Performance Funding System (PFS) and the Comprehensive Grant Program (CGP). PFS, which has been in operation since 1976, provides operating subsidies; and CGP, which is being phased in to replace the Comprehensive Improvement Assistance Program (CIAP), funds modernization. The PFS program is subject to incremental annual adjustments based on predicted changes in an individual PHA's operating conditions, inflation, and income, primarily from rents. The CGP distributes funds according to the estimated backlog and accrual needs for public housing modernization.

The report examines three sets of alternative funding systems: operating cost subsidy systems, capital cost subsidy systems, and combined systems that cover both types of costs. It compares the alternatives with the PFS and CGP systems both in the overall level of funding that would be generated and in the way funds would be distributed among different types of PHAs. The study also considers how different systems would affect important aspects of public housing management, such as the time required to eliminate the current backlog of modernization needs.

Among the operating cost alternatives studied are a system that incorporates a formal review process with the PFS, and a system based on the market cost of providing comparable housing. With regard to capital subsidies, the report compares CGP with CIAP. The study also examines a combined system based on Fair Market Rents (FMRs).

This report presents useful information on the strengths and weaknesses of different approaches for distributing a given supply of funds for public housing, and on how those distributions compare with the current system. It shows that some alternatives for providing public housing subsidies could result in substantial redistribution of assistance to PHAs in different parts of the country and of different sizes. But the study's usefulness is limited by the lack of good information on what it really costs to operate and maintain public housing.

To fill this information gap and thereby make the results of this report more meaningful, HUD has already begun a multi-year study of PHA functions and costs, which could form the basis for a new system for providing operating subsidies to PHAs that is not necessarily tied to the current PFS system. This study will define required services, desired service levels, and commensurate costs, and will be based on analysis of both PHA and private sector operations and costs. When the new study is completed, HUD will be in a better position to draw informed conclusions regarding the necessary level and distribution of funding to properly subsidize the operation of public housing developments.

Michael A. Stegman
Assistant Secretary for
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EXECUTIVE SUMMARY

Under the mandate of Section 524 of the National Affordable Housing Act of 1990, the Department of Housing and Urban Development has been asked by Congress to "[assess] one or more revised methods of providing sufficient Federal funds to public housing agencies (PHAs) for the operation, maintenance, and modernization of public housing." HUD requested Abt Associates, under Task Order Number 001 of the Housing Assistance Indefinite Quantity Contract (H-5889), to conduct a study addressing the significant issues that still exist concerning how federal public housing is financed, including comparison with the Section 8 program, and overall update of the 1982 study ***Alternative Operating Subsidy Systems for the Public Housing Program*** (Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research, May 1982). Prepared pursuant to a requirement in the Housing and Community Development Act of 1981, the 1982 report reviewed the operating subsidy system for public housing that had evolved subsequent to the Brooke Amendments, set it in historical context, examined some of the criticisms that had been leveled at it, and evaluated the system against a number of alternatives.

The decade that has passed since the 1982 Report has seen several changes of great significance in the funding and operation of federal public housing: changes in resident income definition and percentage contribution to rent, implementation of the federal preferences in tenant selection (resulting in increased admissions of special needs and homeless persons), revisions to a number of aspects of the Performance Funding System (PFS), formula-funding of modernization for FY 1992, and limitation of operating subsidy payment for vacant units over 3 percent of a public housing agency's stock. PHAs have had to cover the administrative and operating costs of additional demands that have arisen during this period, such as comprehensive planning requirements for modernization, increased record-keeping and reporting requirements, additional security and crime prevention, and implementation of new programs with little or no added administrative funding, in particular the Family Self-Sufficiency Program and resident management and homeownership initiatives.

However, even with these increased demands, total operating expenditures net of utility costs (which are passed through to HUD) have been constrained by the operating funding system so that they increased by a total of only 6 percent in constant dollars over a 9-year period (1992 dollars are computed using implicit price deflators for gross domestic product compiled by the Department of Commerce). Rental income from tenants has risen more slowly than operating expenditures, reflecting lower tenant incomes as well as greater vacancies; the proportion of operating costs (net of utilities) covered by tenants has declined from 97 percent to 79 percent over the decade, even though tenants now pay a greater share of their incomes for rent. This has required increases in federal operating subsidies that are larger than the increases in operating expenditures. In addressing the funding of public housing operations and physical needs, this study thus takes place in a context in which some PHAs argue that the system for funding operations does not reflect the true cost of operations and some critics argue that mechanisms need to be found to subject PHAs to private market discipline on controlling operating costs.

Today there is still interest in finding alternative funding mechanisms that may be more equitable, encourage better public housing management, and constrain the growth of the federal subsidy required. However, the focus of these concerns has broadened considerably. The realm of capital needs for the maintenance, repair, replacement, and improvement of public housing's physical facilities was addressed only in a limited fashion in the 1982 Report. Since that time, the physical preservation of the public housing stock has become a matter of great policy concern. Studies conducted for HUD on the modernization needs of public housing have made it clear that federal funding for modernization has addressed only a fraction of the need for capital repairs and replacements. (See *Study of the Modernization Needs of the Public and Indian Housing Stock - National, Regional and Field Office Estimates: Backlog of Modernization Needs*, Abt Associates, 1988; *Future Accrual of Capital Repairs and Replacement Needs of Public Housing*, ICF, 1989.) Similarly, the quality of PHA management is recognized as crucially important and is now being addressed formally through the Public Housing Management Assessment Program (PHMAP).

In FY 1992, the funding systems being examined in this Report represented a total of $5 billion in federal outlays. One of the current funding systems, the PFS, is old and familiar; but the other system, the Comprehensive Grant Program, is new. This study offers the first examination of the joint distribution of PFS and CGP; it also compares this "combined system" to combined operating and capital funding systems based on the Section 8 Program's Fair

Market Rents. In doing so, it re-examines the question of appropriate standards for assessing how much the maintenance, modernization, and operation of the public housing program should cost. A limited comparison between public housing operating costs and those of HUD-assisted private housing provides further information to address this question.

ASSESSMENT OF REVISED FUNDING SYSTEMS FOR PUBLIC HOUSING

Three sets of public housing funding systems have been examined in this study: operating cost subsidy systems, capital cost subsidy systems, and "combined" systems that cover both operating and capital expenditures. In each set, one system is designated the "base case," and other systems are compared to it. The systems are of two basic types, depending upon whether they are built from data about PHA operations and the public housing stock, or whether they seek an external standard for funding public housing. Both analyses involving external standards — comparison with operating costs in private, multifamily housing and Section 8 Fair Market Rents — reference a portion of the private housing market thought to serve a similar resident population. This study addresses both the magnitude of federal subsidies and their distribution across PHAs.

In addition, the study provides an extensive examination of private market operating cost data and develops a limited simulation based on them. The study also makes a systematic comparison of the Comprehensive Grant Program with the Comprehensive Improvements Assistance Program (CIAP) and Major Reconstruction of Obsolete Projects (MROP) funding that preceded CGP implementation.

OPERATING COST SUBSIDY SYSTEMS

PFS and the Formal Review Process

Under the Performance Funding System, subsidies are allocated to PHAs on the basis of a formula that relates legitimate or acceptable operating expenditures (based on 1975 costs identified in a group of housing agencies thought to be "well-managed") to each PHA's characteristics, including basic configuration of its units, regional cost variations, and local inflation rates. The subsidy represents the difference between the formula-determined allowable expense levels (AELs) plus allowable utilities expense levels (AUELs), plus audit costs, and rental income.

- In 1992, these allowable expense levels ranged from $358 per unit per month (PUM) for extra-large housing agencies in the Northeast to $140 PUM for very small PHAs in the Midwest.

- Subsidy amounts varied from $250 PUM for extra-large PHAs in the Midwest to $63 PUM for very small agencies in the Midwest.

- In 1992, the operating subsidy system cost the federal government $2.14 billion.

Critics have argued that the AELs determined by the original PFS formula shortchanged some housing agencies from the beginning, and that an appeals process should be designed and implemented to correct those inequities. In response to Congressional mandate, HUD is currently implementing a "Formal Review Process." It is designed to identify PHAs whose AELs are 15 percent or more below a revised formula funding amount. The revised formula uses five indicators to proxy local market and operating conditions.

Our simulation of the Formal Review Process shows that, while it will have a significant impact on individual PHAs, its overall financial impacts will be relatively small:

- The increased AELs will cost approximately $30.7 million, representing a 1.4 percent increase in PFS subsidy eligibility;

- About one quarter of all PHAs will receive an increase in operating subsidy;

- Small PHAs will receive 41 percent of the benefit;

- Very small PHAs will receive the greatest increases; extra-large agencies will receive the smallest increases;

- Benefits are based on low previous AELs rather than differences attributable to the formal review equation (with its factors representing difficult urban environments and high-cost areas).

Regarding non-financial impacts of the review process, it will be relatively simple to implement and will not require extensive staff time. It is not costly, because of the 15 percent constraint; and it is low risk, as all adjustments are upward. However, Formal Review is still not a true appeals system, because it is not tied to "real" operating costs and does not address specific circumstances putting cost pressures on a PHA. An appeals mechanism that did address specific circumstances would be very staff-intensive for HUD to administer, and it would be virtually impossible to equitably evaluate the merits of PHAs' individual circumstances. The budget effects would be difficult to project, and the necessary data to establish operating cost standards outside the PFS are not currently available.

An Operating Cost System Based on Private Market Costs

A private market model for determining public housing operating costs would set benchmark costs based on private market data and would provide PHAs with the difference between the benchmark cost amounts and PHA revenues. The system considered would apply only to operating funding; modernization would be handled separately. A method of adjusting the cost standards for inflation would have to be developed.

There are conceptual issues about the appropriateness of comparing public and private market operating costs:

- PHAs have more administrative requirements but have an almost-guaranteed market for their units;
- Real estate taxes are a substantial percentage of private market operating costs, while PHAs generally make a relatively small payment in lieu of taxes.

Developing a valid private market model for public housing costs would also depend on the availability of reliable private market cost data which could be used as a comparison case for public housing. Currently available cost data for both public and private housing have serious limitations:

- Private market data are collected *on an on-going basis* only for a self-selected sample of properties (voluntary respondents to the Institute of Real Estate Management's annual survey). These IREM data are available only in published form, and there is very little geographical detail. (Another survey by the National Apartment Association covers many fewer geographical areas, buildings, and cost categories.)
- A second source of private market data was used for this study: the data base developed for HUD by Abt Associates on a national, representative sample of buildings in the HUD-insured multifamily housing stock. The data base includes 1989 cost data as well as information on property physical condition, responses to an owner/manager survey, and a market assessment. This is not an ongoing source of private market cost information.

- The location and condition of the housing stock, neighborhood characteristics, and tenancy may play a significant role in costs, yet there are limited data available on these characteristics for public housing or for the IREM stock. Also, PHA cost data are only available at the PHA level, not at the development level. It is therefore impossible to compare costs for similar building types.

Because of these conceptual problems and data limitations, it is not possible to develop a full-scale private market cost *model,* and only cautious comparisons can be made between public and private sector operating costs based on the currently available data. After adjustments to make the data more comparable (such as excluding utility costs and real estate taxes), it was observed that:

- There is substantial consistency in the levels of costs derived from the IREM published data and the HUD-insured multifamily data set, as well as broad similarities in patterns of costs by property type and part of the country.

- Overall, median public housing costs and AEL levels are slightly higher than the costs reported for the HUD-insured multifamily stock. The national median AEL is $186, while medians by building type from the multifamily study range from $152 for walk-up buildings to $185 for high-rise buildings.

- A model adjusting for region and family/elderly mix, restricted to central city locations, shows that public housing operating costs are $20 to $60 per unit month above what they would be if the PHAs had the same cost structure as the HUD-insured multifamily stock.

The differences between private market costs and projected public housing costs (in these limited cases) may represent genuine lower costs in the private sector. Based on the limited descriptive data on PHAs available for this study, the cost differences may also result from differences in the physical condition of the stock, the greater incidence of larger units (and thus larger households) in public housing, or from neighborhood characteristics.

To develop a credible private market cost model, more information is necessary on operating conditions in both the private and public housing sectors. On the public housing side, development-level data on operating costs, property physical and neighborhood characteristics, and tenants are essential. On the private market side, a reliable, *on-going* source of data on all these dimensions and on operating expenditures is needed.

CAPITAL FUNDING SYSTEMS

The Comprehensive Grant Program

The Comprehensive Grant Program (CGP), being implemented in FY 1992 for PHAs with 500 or more units, and in FY 1993 for PHAs with 250 or more units, is a formula for distributing modernization funding across PHAs which reflects recent research on backlog modernization needs and the estimated rate at which new (accrual) modernization needs occur. "Backlog" refers to outstanding physical needs for major repairs and replacements not covered by routine annual maintenance. "Accrual" refers to the additional physical needs that arise each year as systems age and need major repairs or replacements (*Study of the Modernization Needs of the Public and Indian Housing Stock - National, Regional and Field Office Estimates: Backlog of Modernization Needs*, Abt Associates, 1988; *Future Accrual of Capital Repairs and Replacement Needs of Public Housing*, ICF, 1989). The simulation of CGP uses HUD estimates of the backlog and accrual shares for 3,224 PHAs. (The simulated system includes PHAs of all sizes. The 1992 implementation includes extra-large, large, and medium-size PHAs.) Total funding under CGP (with CIAP continuing for PHAs with fewer than 500 units) is $2.56 billion in FY 1992. This is a 50.8 percent increase over the historical average CIAP funding of $1.7 billion for the years 1986 to 1991.

CGP is compared with its predecessor (CIAP) and with several alternative formulations which vary the weights accorded to backlog versus accrual needs. We find that:

- Extra-large PHAs benefit the most from the change to CGP. These PHAs will receive nearly 44 percent of the total CGP allocation, although they operate only 34 percent of the eligible housing units.

- Southern PHAs will receive a lower share of CGP funding (22 percent) than would be expected based on their share of total units (25 percent.) All other regions receive funding shares in excess of their unit shares. Western PHAs receive the highest per unit month (PUM) amounts.

- The relative shares of funding vary markedly between CGP and CIAP, with extra-large PHAs gaining relative to large and medium PHAs. Extra-large PHAs will receive 44 percent of CGP funds, as compared to 35.6 percent of CIAP funds. Relative shares of CGP versus CIAP funding also differ by region, with the Northeast losing 7 percent to the other regions.

- Current funding for CGP is larger than historical funding under CIAP. On a PUM basis, all groups of PHAs receive more funding under CGP than CIAP, except for large and medium PHAs in the Northeast.

The CGP formula gives equal weight to estimated backlog and accrual needs in the computation of each PHA's share of total funding, although PHAs are not required to allocate the funds that way. If the weighting of backlog and accrual were different in the CGP formula, there would be two sorts of consequences. First, the distribution of the shares by PHA size and region would look quite different from CGP as it is being implemented (equal weight to backlog and accrual). Second, there would be a change in the time horizon to clear the modernization needs backlog. Examining the impacts of altering the formula weights for allocating CGP funds, we find:

- There are significant distributional shifts associated with alternative backlog and accrual shares. Greater emphasis on backlog tends to favor the larger PHAs, while more weight to accrual tends to benefit the smaller ones.

- A formula based on backlog only would particularly benefit extra-large PHAs, which appear to have been under-funded in the past, relative to backlog need. The share for extra-large PHAs under a backlog-only formula would be 48 percent, compared to 44 percent under CGP and 36 percent under historical CIAP.

- Under an accrual only formula, small and very small PHAs would receive higher shares relative to their shares under CGP or CIAP. A formula based on accrual-only would decrease the share of funding provided to extra-large PHAs (39 percent), as compared to CGP. However, this share is still higher than under CIAP (36 percent).

- The more the funding formula is weighted toward backlog, the greater the share of funds allocated to extra-large and western PHAs. Funding systems that eliminate the backlog over shorter periods (eg., one or five years) benefit these PHAs even more.

Implicit in the Comprehensive Grant Program's FY 1992 $2.56 billion funding is a timetable for clearing the modernization needs backlog. Our analysis of this timetable and the time horizons at different funding levels shows the following:

- The CGP, at the funding level for FY 1992, approximates a *twenty-nine (29) year time horizon* for eliminating the backlog, which is now estimated to total $20.1 billion.

- As a benchmark, the cost to fund the backlog in a single year and also keep up with accrual of new needs would be \$22 billion, consisting of \$20.1 billion for backlog and \$1.96 billion for accrual. In 1992 dollars, the *annual* cost to fund the backlog in five years while keeping up with accrual would be \$5.98 billion, consisting of \$4.02 billion for backlog and \$1.96 billion for accrual. This would require more than doubling the FY 1992 level of funding.

- The backlog has only been reduced slightly (by about 1 percent in current dollars) since 1990, despite \$5.1 billion in appropriations for modernization of public housing. This is the combined effect of meeting some of the backlog and accrual needs, plus inflation, and the cost of delay.

Although these figures are rough estimates based on past research and HUD rules of thumb for updating backlog needs, they make an important point for HUD and Congress: even at the stepped-up rates of federal capital funding since 1988, the backlog of modernization needs in public housing is not being effectively reduced. Accelerated funding for a short period (perhaps five years) may be preferable to playing a longer-term game of perpetual catch-up. If, in any case, the federal government faces a period of years in funding modernization needs, ***another approach may be to permit some or all these needs to be addressed immediately by financing the costs,*** with the debt retired by assured continuing appropriations (whether the debt is incurred by PHAs or directly by the federal government).

COMBINED FUNDING SYSTEMS

PFS Plus CGP

In FY 1992, PHAs operated for the first time under two formula-based subsidy systems. The systems are quite different in the nature of their formulas and in the purposes for which the funds are to be used; they also differ in that PFS sets both the level and distribution of operating subsidy while CGP determines only the distribution (leaving Congress to set the level of funding).

Simulation of the combination of PFS (inclusive of utilities) and CGP funding for FY 1992 shows a great deal about the new flow of funds to PHAs and also establishes the "base case" for alternative systems. Among the findings are the following:

- Under combined PFS and CGP funding, the distribution of subsidy reflects the underlying patterns of the two existing programs. Extra-large PHAs command a share of funds well in excess of their share of total units, due both to higher allowable expenses under PFS and to greater backlog need under CGP.

- Average per-unit-month funding under the combined case is $299; there is substantial variation by size category, with extra large PHAs receiving $403 PUM as compared to $183 PUM for very small PHAs.

- Nationally, PFS subsidy contributes less to the total than CGP subsidy, reflecting the sizes of the budget allocations. However, the contribution of CGP to a PHA's total subsidy increases as agency size decreases. Thus, PFS and CGP funding are almost equal in extra large PHAs, but PFS falls to less than half of CGP in very small agencies.

- PUM subsidy amounts under the combined case vary dramatically even within size and region categories, with some agencies receiving 10 or more times the PUM amount of other agencies in the same size and region group. The variability decreases as the PHAs grow bigger.

Combined Funding Systems Based on Fair Market Rents

The final alternative funding system simulated in this study combines operating and capital funds but is not based on public housing costs; instead, it is based on the Fair Market Rents that serve as payment standards in the Section 8 rental assistance program. A Fair Market Rent (FMR) system for funding public housing would reference the total set of activities required to operate private rental housing and the specific rents charged to cover these activities in a segment of the local private rental market. Under such a system, the tenant rent would be computed in the same way as that used in Section 8. The tenant rent would be subtracted from the FMR for the tenant's appropriate size dwelling unit to determine the required subsidy.

The PHA would be allocated the sum of payments applicable to the occupied units it manages, plus an increment for administrative costs. However, funds for providing debt service payments on the bonds outstanding for the PHA's development and modernization activities (or already absorbed by the federal government) would be subtracted from the aggregate subsidy payment. (An extended discussion of the derivation of an FMR system is found in Chapter 7.) With the combination of net FMR subsidy, rents, and non-dwelling income, the PHA would operate its housing and meet the capital needs of its stock.

There are three major policy parameters involved in defining and analyzing FMR systems:

- whether the payments to PHAs should be understood to fully cover both operating and capital expenditures (including those to address the modernization backlog);

- the level of occupancy determining the total payment to the PHA; and
- whether there should be constraints on the degree to which PHAs would gain or lose from the switch to an FMR funding system.

By varying these parameters, we have simulated a family of FMR systems, including an *unconstrained FMR system*, a *constrained FMR system,* and a *constrained FMR system with backlog* (an added subsidy payment for partially addressing the current backlog of capital needs). These are examined at two different occupancy levels. A variant making FMR subsidies portable for public housing tenants (effectively converting public housing to a tenant-based subsidy program) is also considered.

The primary findings about an unconstrained FMR system (no limits to gains or losses of individual PHAs) are as follows:

- A great number of PHAs would undergo extreme changes in funding if such an unconstrained FMR system were implemented. At current actual occupancy rates, almost 60 percent of the agencies would lose more than 20 percent of their combined PFS plus CGP subsidy, while just over 17 percent would gain a fifth or more in federal subsidy payments.
- The amounts of subsidy provided to PHAs under this system would be affected by FMR levels, tenant rents, required debt service payments, unit size distributions, and occupancy rates;
- Subsidy costs to the federal government for an unconstrained FMR system would total $4.2 billion at 97 percent occupancy and $3.8 billion at actual occupancy levels. These figures represent 12.6 percent and 21.6 percent less, respectively, than the combination of PFS and CGP payments in FY 1992.

Because of the extent and magnitude of changes in funding to particular PHAs, a second FMR system was simulated with limits of 20 percent on individual agency gains or losses, with a transition period for absorbing losses. The primary results of simulating this constrained FMR system can be summarized as follows:

- Total subsidy costs would be in the range of $3.8 to $4.3 billion under the constrained system;
- The required federal funding for public housing subsidies would be reduced relative to PFS and CGP in 1992. At 97 percent occupancy, the reduction would

be 8.9 percent; the reduction would total 11.6 percent after a four-year transition period if no improvements in occupancy were made;

- The constraints would limit the degree of subsidy gains and losses to a PHA, but a loss of 20 percent would still have a major effect on any agency's ability to operate. Extra-large and very small PHAs would feel the most adverse financial impacts.

One of the most serious issues about FMR-based funding for the public housing program concerns the modernization backlog. Even if FMR funding ought to cover the accrual of new capital needs, there is no reason to believe it should be intended to address the backlog already in existence. Therefore, a third FMR system was simulated, which added together the constrained FMR system just described and the amount of backlog funding for each PHA under the FY 1992 CGP allocation. (This is an arbitrary amount, in that current CGP funding does not fully address the nationwide modernization need, and the equal shares allocated to backlog and accrual are themselves arbitrary. The addition of the backlog half of current CGP is a proxy for the concept of including as an annual expense the cost of amortizing outstanding modernization needs. This is not unlike the use of a rent limit of 1.2 times FMR in the current federal approach to preservation of the older assisted housing stock, upon the expiration of the contractual restrictions on these properties to provide low-income housing.)

Our analysis of a constrained FMR system with backlog funding indicates that:

- Adding to the FMR subsidy the same annual amount as the FY 1992 CGP allocation for the modernization needs backlog would increase the federal subsidy required relative to the PFS plus CGP by 14 to 17 percent in the long run (after a 4-year transition period);

- The greatest subsidy gains would accrue to Western PHAs and to medium, small, and very small agencies in all regions. The smallest subsidy increases would go to the extra-large PHAs in the Northeast (due to the relatively large number of vacancies) and the large PHAs in the South and Midwest (due to low FMRs).

The concept of FMR systems and the variety of issues raised by applying Fair Market Rents to public housing funding should be kept in mind when considering the results of the simulations. Among the major factors shaping the FMR results and the impacts they could have are:

- the role of vacancies, making clear the degree to which implementing an FMR system would bring pressure on PHAs to raise occupancy;
- the wide variation in imputed debt service, and the problems some PHAs would have in operating under an FMR system even at full occupancy, if responsibility for all debt payments shifted back to the agencies;
- the high levels of FMRs in some areas, providing agencies with major increases in funding if they were compensated like private owners in the same markets;
- a combination of low FMRs and high debt service that would lead a substantial number of PHAs, particularly very small ones, to sustain major losses in funding under an unconstrained FMR system; and
- the current modernization backlog, the amortization of which arguably should be added to an FMR-based subsidy.

More fundamentally, policy makers must consider whether the forces of the local market are the appropriate mechanism for making significant changes in the size and location of the public housing stock.

IMPACTS OF ALTERNATIVE FUNDING SYSTEMS

This study examines both financial impacts and non-financial impacts of the alternative subsidy systems. Financial impacts examined include ***distributional*** impacts at the PHA level (how do different types of PHAs fare under alternative systems?) as well as ***aggregate*** impacts at the program level (what is the overall level of federal spending for the public housing program under the various alternatives?). Among the findings on the ***distribution*** of financial impacts are these:

- The shares for each size group of PHAs across the alternative systems are relatively consistent. Shares for extra-large agencies range from 39 percent (capital funding/accrual shares only) to 48.4 percent (base case PFS), and they are above 43 percent in 7 of the 9 systems. Large PHAs would receive between 20.8 and 26.3 percent of all funding under any of the systems. The range for medium agencies is 10.6 to 14.6 percent, for small agencies 11.8 to 18.3 percent, and for the smallest PHAs 2.8 to 4.8 percent of the total subsidy. However, despite the relatively narrow range of shares, the differences are considerable in dollar terms.

- Shares by region are fairly stable for the Northeast and Midwest but show larger variations for the South and West.

Exhibit ES.1 focuses on the ***distributional*** effects of alternative subsidy systems for PHAs in different size categories and regions. The exhibit shows the direction and magnitude of gains and losses under the alternative systems, by measuring the change in subsidy (relative to the base case of current funding under PFS, CGP, or both combined) in percentage intervals, from a loss greater than 25 percent to a gain of the same magnitude. The exhibit's key shows the number of plus signs and minus signs for each interval. Minimal change, in the range of 3 percent loss to 3 percent gain, is indicated by a zero. Among the notable patterns revealed in Part A of Exhibit ES.1 are the following:

- PFS with Formal Review will bring an increase of less than 3 percent in total PFS funding; it will benefit PHAs of medium size or less (except Western ones) by 3 to 10 percent, with a larger gain only to the very small Midwestern agencies.

- The magnitude of changes and the variation in impacts are larger for the capital funding systems. Compared to the Comprehensive Grant Program, historical CIAP provided at least 25 percent less funding to most groups of PHAs; only large and medium Northeastern housing agencies did better under CIAP than they are under CGP.

- The most striking contrast among the alternative capital-funding-only systems is the magnitude of change if CGP were funded to clear the backlog in five years. Total subsidy would increase by more than 25 percent, as would the federal resources going to every stratum of PHAs.

Part B of Exhibit ES.1 displays the distributional impacts of variations in the Fair Market Rent system, across PHA groups, relative to the combination of operating and capital subsidy represented by the sum of PFS and CGP.

- Under an unconstrained FMR system, many categories of PHAs would sustain losses in subsidy greater than 25 percent and a few (mostly in the West) would gain. The largest percentage losses would accrue at the two ends of the PHA size range, due to the relatively high vacancy level in extra-large PHAs, and relatively low FMRs in the very small agencies.

- Under the constrained FMR-based funding system simulated in this study, there would still be reductions in subsidy, but of diminished size. The system at 97

Exhibit ES.1

PERCENTAGE CHANGE IN FEDERAL SUBSIDY: DISTRIBUTIONAL IMPLICATIONS BY PHA SIZE AND REGION

Part A -- Revised PFS, CIAP, Revised CGP Alternatives

BASE CASE		PFS	CGP			
ALTERNATIVE SYSTEM		PFS with Formal Review	Historical CIAP	Backlog Shares Only	Accrual Shares Only	Funding Total Need in 5 Years
Extra-Large	-Total	0	---	++	--	+++
	-Northeast	0	---	0	0	+++
	-South	0	---	++	--	+++
	-Midwest	0	---	+++	---	+++
	-West	0	---	++	--	+++
Large	-Total	0	--	-	+	+++
	-Northeast	0	++	0	0	+++
	-South	0	--	--	++	+++
	-Midwest	0	---	-	+	+++
	-West	0	---	+	-	+++
Medium	-Total	0	---	-	+	+++
	-Northeast	+	+	-	+	+++
	-South	+	---	--	++	+++
	-Midwest	0	---	--	++	+++
	-West	0	---	-	+	+++
Small	-Total	+	---	-	+	+++
	-Northeast	+	-	-	+	+++
	-South	+	---	--	++	+++
	-Midwest	+	---	--	++	+++
	-West	0	---	+	-	+++
Very Small	-Total	+	---	--	++	+++
	-Northeast	+	-	0	0	+++
	-South	+	---	--	++	+++
	-Midwest	++	---	--	++	+++
	-West	0	---	0	0	+++
ALL		0	---	0	0	+++

Key: Percent change in **Federal subsidy** to PHAs:
--- loss of 25% or more
-- loss of 10-25%
- loss of 3-10%
0 loss of 3% to gain of 3%
+ gain of 3-10%
++ gain of 10-25%
+++ gain of more than 25%

Exhibit ES.1
PERCENTAGE CHANGE IN FEDERAL SUBSIDY: DISTRIBUTIONAL IMPLICATIONS BY PHA SIZE AND REGION
Part B -- Fair Market Rent Alternatives

BASE CASE	PFS + CGP							
ALTERNATIVE SYSTEM	Unconstrained FMR		Constrained FMR			Constrained FMR + Backlog		
	97% Occupancy	Actual Occupancy	97% Occ. Year 4	Actual Occ. Year 1	Actual Occ. Year 4	97% Occ. Year 4	Actual Occ. Year 1	Actual Occ. Year 4
Extra-Large -Total	--	---	--	-	--	++	++	+
-Northeast	--	---	--	-	--	+	++	+
-South	+	-	0	0	-	++	++	++
-Midwest	--	---	--	-	--	++	++	++
-West	+++	+++	++	++	++	+++	+++	+++
Large -Total	--	--	-	0	-	++	++	++
-Northeast	--	---	-	0	--	++	++	++
-South	--	--	-	0	--	++	++	+
-Midwest	--	---	-	0	--	++	++	+
-West	++	++	++	++	+	+++	+++	+++
Medium -Total	+	0	0	+	-	++	+++	++
-Northeast	+	0	-	+	-	++	+++	++
-South	++	+	0	+	-	++	+++	++
-Midwest	-	--	-	0	-	++	++	++
-West	+++	+++	++	++	++	+++	+++	+++
Small -Total	-	--	-	0	-	++	+++	++
-Northeast	-	--	-	+	-	+++	+++	+++
-South	-	--	-	0	-	++	+++	++
-Midwest	--	---	-	0	-	++	+++	++
-West	++	++	+	+	0	+++	+++	+++
Very Small -Total	--	---	-	0	-	++	+++	++
-Northeast	--	--	-	0	-	+++	+++	+++
-South	--	---	-	0	-	++	+++	++
-Midwest	---	---	-	0	--	++	+++	++
-West	-	-	-	0	-	+++	+++	++
ALL	--	--	-	0	--	++	++	++

Key: Percent change in **Federal subsidy** to PHAs relative to combined base case: --- loss of 25% or more; -- loss of 10 to 24.99%; - loss of 3 to 9.99%; 0 loss of 2.999 to gain of 2.999%; + gain of 3 to 9.99%; ++ gain of 10 to 24.99%; +++ gain of more than 25%.

percent occupancy (shown for Year 4) would mean losses to all strata of PHAs except the extra-large, large, medium, and small Western agencies. *With no improvement in occupancy rates,* the full effect of a constrained FMR system at current occupancy rates in Year 4 would be an overall reduction of 13.6 percent, with 10 to 25 percent losses distributed to most PHA strata and sizeable gains to the extra-large, large, and medium Western agencies.

- Under a constrained FMR system to which annual funding for backlog has been added (the backlog funding equal to half the FY 1992 CGP grant), the total federal subsidy would be 14 percent larger for 97 percent occupancy (Year 4) relative to the combined base case and 12 percent larger (Year 4) at current occupancy rates (with no improvement). No group of PHAs would lose subsidy under such a system, and there would be significant gains, particularly to Western PHAs and to the small and very small agencies.

- With respect to capital subsidy, CGP represents a major improvement in funding relative to CIAP for virtually all groups of agencies, but funding of backlog over a 5-year period would increase subsidy to all groups by over 25 percent.

- Change to an FMR-based funding system would make real differences in federal funding, both in the aggregate and in distributional terms. Many agencies would face significant funding reductions under either an unconstrained or a constrained system. However, a constrained FMR system with an annual backlog payment would mean increased resources for all groups of PHAs, even if no improvement in vacancies were to be achieved despite physical improvements and the incentives built into an FMR system.

Current year federal funding requirements and five-year projections for the separate operating and capital subsidy systems are shown in Exhibit ES.2. The PFS and CGP systems are shown as steady-state, with subsidy rising due to inflation only. However, the path of subsidy requirements for five-year full modernization funding (system 4 in the exhibit) is different. It starts at more than double the CGP appropriation in FY 1992, in order to clear the backlog need by FY 1996; as a result, by FY 1997, the funding requirement of $2.406 billion drops *below* the CGP level of $2.991 billion.

Exhibit ES.3 displays the current year federal funding requirements and five-year projections for combined operating and capital subsidy systems. While PFS and CGP together cost $4.802 billion in FY 1992, several simulated Fair Market Rent systems (at either 97 percent occupancy or actual occupancy levels) would require less in federal outlays. By contrast, the combination of PFS and CGP is the *lowest*-cost starting point compared to systems that fund the existing backlog more quickly or add other categories to the backlog. These systems require

Exhibit ES.2

FEDERAL SUBSIDY PROJECTIONS FOR FY 1993 TO FY 1997: ALTERNATIVE PUBLIC HOUSING FUNDING SYSTEMS (in Billions)

System Number	Public Housing Funding System	FY 1992 CURRENT	FY 1993 YEAR 1	FY 1994 YEAR 2	FY 1995 YEAR 3	FY 1996 YEAR 4	FY 1997 YEAR 5	COMMENT
	OPERATING SUBSIDY SYSTEMS							
1	PFS Base Case	$2.138	$2.205	$2.274	$2.346	$2.420	$2.496	1. PFS operating funds only. Steady state.
2	PFS with Formal Review	$2.168	$2.237	$2.307	$2.380	$2.455	$2.532	2. PFS operating funds and review only. Steady state.
	CAPITAL SUBSIDY SYSTEMS							
3	Comprehensive Grant Program	$2.562	$2.642	$2.726	$2.811	$2.900	$2.991	3. Capital funds only. At current funding level, backlog not fully funded until FY 2021.
4	Five–Year Full Modernization Funding	$5.970	$6.158	$6.352	$6.552	$6.759	$2.406	4. Full CGP backlog and accrual funded 1992 through 1996. Accrual funding only by 1997.
5	Ten–Year Full Modernization Funding	$4.070	$4.198	$4.330	$4.467	$4.608	$4.753	5. Full CGP backlog and accrual funded by 2002. Accrual funding only thereafter.

Notes: 1. CGP backlog indicates the backlog components included in CGP. Refer to Exhibit 5.3.
2. Full modernization funding includes broader definition of backlog than CGP. Refer to Exhibit 5.3.

Exhibit ES.3

FEDERAL SUBSIDY PROJECTIONS FOR FY 1993 TO FY 1997: COMBINED SUBSIDY SYSTEMS FOR THE PUBLIC HOUSING PROGRAM (in Billions)

System Number	Combined Subsidy System	FY 1992 CURRENT	FY 1993 YEAR 1	FY 1994 YEAR 2	FY 1995 YEAR 3	FY 1996 YEAR 4	FY 1997 YEAR 5	COMMENT
6	Combined Base Case (PFS+CGP)	$4.802	$4.953	$5.109	$5.270	$5.436	$5.607	6. Steady state combined formula.
7	Unconstrained FMR							7. Steady state FMR. No special backlog funding.
	97 Pct Occupancy	$4.198	$4.331	$4.467	$4.608	$4.753	$4.903	
	Actual Occupancy	$3.763	$3.882	$4.004	$4.130	$4.260	$4.395	
8	Constrained FMR							8. Steady state FMR. No special backlog funding.
	97 Pct Occupancy	$4.377	$4.515	$4.657	$4.803	$4.955	$5.111	
	Actual Occupancy	$4.769	$4.732	$4.698	$4.658	$4.804	$4.956	
9	Constrained FMR+Backlog							9. Steady state FMR. Again, twenty-nine year funding horizon for backlog.
	97 Pct Occupancy	$5.601	$5.777	$5.959	$6.147	$6.341	$6.541	
	Actual Occupancy	$5.993	$5.995	$6.001	$6.001	$6.190	$6.385	
10	PFS with Formal Review with Five-Year Modernization Funding	$8.138	$8.395	$8.659	$8.932	$9.213	$4.832	10. Combined System. Backlog funded 1992 through 1996. Steady state PFS with accrual 1997 onwards.
11	PFS with Formal Review with Five-Year Full Modernization Funding	$9.358	$9.653	$9.957	$10.270	$10.594	$5.591	11. Like System 10 except Energy and Redesign added to backlog funding and extraordinary accrual added to accrual.
12	Constrained FMR at 97 Pct Occupancy + Full Backlog Funded Over Five Years	$8.947	$9.229	$9.519	$9.819	$10.128	$5.111	12. The FMR System (8) at 97 percent occupancy plus full backlog (including Energy and Redesign) funded over five years.

NOTES: 1. Constrained FMRs at Actual Occupancy assume that FY 1992 is Year 1 of the transition to actual occupancy rates and FY 1995 is Year 4.
2. The 97 percent occupancy lines have no transition period to get to that level; they essentially represent the maximum subsidy.
3. FMR 1992 cases were adjusted upward to the full combined base case N, by multiplying by 1.1058 (the 1992 ratio).
4. Unconstrained FMR at actual occupancy rates assumes *no reduction in vacancies over time.* It thus represents a minimum subsidy amount.
5. CGP backlog indicates the backlog components included in CGP. Refer to Exhibit 5.3.

current outlays in the range of $5.6 billion (for system 9 in the exhibit, a constrained FMR system at 97 percent occupancy plus backlog funding) to $9.4 billion (for system 11 in the exhibit, PFS with formal review and five-year full modernization funding).

- Reducing from 29 years to 5 years the time horizon for clearing the backlog would mean greater federal subsidies in the short term but much lower amounts thereafter. For example, the FY 1992 requirement for a combined system that funded all the components of backlog (not just the ones covered by CGP) in a 5-year period would be $9.358 billion, some 95 percent above actual FY 1992 funding. However, in FY 1997, the overall subsidy level would drop to $5.591 billion, representing the subsidy payments only for operating costs and accrual of capital needs.

In light of these projections and the likelihood that the accrual estimates may be far too low if current backlog is not cleared more rapidly, HUD and the Congress should carefully consider the benefits (both financial and non-financial) of accelerating capital funding for public housing, despite the greater funding requirements in the short term.

LIMITATIONS OF THE PRESENT STUDY

Much useful information has been assembled here, particularly regarding the costs of funding public housing and the distribution of funds across PHAs of alternative systems. Nevertheless, the study leaves at least two major questions unanswered:

- What level of funding is actually needed to operate public housing according to an agreed-upon set of norms?
- How can we determine the need and costs faced by well-managed housing agencies? Put another way, to what extent does management capacity affect the needs and costs of operating public housing?

The private market comparisons in this study are at best an approximation for the costs involved in delivering the bundle of housing and other services that PHAs are expected to provide. This study does not squarely address issues of management, because information on cost-effective management practices and data on troubled and non-troubled agencies were not available to be integrated with the presently available cost and funding data.

HUD's Public Housing Management Assessment Program (PHMAP) will eventually provide much of the needed information. Similarly, project-based needs and cost data for well-run developments will supply the quantitative underpinnings for future examination of the adequacy of public housing funding. In summary, the current report is heavily focused on the distribution across PHAs of the costs of alternative systems and on the federal costs relative to PFS and CGP. Future analyses must incorporate qualitative assessments of operational circumstances and management effectiveness, in order to draw conclusions regarding the "appropriate" level of funding for public housing.

CHAPTER 1

SIGNIFICANT CHANGES IN THE PUBLIC HOUSING FINANCE SYSTEM SINCE 1982

In 1982, HUD completed a study of the Performance Funding System (PFS) and published an assessment of *Alternative Operating Subsidy Systems for the Public Housing Program.*[1] Under the mandate of Section 524 of the Cranston-Gonzalez National Affordable Housing Act of 1990, the Department of Housing and Urban Development has been asked to again assess methods of providing sufficient Federal funds to operate the public housing program. Ten years later, the issues raised by the 1982 study continue to be relevant as the Department reviews the status and the future of the public housing program. Since that time, however, there have been significant changes in the program, including the way housing agency operations and capital expenses are funded and the operating environments that public housing agencies (PHAs) face. A revised assessment of alternative funding systems must begin with an understanding of these changes and their impacts on current public housing operations.

This chapter serves as background for the analysis of revised methods for public housing funding. It begins with an overview of the current public housing program—the agencies that operate it, the nature and condition of the public housing stock, and the characteristics of households who live in public housing. The second section focuses on the existing systems for PHA funding, beginning with a review of the PFS system as well as methods for funding modernization costs as of the early 1980s (when the previous analyses were completed). Next is a review of the wide array of programmatic and regulatory changes that have taken place over the past decade, as well as changes in the PHA environment that have affected PHA operations. The final section of this chapter focuses on the financial status of the public housing program. It reviews PHA budget data, showing changes in financial conditions and expenditure patterns over the past 10 years.

The information and data presented in this chapter were collected from a combination of written sources and discussions with HUD staff and others interested in public housing

[1] Office of Policy Development and Research, U.S. Department of Housing and Urban Development, May, 1982.

operation and funding. Past research on public housing finance was reviewed, and documentation on policy and regulatory changes was assembled. A number of HUD officials, PHA directors, and public housing experts were interviewed for their perspectives on significant changes in the public housing program over the past decade.

1.1 OVERVIEW OF THE PUBLIC HOUSING PROGRAM

The conventional public housing program consists of some 1.3 million housing units, operated by over 3,200 PHAs nationwide. PHAs are municipal, county, or state agencies created under state law to develop and manage federally assisted units. The vast majority (about 87 percent) of PHAs are small, with fewer than 500 units. The 21 largest PHAs each have over 6,500 units and account for 33 percent of the stock. An additional 129 large PHAs (those with between 1,250 and 6,499 units) account for another 24 percent of all public housing units. Exhibit 1.1 presents basic data on PHAs by size and geographic region.

Over 70 percent of all public housing developments—containing almost one-third of all public housing units—have fewer than 100 units (see Exhibit 1.2). According to National Association of Housing and Redevelopment Officials (NAHRO) estimates, approximately 28 percent of public housing developments are in structures with four or more stories. Thirty-eight percent of developments consist of two- or three-story buildings, and 23 percent are single-story structures. About 10 percent of all developments are single family detached structures. Regardless of structure type, about 18 percent of the stock consists of scattered site developments.[2]

Public housing construction from 1981 through 1990 has totaled 147,299 units. Much of this production is accounted for by units that were in the pipeline (already funded for new development) before 1981. Since 1981, only 49,057 new public housing units have been reserved. Exhibit 1.3 shows reservations and completions by year since 1981.

As shown in Exhibit 1.4, over half of all public housing developments are at least twenty years old. Seventy percent of all public housing units are in these older buildings. Within the newer housing stock, 19 percent of all developments are less than ten years old, although only 9 percent of public housing units are located in these newer buildings. This

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[2]NAHRO, *The Many Faces of Public Housing*, 1990.

Exhibit 1.1

Size of Public Housing Agencies

PHA Size/ Region		Number of PHAs	Percent of All PHAs	Percent of All Public Housing Units
Extra-Large		21	0.7%	33.4%
6,500+ units	Northeast	7	0.2	17.9
	South	5	0.2	7.2
	Midwest	8	0.2	7.7
	West	1	0.0	0.6
Large		129	4.0	24.7
1,250-6,499 units	Northeast	47	1.5	7.4
	South	29	0.9	5.9
	Midwest	37	1.1	7.6
	West	16	0.5	3.8
Medium		262	8.1	14.9
500-1,249 units	Northeast	70	2.2	4.0
	South	67	2.1	3.9
	Midwest	73	2.3	4.1
	West	52	1.6	2.9
Small		1,299	40.3	21.4
100-499 units	Northeast	250	7.8	4.5
	South	406	12.6	6.9
	Midwest	503	15.6	7.7
	West	140	4.3	2.4
Very Small		1,513	46.9	5.5
<100 units	Northeast	109	3.4	0.5
	South	289	9.0	1.1
	Midwest	973	30.2	3.3
	West	142	4.4	0.5
Total		3,224	100.0%	100.0%

Data Base: Comprehensive Grant Base Case, N=3,224.

Notes: 1. This table includes all Public Housing Agencies eligible for the Comprehensive Grants Program, except for 67 PHAs which are missing Comprehensive Grant Program shares in the HUD data set. Accordingly, the maximum number of PHAs which could have been included in the analysis was 3,291.

2. Columns may not add to 100 percent due to rounding.

Exhibit 1.2

Size of Public Housing Developments

Number of Units in Development	Percent of Developments	Percent of Units
Less than 50	45.0%	11.9%
50–99	26.6	18.1
100–199	17.7	23.3
200–299	5.5	13.0
300–499	3.1	11.9
500 or more	2.1	21.9
Total	100.0%	100.0%

Source: FORMS database from HUD, Office of Public and Indian Housing. Covers 12,955 developments in 3,166 PHAs.
Notes: Columns may not add to 100 percent due to rounding.

Exhibit 1.3

New Unit Reservations and New Unit Completions for Public Housing: FY 1981 – 1990

Fiscal Year	New Unit Reservations	New Unit Completions
1981	33,242	29,576
1982	8,944	25,051
1983	--	24,814
1984	5,212	20,999
1985	5,448	16,796
1986	3,993	12,233
1987	6,130	6,946
1988	7,791	5,561
1989	5,246	3,163
1990	6,293	2,202
Total	82,299	147,341

Source: HUD Budget Summaries (data compiled by NAHRO).

Notes: 1. New Unit Reservations for 1986 through 1990 represent maximum fundable units; some portion is for major reconstruction of existing public housing.

2. New Unit Completions include units added to the stock through acquisition and substantial rehabilitation as well as new construction. (Source: HUD Budget Office.)

Exhibit 1.4

Age of the Public Housing Stock

Age in Years	Percent of Buildings	Percent of Units
Under 10 years	18.7%	9.1%
10–19 years	22.4	20.6
20–29 years	30.8	28.8
30–39 years	12.3	17.0
40 years or more	5.5	13.8
Missing data	10.4	10.7
Total	100.0%	100.0%

Source: FORMS database from HUD, Office of Public and Indian Housing. Covers 12,955 developments in 3,166 PHAs.
Notes: Columns may not add to 100 percent due to rounding.

reflects both the decline in the annual amount of new public housing construction and the greater emphasis on creating smaller, scattered site developments.

Given current levels of development, the average age of the stock will continue to increase. Recent studies of the condition of the public housing stock have demonstrated high levels of repair needs in the aggregate, with 1990 backlog estimates ranging from $12.2 billion (or roughly $9,000 per unit) to $27.8 billion ($21,000 per unit), depending on the elements included. However, backlog need varies substantially across the stock. HUD has estimated that roughly 36 percent of the units needed less than $5,000 in repairs. On the other hand, just under 10 percent of the units had repair needs over $25,000 per unit, accounting for close to 30 percent of the aggregate need. While the inventory includes some very high-need projects, the majority of the public housing stock appears to be in relatively good condition, can be modernized at a reasonable cost, and can be expected to continue to serve as housing for low-income households.[3]

Currently, the public housing program serves over 1 million households made up of 3.3 million persons. Roughly 45 percent of these households are headed by someone who is elderly or handicapped. Of the elderly, most are women living alone. Among family households, 42 percent are families with children, six percent are couples without children, and seven percent are non-elderly singles. Roughly half of all families with children have only one parent present, and most of these households receive welfare benefits. HUD reports that more than 90 percent of all public housing households have incomes below 50 percent of the area median income, and over 60 percent have incomes below 30 percent of median.[4] Median household income in 1989 was $6,571, based on American Housing Survey data, with 35 percent of public housing tenants reporting income received from wages or salaries.[5] About 70 percent of current public housing

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[3]HUD, *Report to Congress on Alternative Methods for Funding Public Housing Modernization*, 1990, pp. II-4, I-12, and I-13. See also *Study of the Modernization Needs of the Public and Indian Housing Stock--National, Regional and Field Office Estimates: Backlog Modernization Needs*, 1988, and *Future Accrual of Capital Repair and Replacement Needs of Public Housing*, 1989.

[4]HUD, *Report to Congress on Alternative Methods for funding Public Housing Modernization*, 1990, pp. I-9 through I-11.

[5]HUD, *Characteristics of HUD-Assisted Renters and Their Units in 1989*, March 1992, p. 10.

tenants are members of minority groups (black, Hispanic, American Indian or Alaskan native, Asian or Pacific Islander)[6], compared with 62 percent in 1979.[7]

Local housing agencies may administer a variety of other programs in addition to the federal public housing program. Many PHAs (about three-quarters, according to a NAHRO survey) operate the Section 8 rental assistance program. Some states fund low rent public housing and/or rental assistance programs of their own, which are run by the local PHAs. In recent years, some housing agencies have entered into cooperative arrangements with other entities (such as community-based non-profit organizations, private developers, or banking or real estate interests) to develop affordable housing outside the framework of federal public housing finance. Finally, many housing agencies either provide or coordinate supportive services for residents, such as transportation, counseling or child care.

The system of public housing administration is decentralized in concept, given the structure of local agencies and the wide range in their characteristics. However, there is significant federal oversight by HUD's Central, Regional, and Field offices as well as increased federal involvement in formulating eligibility and rent policies. The trend towards "federalization" of public housing, seen particularly in the 1981 Amendments to the Housing and Community Development Act, has produced a uniform national policy regarding who is served by public housing and the benefits to be provided, but it has also reduced PHAs' latitude regarding fundamental elements of public housing finance, operations, and management. Combined with changing demographics and the aging of the physical stock, PHAs face an operating environment that many would argue is qualitatively different from that of twenty years ago.

1.2 THE PUBLIC HOUSING FINANCE SYSTEM

The public housing financing system currently provides funds to ***operate*** public housing separately from the funds used to finance ***development*** and ***capital repairs***. This section

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[6]These data came from the Multifamily Tenant Characteristics System and were current as of October 18, 1991. The data were provided by the Occupancy Division, HUD Office of Public and Indian Housing.

[7]Loux, Suzanne B. and Robert Sadacca, *Comparison of Public Housing Tenant Characteristics: 1976 to 1979*, Urban Institute, 1980, pp. 36-38.

describes these two funding components, beginning with the origins of the current system of public housing operating subsidies.

1.2.1 Funding for Operating Costs

The public housing program had its origins in Depression-era stimulation of the construction industry. Originally, the cost of developing public housing was borne by the federal government, while operating costs were covered entirely by the local agencies from rental and other income. Income limits for admission were set at a multiple of the amount necessary to pay for the operation of the housing.[8] That is, the income limits were ***minimum*** requirements, set so that tenants could pay sufficient rent to cover operating costs. In general, the public housing program was viewed as a subsidy to the temporarily poor middle class (rather than a welfare program), and most public housing tenants were working families.

The move towards serving poorer populations began with the Housing Act of 1949, which required a gap of 20 percent between the incomes of eligible households and the income necessary to rent decent private housing.[9] Also, during the 1950s and 1960s, average tenant incomes began to fall as the more upwardly mobile households were drawn to rapidly expanding private housing opportunities, including homeownership through FHA. By 1959, dissatisfaction with this situation led to an effort to attract higher income households to public housing, through elimination of the 20 percent requirement and by giving PHAs discretion to set minimum and maximum rents. Nevertheless, by 1969 it was clear that the program had shifted to serving the very poor, and that, increasingly, these households had difficulty in paying rents sufficient to cover the full costs of operation.

Up until this time, most PHAs had been successful in covering expenses through rents. Operating subsidies (limited to a "special family subsidy" paid on behalf of elderly, displaced, very large families, and very low-income residents) averaged $2.07 per unit month (PUM) in 1969, covering a deficit of about 5 percent between average rents and average operating costs. Small agencies (the vast majority of PHAs) showed a surplus in that year of 14 percent, while

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[8]HUD, *Report to Congress on Alternative Methods for Funding Public Housing Modernization*, 1990, p. I-4.

[9]*Ibid.*, p. I-5.

large PHAs showed a 13 percent deficit.[10] However, increasing costs and rent burdens ultimately led to the Brooke Amendments of 1969, which limited tenant rent contributions to an affordability standard of no more than 25 percent of income for rent. Since many PHAs would no longer be able to support operating costs out of rents, the Brooke Amendments also authorized a program of federal subsidies to pay for the deficits. In the first year, HUD simply made up the difference between receipts and expenditures. Subsequently, the subsidy was adjusted using a nationwide inflation factor, applied to individual PHAs after budget review by the HUD area offices.[11]

By the mid 1970s, however, rising subsidy costs, along with concern from OMB and Congress that the system did not provide an incentive for good management, led to the development of a new funding system. The result was the Performance Funding System (PFS), put into effect in 1975, based on research conducted by the Urban Institute.

1.2.2 Description of Performance Funding System

The formula that determines operating subsidy under the PFS can be expressed as follows:

Subsidy = Total Allowed Expenses - Total Predicted Income

Total Allowed Expenses consist of the Allowable Expense Level (AEL) plus Allowable Utilities Expenses plus Audit Costs. The AEL is a predicted amount, updated from year to year using an adjustment for changes in operating conditions (the "delta") and an inflation factor. Utilities expenses are treated as a partial "pass through" of actual incurred expenses, while audit costs are entirely passed through to HUD. Predicted income consists primarily of rents, but also includes income from interest-bearing accounts and other sources. Subsidies are expressed in terms of an amount per unit month (PUM). The subsidy to a PHA is simply the PUM subsidy amount multiplied by the expected number of unit months available for occupancy.

[10]HUD, *Alternative Operating Subsidy Systems for the Public Housing Program*, 1982, pp. 6-7.

[11]*Ibid*., p. 8.

Rationale and Early Development

The PFS was intended to be a comprehensive, permanent means of determining required subsidy levels for PHA operations. It was actually the fourth in a series of subsidy allocation systems for public housing. As noted above, in the early 1960s, HUD paid "special family subsidies" at modest levels for elderly poor, large, or displaced families. Until 1972, HUD reviewed the budget of each PHA requesting operating subsidies and made discretionary funding decisions; however, this was criticized (by Congress, among others) as leading to inequitable treatment of different PHAs and for allowing rapid increases in costs. Finally, while HUD was developing the PFS from 1972 to 1975, an Interim Funding System was used to allocate subsidies and to constrain the growth of PHA operating expenditures.

The PFS was designed to reflect the operating costs of ***well-managed*** housing agencies. That is, the subsidies were constrained relative to the actual costs of some PHAs, based on derivation of an "allowable" expense figure. The calculated subsidy amount under PFS is simply the difference between the estimate of allowed operating costs minus an estimate of income from rents and any other sources. The estimate of operating costs in turn is based on the "allowable expense level" (AEL) in the previous year plus a small adjustment for aging of the housing stock, an adjustment for inflation, and an estimate of the cost of utilities. Ultimately, AELs today still depend on spending in the "base year," generally 1975, and that spending level in turn depended on previous levels of spending and on decisions made under the Interim Funding System. Utility expenses were estimated separately based on consumption during a 36-month rolling base period, with a pass through of costs associated with any utility rate increases. The Performance Funding System had as a major premise the idea that the costs of operating housing vary according to the characteristics of the housing. However, accurately measuring such differences and setting equitable subsidies is a difficult matter. When the PFS was implemented, it was decided to make the determination of cost reasonableness for any given PHA by comparing that PHA's costs with the operating costs at PHAs with similar characteristics ***that were believed to be performing well.*** Performance levels were estimated on the basis of questionnaires administered to HUD Area Office staffs, PHA personnel, and tenants in a sample of PHAs. In addition, operating information such as vacancy rates, rent delinquency rates, and vandalism costs were evaluated. The survey of PHAs, taken in 1973, asked residents about their satisfaction with the project and its safety, cleanliness, maintenance and management. Managers were asked to evaluate the condition of dwelling units, resident treatment of units, and the extent of deferred maintenance. PHA personnel were asked about their job satisfaction and their evaluation of other employees and how well the PHA was meeting its objectives. The operating information was put together with data from the questionnaires to summarize PHA performance.[12]

The assumption behind gathering these performance data was that HUD should pay necessary operating subsidies for efficiently run PHAs, but that it should not pay for inefficiency. The sample PHAs were divided into high-performing and low-performing groups, and operating expenses of these groups were evaluated. Allowable expense levels were limited to amounts within a statistical range of the expenses of high performers. When originally evaluated in 1974, operating expenses of high performers were lower than operating expenses of low performers, thus supporting the idea that high-performing PHAs are more efficient. However, when the procedure was repeated in 1978, the estimated costs of the high and low performers were not statistically different, partly because PFS had meanwhile constrained the expenses of more costly PHAs.[13] Also, the second measurement showed instability in the assignment process. Many of the PHAs classified as high or low performers in 1973 shifted to the opposite group in 1978, to a degree that suggested unreliable measurement of performance or large shifts in performance or both. Thus, the Performance Funding System neither prescribes nor measures PHA performance. As noted above, when the system was set up in 1975, the high performing PHAs were identified based on judgments expressed in interviews and not in relation to objectively measured performance standards.

Allowable Expense Levels, The Prototype Equation and Formula Expense Levels

To implement PFS, a "prototype equation" was developed relating operating expenses (not including utilities and audits) to PHA operating characteristics. The estimate of operating expenses is called the Formula Expense Level. The prototype equation is updated yearly on the basis of currently available data. The prototype equation is not used directly to determine the

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[12]Sadacca, Robert, Suzanne Loux, Morton Isler and Margaret Durry, *Management Performance in Public Housing*, Washington, DC, the Urban Institute, 1974.

[13]Merrill, Sally R., et al., *Evaluation of the Performance Funding System: Summary Report*. Cambridge, MA, Abt Associates, 1981.

PHA's allowable costs, but *was* used to determine the original test for whether a PHA's "base-year" expenditures were too high.

When PFS was implemented, most PHAs had their operating costs established at the rate spent in the "base year," generally fiscal 1975. However, some agencies were found to have operating expenditures well above the level predicted by the prototype equation. PHAs with costs that were "out of range" were agencies with costs more than $10.31 PUM above the predicted Formula Expense Level. These agencies had their allowable operating costs frozen at then-current dollar amounts, until inflation and other adjustments brought their costs within range of the level predicted by the equation. This range test has never been recalculated, despite the instabilities revealed in the 1978 data, so the original range test of 1975 still serves to constrain costs for agencies at the upper end. (The formal review process analyzed in Chapter 2 makes some lower-end adjustments.)

The second use of the prototype equation was to establish a "delta" adjustment for each year. The delta is intended to compensate PHAs for changes in their operating conditions which would be expected to change their costs. Such factors included the aging of the existing stock and the addition of new stock with specific physical characteristics (e.g., bedroom size distribution, height of buildings.) However, very few new housing developments are now being added to the program, so, except for age, housing agency characteristics change slowly if at all. On average, the delta accounts for only 0.5 percent of total PHA operating expenses.

The Inflation Factor

The Formula Expense Level of the PHA was adjusted for inflation until 1981 using an annual survey of local government wages conducted by the U.S. Bureau of Labor Statistics. Since that time, several adjustments (discussed in Section 1.3.2 below) have been implemented to better capture changes due to inflation.

Utilities

Because utility consumption is influenced by weather conditions and is only partly under the control of the PHA, HUD does not treat utilities under the prototype formula. Instead, it compensates the PHA for average consumption levels as compared with previous years and passes through any utility rate increases or decreases for electricity, gas, oil, or other utilities.

The expenditure impact of any overconsumption or underconsumption of utilities (after adjusting for degree days) is shared 50/50 between the PHA and HUD. This gives the PHA a significant incentive to save on utility consumption.

Income, Occupancy and Calculating the Subsidy

The Allowable Expense Level for a PHA is expressed in terms of an average expenditure per unit month. In order to calculate the subsidy amount under PFS, the PHA must calculate the total unit months available for occupancy and estimate the rental income that will be collected. To estimate the change in rental income from year to year, the PHA is required to use an upward trend factor of three percent. This represents an average increase of 6 percent in the rent paid by tenants, assuming incomes are reexamined evenly throughout the year. Second, the PHA's calculation must assume that at least 97 percent of the units will be occupied by rent-paying tenants. The PHA may keep any additional rents received as a result of higher income growth or higher occupancy rates (above 97 percent) for the year in which the additional rent was collected, with no decrease in subsidy. After calculating the total AEL for a PHA, adding utilities reimbursements, and subtracting estimated rents and other locally generated income, the remainder is the calculated subsidy amount.

1.2.3 Strengths and Weaknesses of PFS

Compared with the systems which preceded it, the PFS offered several advantages. In contrast to the budget review system which was used up to 1972, the PFS imposed more equity in treatment of different PHAs and probably constrained costs more. Even though the negotiated budget system did include standards of subsidy eligibility, it had allowed a good deal of discretion in individual Field Offices, while PFS strictly constrained any possibility that Area Offices could deal with PHAs in an inequitable manner. Because PFS was based on historical PHA costs, the system was implemented with only minor disruption of PHA operations. Finally, the PFS contained a well-developed and accurate means of estimating program-wide subsidy needs for budgeting purposes, which was important to both HUD and Congress.[14]

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[14]HUD, *Alternative Operating Subsidy Systems for the Public Housing Program*, 1982, pp. 17-21.

Among the weaknesses of the system are the fact that it is ***not*** based on any measure of actual public housing funding needs and that it has limited ability to deal with changing circumstances. Funding levels were based on costs at a certain point in time (1975), which may have been atypical for various reasons. Annual increases in AEL can reflect costs associated with general inflation but not costs associated with changes in the nature of services delivered by PHAs. Other criticisms of PFS have included problems with the implementation of the range test,[15] the complexity of the delta adjustment (which is intended to compensate PHAs for changes in the stock and other operating conditions), and lack of an appeals system.

Over the past dozen years, a variety of adjustments and changes have been made to PFS to address these and other issues. They are discussed in Section 1.3 below. The overall structure of the system, however, remains basically the same. Federal subsidies now cover 44 percent of the operating budget of the average PHA, compared to 43 percent in 1980 and less than 5 percent in 1969.[16]

Exhibit 1.5 shows PFS funding levels over the past decade. Annual appropriations have risen from just over $1 billion in 1981 to $2.45 billion in FY 1992. This is an increase of 129 percent, or 11.7 percent annually. As shown in the last panel of Exhibit 1.5, appropriations have not always been adequate to cover the total costs of the PFS. In 1981, and again in 1988

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[15]When base year expense levels were established, a range test was used to determine which PHAs' costs were unusually high or low relative to the costs estimated by the prototype equation. PHAs with such high costs that they were "out of range" had their budgets gradually cut back in real dollars until they were brought into range of the formula-calculated costs. In theory, the procedure was a reasonable one, but in practice the idea was not well-implemented. One important problem was that the prototype equation did not include certain variables that would have identified PHAs with severe operating conditions. Within the logic of the Performance Funding System, allowances should have been made for the inevitable costs of a PHA's operating conditions. However, variables such as difficult neighborhood conditions, local crime and vandalism rates, and hard-to-serve tenant families were not included in the prototype equation, for two reasons. Data on some factors (especially neighborhood characteristics) were not readily available through government statistical series. Tenant characteristics were excluded because their inclusion could have provoked unwanted management effects. (See Robert Sadacca, Morton Isler, and Joan DeWitt, *The Development of a Prototype Equation for Public Housing Operating Expenditures*, Urban Institute, 1975, pp. 19-20.)

Large urban PHAs facing many of these problems were especially likely to be above range. The constraint on the costs of large, urban PHAs was intentional, since the PFS was intended to provide a "cutting edge" against the costs of the relatively expensive PHAs. When the range test was applied, 61 percent of the extra large PHAs were calculated to be above range, and none were so low as to be considered below range, while small PHAs were distributed evenly above and below range. HUD, *Alternative Operating Subsidy Systems for the Public Housing Program*, 1982, p. 20.

[16]HUD, *Alternative Operating Subsidy Systems for the Public Housing Program*, 1982, p. 6.

Exhibit 1.5

Performance Funding System Annual Appropriations:
FY 1981–1992

All figures in (000s)

Fiscal Year	Funds Requested by HUD			Appropriations Enacted			Total Obligations	Percentage of Eligibility Funded	Estimated Amount to Fund at 100 Percent
	Appropriation Request (Estimate)	Supplemental Appropriation Requested	Total Request	Appropriation Enacted	Supplemental Appropriation Enacted	Total Appropriation Enacted			
1981	$862,000	$0	$862,000	$970,800	$100,000	$1,070,800	$1,067,116	96.5%	$46,000
1982	1,204,600	0	1,204,600	1,490,906	0	1,490,906	1,493,460	100.0%	---
1983	1,075,000	0	1,075,000	1,350,597	(196,231)	1,154,366	1,154,366	100.0%	---
1984	1,636,500	0	1,636,500	1,362,200	(159,306)	1,202,894	1,202,894	100.0%	---
1985	1,123,500	0	1,123,500	1,138,500	92,381	1,230,881	1,230,880	100.0%	---
1986	1,010,600	0	1,010,600	1,158,544	90,019	1,248,563	1,240,563	100.0%	---
1987	1,171,543	0	1,171,543	1,415,000	115,044	1,530,044	1,460,072	100.0%	---
1988	1,376,862	0	1,376,862	1,450,000	65,000	1,515,000	1,514,854	99.3%	10,000
1989	1,517,508	0	1,517,508	1,617,508	65,793	1,683,301	1,682,932	100.0%	---
1990	1,694,200	0	1,694,200	1,845,600	41,639	1,887,239	1,883,811	95.0%	104,000
1991	1,825,731	0	1,825,731	2,105,152	75,000	2,180,152	2,119,297	100%	---
1992	$2,155,844	$0	$2,155,844	$2,450,000	$0	$2,450,000	NA	NA	NA

Source: Budget Division, HUD Office of Public and Indian Housing.
Notes: 1. Parentheses indicate recision of funding.
2. Percentage of Eligibility Funded is calculated by the Budget Division based on final PHA budgets with year–end adjustments.

and 1990, PHAs received less than the full amount of funding they were due according to the PFS calculations, although the difference was never more than 5 percent.

1.2.4 Funding for Capital Costs and Modernization

The second major component of the public housing finance system is capital funding. The costs of developing new federal public housing are paid by the federal government, which makes annual contributions to PHAs for debt service payments on long-term bonds issued to finance construction. These annual contribution contracts (ACCs) originally covered a 40-year amortization period but were later changed to 30-year terms. Since the mid-1980s, all new public housing units have been financed with forgivable short-term loans to PHAs; in effect, these are capital grants for development.

Unlike HUD's other construction programs, the funding mechanism for public housing had never provided for a capital replacement reserve.[17] As the stock aged, PHAs needed a source of funding for capital replacements and major repairs that could not be covered from operating revenues. The public housing modernization program was created in 1968, some thirty years after the first public housing projects were built. At first, the costs of modernization and replacement were financed by reopening the original development contracts and amortizing the added costs over the remainder of the contract term. In 1978, however, HUD established the notion of a separate modernization "project" and began funding all modernization over a 20-year term.

Initially, PHAs applied for modernization funding for specific work items they needed, such as kitchen renovations one year and new roofs at the same development the next year.[18] In this mode, the modernization program ***did*** allow PHAs to make needed improvements. However, the structure of the program made it very difficult to complete comprehensive renovations on any given development. This was despite the fact that aging affected many physical features of the stock simultaneously and that modernization work might be less

[17]The reserves established under other programs did not always prove adequate for meeting their capital needs.

[18]HUD, *Report to Congress on Alternative Methods for Funding Public Housing Modernization*, 1990, p. I-6.

expensive if several aspects of work in one development were tackled at the same time. In addition, it was HUD—not the local housing agencies—that determined what types of improvements would be funded each year.

In 1980, Congress ended this piecemeal modernization approach by instituting the Comprehensive Improvement Assistance Program (CIAP). CIAP required PHAs to address all needs at each funded project in a coordinated manner. As such, once the work was completed, the development was expected to have a remaining useful life of another 20 years, and it would not receive capital funding again in that period. In addition to funding modernization work, CIAP provided monies for management improvements. Management improvement funds were used to upgrade overall systems that affect the funded development (such as accounting or security). The legislation also made provision for funding a replacement reserve for completed projects; the reserve provision was never implemented, however.

An additional funding source for modernization beginning in 1986 was MROP, "Major Reconstruction of Obsolete Projects."[19] MROP allowed HUD to use up to 20 percent of the appropriation for new development to renovate existing sites that needed extensive structural work, redesign of units, or other reconfiguration. The MROP rules also allowed a higher per unit cost limit than is permitted under the CIAP program.

As shown in Exhibit 1.6, over $11 billion in modernization funding was approved between 1981 and 1990. Well over half of all CIAP funding went to large and extra large housing agencies, as Exhibit 1.7 indicates. Significantly more money was made available for modernization in the last few years of the decade. This is due in part to the results of HUD's Modernization Needs study which documented the costs of meeting backlog repair needs in the public housing stock.

At the time of the previous analysis of public housing funding systems in 1982, CIAP was only beginning to be implemented. Currently, the Department is in the first year of implementing a new capital funding approach, the Comprehensive Grant Program, which will replace CIAP for most PHAs. The Comprehensive Grant Program will provide annual funding to PHAs based on a formula that takes into account estimates of both the backlog of modernization needs (repairs and replacements due to be made but not previously funded by

[19]Authorized by the 1986 Appropriations Act.

Exhibit 1.6

Comprehensive Improvements Assistance Program (CIAP) Approvals: FY 1981–1990

PHA Size/ Region		Number of PHAs	Total CIAP Funding 1981 – 1990	Mean Annual CIAP Funding 1981–1986	Mean Annual CIAP Funding 1987–1990	Mean Annual CIAP Funding 1981–1990
Extra–Large		20	$3,436,671,695			
6,500+ units	Northeast	7	2,433,272,470	$25,170,412	$49,146,970	$34,761,035
	South	8	743,472,345	6,157,915	13,996,638	9,293,404
	Midwest	4	180,164,339	3,278,827	6,342,031	4,504,109
	West	1	79,762,541	5,941,486	11,028,407	7,976,254
Large		119	3,299,162,319			
1,250–6,499 units	Northeast	46	1,585,773,371	2,896,542	4,314,021	3,447,333
	South	31	773,859,036	1,814,986	3,518,320	2,496,319
	Midwest	28	594,667,576	1,664,167	2,813,282	2,123,813
	West	14	344,862,336	1,574,445	3,796,588	2,463,302
Medium		243	1,857,606,671			
500–1,249 units	Northeast	70	731,452,795	826,057	1,475,248	1,060,077
	South	70	491,821,479	534,978	1,017,501	712,785
	Midwest	67	353,295,674	484,464	745,687	552,025
	West	36	281,036,723	500,634	1,234,999	780,658
Small		1,275	2,128,212,569			
100–499 units	Northeast	253	712,387,076	239,872	466,380	307,063
	South	500	665,452,171	119,431	257,261	144,037
	Midwest	407	570,427,513	107,223	296,512	150,113
	West	115	179,945,809	126,702	342,339	176,417
Very Small		1,596	485,718,084			
<100 units	Northeast	122	69,530,612	95,868	155,305	103,777
	South	1,005	263,275,552	28,280	73,404	34,415
	Midwest	297	103,101,603	47,296	104,603	48,405
	West	172	49,810,317	47,196	91,058	46,991
Total		3,253	$11,207,371,338			

Source: Modernization Approval Data System (MADS) data, HUD Office of Public and Indian Housing.
Notes: Columns may not add to totals due to rounding.

Exhibit 1.7

Comprehensive Improvement Assistance Program (CIAP):
Number of Public Housing Agencies/Resident Management Corporations Funded
FY 1981–1990

Size Category	Total Number of PHAs/RMCs	Number Funded	Percent Funded	Amount Approved	Percent of Total
Extra–Large 6,599+ units	23	23	100.0%	$4,241,099,645	34.3%
Large 1,250–6,599 units	133	132	99.3	3,535,461,981	28.6
Medium 500–1,249 units	277	273	98.6	1,921,653,064	15.5
Small 100–499 units	1,325	1,229	92.8	2,091,337,574	16.9
Very Small <100 units	1,594	1,174	73.7	590,024,305	4.8
Total	3,352	2,831	84.5%	$12,379,576,569	100.0%

Source: Modernization Approval Data System FY90 Reports, HUD, Office of Public and Indian Housing.
Notes: Total numbers differ from Exhibit 1.6 due to inclusion of RMCs.

CIAP) and the accrual of new physical needs. This program, described in detail in Chapter 4 of this Report, was implemented in 1992 for all PHAs with over 500 units. Smaller PHAs will continue under the CIAP program for another year. PHAs with fewer than 250 units are expected to remain under CIAP in the future.

1.3 SIGNIFICANT CHANGES IN PUBLIC HOUSING, 1982-1992

In the ten years since alternative financing mechanisms for public housing were last considered, a number of important changes have occurred in the way public housing operations and capital expenses are funded and in the financial climate in which public housing agencies operate. This section documents the nature and impact of the changes, based on discussions with HUD officials, PHA representatives, and other experts, as well as a review of existing documentation and HUD data. Changes are organized into three major categories:

- Changes affecting rental and other PHA income;
- Changes affecting operating subsidy; and
- Changes affecting capital funding.

1.3.1 Changes Affecting PHA Income

As described in Section 1.2 above, by the late 1960s the public housing program was serving a far poorer population than had been originally envisioned. With rents limited to 25 percent of tenant income as a result of the 1969 Brooke amendments, PHAs could no longer support their operations from rental income, and HUD subsidies began to grow as a proportion of PHA revenues. Two changes mandated in the last decade—income and rent changes of the Housing and Community Development Amendments of 1981 and the implementation of federal preferences in 1987—appear to have contributed to this trend, resulting in a public housing tenant population consisting of families who are more likely to have very low incomes and greater service needs.

Housing and Community Development Act Amendments of 1981

The 1981 Amendments and the 1984 regulations implementing them[20] provided for a number of significant changes to tenant income rules and the amount of rent charged to public housing tenants. Specifically:

- The 1981 Amendments limited the proportion of tenants with incomes over 50 percent of area median income that could be admitted to public housing. The limits were 10 percent for units that were available for occupancy before October 1, 1981 and 5 percent for all public housing units that first become available for occupancy after this date. The 1983 Urban Rural Recovery Act subsequently increased the limits to 25 percent for the pre-1981 stock.

- The 1981 Act abolished fixed rent ceilings, which had previously limited the rents charged to better-off tenants, and increased rents from no more than 25 percent to a standard 30 percent of adjusted income.[21] Rent increases were to be phased in over a five-year period for current tenants, but the higher contribution took effect immediately for newly admitted tenants.

- The regulations also standardized deductions from income for purposes of calculating rent. In the past, local housing agencies had considerable discretion in determining allowable deductions from income. Although the 1981 amendments directed HUD to establish a set of deductions, in 1983 Congress created a statutory definition of income, setting fixed dollar amounts for deductions for minors and elderly heads of household and establishing criteria for deductions for medical and childcare expenses.

The principal objectives of the Amendments were to target public housing assistance to poorer households and to create uniformity of rules across HUD programs. The rent increase provisions for public housing became effective on August 1, 1982 under an interim rule of that date. The new income definitions became effective on October 1, 1984.

Prior to the implementation of these rules, HUD undertook a variety of analyses to estimate their impact. In general, while rent increases could be expected to boost PHA revenues from rent -- resulting in subsidy savings to HUD -- it was also clear that they would cause some higher income households to move out of public housing, offsetting increases in revenue. This was particularly true since rent caps had held rents down for many of the highest income

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[20]Final Rule, *Federal Register*, May 21, 1984.

[21]With some exceptions, for example in cases where a rental allowance is included in welfare benefits.

tenants; with the abolition of rent ceilings, the overall increase for these residents could be far more substantial than the difference between 25 and 30 percent of income. Finally, the switch to a system of fixed deductions (where deductions had previously been percentages of income) would further disadvantage higher-income households. While roughly 90 percent of public housing tenants already had incomes under 50 percent of median (leading the Department to conclude that the new income limits would have negligible impact[22]), those higher-income households that did move out would generally be replaced with very low income households.

The 1982 *Report to Congress* provided an initial assessment of these changes, using a micro-simulation model to predict the circumstances under which households would choose to leave public housing.[23] Such rent-sensitive households had incomes above 40 percent of median and were estimated to comprise 7 to 15 percent of the 1980 population. The net results of the changes, as predicted in 1982, showed PHA rent revenues rising in each year through 1986 (up by $10.30 PUM in constant 1980 dollars), followed by a small decline (to $10 PUM) through full implementation in 1988.

Trends in actual PHA revenues from rents for recent years are shown in Exhibit 1.8. Unfortunately, annual data are not available for the critical period during which the rent changes were being phased in. Information for 1987 on, however, suggests that the trend in rental revenue growth has been flat, averaging about 3 percent annually. By contrast, the PFS system assumes an annual increase in tenant incomes of 6 percent (3 percent over the year-end rent roll) for the purposes of calculating the subsidy amount.[24] Although PHAs had previously exceeded this rate of increase (and, as an incentive, had been allowed to keep the excess in the year obtained), by the mid-1980s increases in rental income were well below this rate, presumably reflecting decline in incomes due to loss of higher-income tenants and the addition of very low income households. For some PHAs, higher vacancies also contributed.

Changes in tenant income and other characteristics are difficult to document due to the lack of consistent and comparable data for the period since 1979. Analyses must rely on

[22]Final Rule, *Federal Register*, May 21, 1984.

[23]HUD, *Alternative Operating Systems for the Public Housing Program*, 1982, pp. 53-64, 83-87.

[24]PHAs are eligible for a rental income adjustment if they fall short of the PFS estimate for reasons beyond their control.

Exhibit 1.8

Public Housing Agency Dwelling Rental Income Per Unit Month

Year/ PHA Size	(1) Dwelling Rental Income	(2) Unit Months Available	Average Rent Per Unit Month (1)/(2)	Percent change PUM from Previous Year
1991				
Large	$762,463,785	6,482,401	$118	4.4%
Medium	43,986,163	336,840	131	4.0
Small	11,994,735	104,304	115	1.8
New York	472,834,095	1,867,212	253	1.2
Total	1,936,132,816	14,148,139	137	3.0
1990				
Large	734,101,830	6,496,881	113	1.8
Medium	42,417,058	336,216	126	3.3
Small	11,767,387	104,472	113	4.6
New York	465,889,990	1,865,052	250	3.7
Total	1,882,374,732	14,162,514	133	3.1
1989				
Large	720,301,459	6,515,872	111	1.4
Medium	41,084,595	336,736	122	2.2
Small	11,326,509	104,508	108	2.6
New York	450,244,370	1,864,752	241	5.6
Total	1,829,476,747	14,186,363	129	2.8
1988				
Large	NA	NA	NA	1.0
Medium	NA	NA	NA	2.0
Small	NA	NA	NA	3.9
New York	NA	NA	NA	5.5
Total	NA	NA	NA	2.7
1987				
Large	NA	NA	NA	3.7
Medium	NA	NA	NA	0.0
Small	NA	NA	NA	0.3
New York	NA	NA	NA	5.5
Total	NA	NA	NA	3.0%

Source: Office of Public and Indian Housing, longitudinal worksheet on sample of PHAs.

Notes: 1. The percent change figures for 1987 to 1989 were provided by the Office of Public and Indian Housing; the underlying dollar amounts were not available (as indicated by "NA"). Neither percent changes nor dollar amounts were available for years prior to 1987.

2. PHA Size Categories: Small – 100 to 499 units
Medium – 500 to 1249 units
Large – 1250+ units

3. Dwelling Rental Income represents rents charged.

4. Unit months available is the number of units available for occupancy times the number of months the units are expected to be available for occupancy.

different data sources and widely ranging sample sizes. Nevertheless, the trend towards lower income tenants seems clear. For example, according to a survey of approximately 10,000 households conducted by the Urban Institute in 1979, the average household income, in then-current dollars, was $5,033.[25] This would be $9,257 in 1992 dollars. By comparison, HUD data for 1991 show an average income (for a sample of 800,000 households) of $7,360 (or $7,573 in 1992 dollars.[26] ***Thus, the average real (inflation-adjusted) income of public housing tenants has declined by 18 percent***, as shown in Exhibit 1.9. The recent HUD data also distinguish average incomes for newly-admitted tenants from incomes for tenants already living in public housing. The average income for new admissions was $5,962, as compared to $7,822 for current tenants, indicating that families now moving into public housing have lower incomes than those already in occupancy.

Implementation of the Federal Preferences

A second change potentially affecting the composition of public housing residents and the amount of rental income collected by PHAs was the implementation in 1988 of mandatory federal preferences for admission.[27] Under this system, preference for admission to public housing must be given to applicants who have been involuntarily displaced, are living in substandard housing, or are paying more than 50 percent of their incomes for rent. Housing agencies have some flexibility in the implementation of the preferences, in that they may rank the preferences and they may add local preferences (such as residency, veteran's status, or income range) as a way of assigning priorities. However, prior to implementation of this rule, PHAs had wide discretion in admission preferences, as long as their policies were reviewed for fair housing compliance and approved by HUD. Recent statutory changes have again increased PHA discretion while maintaining the federal preferences.[28]

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[25]Suzanne B. Loux and Robert Sadacca, *Comparison of Public Housing Tenant Characteristics: 1976 to 1979*, Urban Institute, 1980, pp. 10-14.

[26]HUD, Office of Public and Indian Housing, October, 1991.

[27]Regulations are at 24 CFR 960.211.

[28]Housing and Community Development Act of 1992, Section 112; Cranston-Gonzalez National Affordable Housing Act, Section 501.

Exhibit 1.9

Household Incomes for Public Housing Tenants

Source	Year	Number of Households	Household Income in Unadjusted Dollars			Household Income in 1992 Dollars		
			All	New Admissions	Recertifications	All	New Admissions	Recertifications
Urban Institute[1]	1979	10,000	$5,033	NA	NA	$9,257	NA	NA
HUD[2]	1991	800,000	7,360	5,794	7,602	7,573	5,962	7,822
Percent Change			46.2%			−18.2%		

[1] Suzanne B. Loux and Robert Sadacca, *Comparison of Public Housing Tenant Characteristics: 1976 to 1979*, Urban Institute, 1980, pp. 10–14.

[2] HUD, Office of Public and Indian Housing, October, 1991.

1.3.2 Changes Affecting Operating Subsidy

During the past decade, there were also a number of adjustments and changes affecting the calculation of operating subsidy for federal public housing. These changes are reviewed below.

Inflation Factor Changes

From the start of the PFS through 1981, the inflation factor used to adjust Allowable Expense Levels (AELs) was based on the Local Government Wage Survey (LGWS). However, by 1982 it had become apparent that local government wages were rising more slowly than inflation in other parts of the economy. Since wages accounted for only about 60 percent of PHAs' total non-utility expenses, the factor under-predicted inflation faced by PHAs in the purchase of goods and contract services. This problem particularly affected PHAs located in areas where local government wages had shown relatively slow growth, including large and extra large PHAs, PHAs in metropolitan areas, and PHAs in the West.[29]

In 1982, HUD switched to an inflation factor that represented a weighted average of 60 percent local government wage rates and 40 percent state and local government purchases of good and services. Also, the Department provided a retrospective adjustment to AELs to make up for the inadequacy of the factor since 1977. The adjustment was at the time predicted to cost $55.5 million, with the highest adjustments going to the PHA types listed above.

In 1989, HUD changed the source of data used for the wage component of the index from the LGWS to a Bureau of Labor Statistics data series (ES 202), because the latter was more current and provided better coverage. While this was regarded as an improvement, technical deficiencies in the inflation factor remain, including problems related to the differing composition of the workforce and the ceilings and floors applied by HUD.

Investment Income

In 1981, HUD issued handbook and administrative instructions aimed at increasing PHAs' income from investments.[30] The instructions established an investment income

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[29]HUD, *Alternative Operating Subsidy Systems for the Public Housing Program*, 1982, p. 181.

[30]Final Rule, *Federal Register*, November 18, 1985.

procedure requiring PHAs to invest cash balances; they also set a target investment rate of return equal to the 91-day T-Bill rate. The intent of the rule was both to improve PHA cash management practices and to discourage underestimates of investment income. Under the revised system, PHAs are required to budget investment income at the estimated average 91-day T-Bill rate provided by HUD, with a year-end reconciliation to reflect actual Treasury rates. As an incentive to improve yields, PHAs are able to exclude from the subsidy calculations at year-end any income earned in excess of the target rate. The change was considered to have only minor impact on PHAs.

Utility and Energy Conservation

As described above in Section 1.2, the PFS system treats utilities separately from other costs, through an Allowable Utilities Consumption Level (AUCL). The AUCL is initially calculated based on actual consumption during a base period and then-current utility rates. It is then adjusted to actual current rates and consumption, with an allowance for year-to-year differences in heating degree days. In this way, HUD provides a pass-through of utility costs, reimbursing PHAs for increased costs associated with rate changes. As mentioned before, HUD also shares (on a 50/50 basis) any increases or savings resulting from changes in consumption not related to weather.

The utilities calculation has undergone several changes since the inception of PFS. Initially, for example, the AUCL was based on a 36-month rolling base period. This was replaced in 1977 by a 3-year fixed base period.[31] In 1983, HUD returned to the 3-year rolling base system, believing that this period was sufficient to establish a reliable average free of distortions caused by abnormal weather. The rolling base system also offered the advantage of reflecting changes in appliance use or other consumption habits of public housing residents and allowed HUD to recoup the benefits of lower consumption from modernization and conservation investments.[32]

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[31]Interim Rule, *Federal Register*, December 23, 1982.

[32]*Ibid*.

New measures were implemented in 1991 to encourage housing agencies to invest in energy conservation.[33] Specifically, PHAs were permitted to keep half of 12 months of rate savings resulting from PHA actions to reduce rates (such as well-head purchases or legal appeals), and they were provided with incentives to undertake non-HUD financing of energy improvements. Under the latter provision, HUD could 1) freeze the rolling base so that PHAs using shared savings agreements would retain cost savings during the term of the contract, or 2) provide additional operating subsidy to cover the cost of amortizing a non-HUD loan. The impact of this change on operating subsidy levels appears to be small, with $3 million budgeted for it in FY 1992.

Change to the Delta Calculation

The "delta" is the second of the two factors used in adjusting PHA allowable expense levels from the previous to the current year. In contrast to the inflation factor (which adjusts for changes in wage rates and product costs), the delta is intended to adjust AELs for changes in PHA operating conditions, particularly increases or decreases in the number of units available for occupancy and changes in the average age of the PHA's buildings. Prior to 1986, the delta adjustment required a fairly complicated annual calculation by PHAs.[34] However, in that year a simplified adjustment was introduced for agencies that had not experienced significant changes in their operating situation in the past year. Under the simplified approach, agencies that have not had a change of 5 percent or 1,000 units in their stock can simply apply a percentage increase of .5 percent, intended to reflect the higher operating costs associated with the aging of the buildings.

Changes in Vacancy Policy

One of the issues that has received considerable attention over the past decade is the growing problem of public housing vacancy rates. By providing full subsidy for various categories of empty units, the PFS initially did not incorporate strong incentives to minimize or

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[33]Final Rule, *Federal Register*, September 11, 1991 implementing PFS changes from the 1987 Housing and Community Development Act.

[34]See HUD *Alternative Operating Subsidy Systems for the Public Housing Program*, 1982, p. 118.

reduce vacancies. Under some circumstances, this could result in an incentive to keep units vacant.[35] Further, protections for certain classes of vacancies, such as units undergoing modernization, could potentially lead to unnecessary or premature emptying of buildings scheduled for improvements.[36] While the Department has long recognized circumstances in which vacancies are beyond a PHA's control, it has also taken several recent steps to modify and/or tighten up the way vacancies are treated under PFS.

One such step was the introduction of Comprehensive Occupancy Plans in 1986, as part of a program to provide stronger incentives—as well as a tool—for achieving higher public housing occupancy targets.[37] The revised vacancy policy required that all PHAs use a 97 percent occupancy rate in PFS subsidy calculations.[38] This would mean that predicted rental income would cover 97 percent of units, and any loss of rent from vacancies in excess of 3 percent would not be made up later by additional subsidy.

There were several exceptions, the most important of which were for units under modernization and those under a Comprehensive Occupancy Plan (COP). Specifically:

- The PHA could use its actual occupancy rate (i.e., less than 97 percent) in the PFS calculation, if the lower rate was solely the result of vacancies in an approved, on-schedule modernization program;

- If the PHA had developed a HUD-approved Comprehensive Occupancy Plan (COP), providing for a phased increase to the 97 percent level, it was entitled to use the COP goal for that year instead of 97 percent (or its actual occupancy rate, if higher).

Exceptions were also provided for "vacant units beyond a PHA's control," defined to include units for which a PHA had applied for modernization monies but HUD could not fund due to insufficient funding as well as units vacant due to natural disasters or held vacant as a result of

[35]*Ibid.*, p. 206. The report provides a scenario where units in a vacant project cost the PHA less to maintain than the amount of the subsidy received.

[36]Proposed Rule, *Federal Register*, September 6, 1991.

[37]Final Rule, *Federal Register*, May 7, 1986.

[38]An important feature of the system was a provision allowing PHAs with five or fewer vacancies to use actual percentages and exempting them from COP requirements. This eliminated paperwork burdens and took into account the unique circumstances of very small PHAs.

Title VI (Fair Housing) actions. Any other excess vacancies were to be considered under management control, with financial consequences to the PHA.

The centerpiece of the revised program—the Comprehensive Occupancy Plan—was intended as a tool that would assist PHAs in developing a strategy for increasing occupancy and/or deprogramming (removing from use) units that could not be reoccupied within a reasonable time frame. As a part of the COP, PHAs were required to develop project-specific plans for each development with less than 97 percent occupancy, including a statement of actions to be taken (modernization, demolition, disposition, change in occupancy policy, or physical or management improvements) and a schedule for returning the project to full occupancy. PHAs were also to develop annual agency-wide goals. Initially, the maximum term for a COP and achievement of 97 percent occupancy was five years, although longer terms could be approved under special circumstances. Over the years, HUD has granted waivers to PHAs seeking extensions of the time period for meeting COP goals or adjustments to the approved targets contained in the original plan.

Since the introduction of COPs, overall vacancy rates in public housing have not been reduced; rather, they have climbed steadily, from 5.8 percent in 1986 to 8.1 percent in 1991. Among the 23 agencies designated by HUD as troubled in 1991, vacancy rates for the 1989 to 1991 period averaged 14 percent and ranged as high as 44 percent. In light of this, HUD has proposed a rule that would eliminate COPs, increase the occupancy standard to 98 percent, exclude certain units from subsidy altogether, and provide only partial subsidy for excess vacancies (including modernization units) over the new 2 percent limit.[39] The proposal is intended to curb the problem of continuing high vacancy rates in public housing and deal with perceived weaknesses of the current system, including existing incentives to empty buildings for modernization and full compensation of PHAs for units that are not generating full operating costs. Pending Congressional action, the Department will limit waivers under the current vacancy rule to special cases, including:

- Requests by certain small PHAs and RMCs, which may receive one year extensions; and

[39]Proposed Rule, *Federal Register*, September 6, 1990. As part of the 1992 Appropriations Act, Congress blocked HUD from implementing the proposal. However, the Department has requested a reversal.

- Requests from larger PHAs, on a one-time basis, based on expected vacancy reductions, with a year end adjustment for actual performance.[40]

Insurance Costs

Another important change of the last decade was Congressional action requiring PFS adjustments to compensate PHAs for steep increases in insurance costs experienced during the early 1980s. During this period, insurance costs for fire, liability, and extended coverage rose much faster than the inflation factor used to adjust expenses under PFS. The problem was compounded in 1985, when many insurance companies withdrew from the public housing market altogether. Housing agencies began to have trouble getting coverage, and some were forced to use operating reserves to purchase increasingly expensive policies.

In 1987 and 1988, Congress provided additional funds to be distributed to PHAs to cover insurance costs. These amounts were $124 million ($7.94 PUM) in 1987 and $65 million ($4.36 PUM) in 1988. These funds did not reflect a permanent change to PFS. However, in the Housing Community Development Act of 1987, Congress mandated that the PFS be revised permanently to compensate PHAs for increased insurance costs. Accordingly, HUD adjusted the AEL by $8.45, based on the difference between estimated 1989 actual cost and the average amount included in the AEL ($3.38) at that time.[41]

The insurance adjustment resulted in a sizable monetary distribution to PHAs. Funds were provided equally per unit to all PHAs, since there was no way to calculate individual adjustments and it was assumed that insurance costs reflected factors such as location and risk as opposed to factors such as PHA size. Another outcome of the insurance crisis was the formation of a number of PHA/IHA non-profit captive insurance entities, which now provide assured coverage to agencies with rates based on pooled risk. Participation in these entities requires PHAs to carry out safety inspections and other improved management procedures to reduce risk.

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[40]Memos from the Assistant Secretary for Public and Indian Housing to Regional Administrators, June 5, 1992 and August 6, 1992.

[41]Final Rule, *Federal Register*, May 1, 1989.

Reserve Levels

All PHAs are required to maintain cash reserves against operating needs. Prior to 1990, HUD regulations set the maximum amount of reserves that could be maintained by PHAs at 50 percent of total routine expense levels. In March 1990, the Department published a notice adjusting the maximum reserve to 50 percent of approved total routine expenses or $100,000, whichever is greater.[42] The addition of a dollar cap was intended to allow small housing agencies to build higher reserve levels in order to fund extraordinary and preventive maintenance from this source. The change was expected particularly to benefit small, well-managed agencies that would otherwise have returned the funds to HUD as residual receipts; under previous rules, they would then have had to apply for CIAP funding to address major repairs or replacements.

Operating Subsidy for Special Use Units

Two recent changes have been made regarding the continuation of subsidy for units lost under specific circumstances or used for certain non-dwelling uses. In November 1989, HUD published a notice[43] adjusting the method for counting "breakthrough" units—that is, single units created during modernization by combining two or more smaller units—in the calculation of operating subsidy under PFS. Previously, a breakthrough would result in the PHA receiving subsidy for one unit instead of two, regardless of the size or number of occupants. This measure, finalized in 1991, ensures that housing agencies do not lose subsidy for combining units, as long as the new unit houses at least as many people as the former units.

Also, by notice in August 1990,[44] HUD authorized the use of waivers to allow non-dwelling units used in self-sufficiency and anti-drug programs to be subsidized under PFS. Previously, such units had been excluded from ***any*** subsidy. Waivers are limited to one site (involving one or more contiguous units) per public housing development and cover uses such as child care facilities, adult day care, job training facilities, and literacy programs, space for resident-operated businesses, use by law enforcement officials, drug rehab facilities, and youth programs.

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[42]Notice PIH 90-15 (PHA), March 22, 1990.

[43]Notice PIH 89-48 (PHA), November 14, 1989.

[44]Notice PIH 90-39 (PHA), August 24, 1990.

Formal Review Process

The most recent change to the PFS system is the institution of a formal review process, under the mandate of the Housing and Community Development Act of 1987. The PFS system is based on a formula that related operating expenses for a sample of "well-managed" PHAs in the base year (1975) to housing agency characteristics such as unit mix, geographic location, and local inflation rates. However, as noted in the 1982 ***Report to Congress***, the PFS has been criticized for not accurately reflecting PHA costs because of anomalies in the base year for some PHAs, failure of the formula to account for all of the PHA characteristics that affect operating costs, or other special circumstances.[45]

Initially, the PFS did include an appeals system. HUD provided $12 million in increased AELs associated with successful appeals during 1975 and 1976, with most of the funds going to large and extra large PHAs (which also contain a large proportion of the program's stock). However, appeals were only available to PHAs that were below or within the range test, not to those above it. Since 1977, no appeals system has been available. Although various systems have been suggested since that time, the principal difficulties include developing an approach that is not administratively burdensome, which provides a rational and uniform basis for making individual PHA adjustments, and which is predictable for purposes of funding appropriation.

Under the provisions of the Housing and Community Development Act of 1987, HUD is now implementing a formal review process.[46] This process will allow housing agencies to request a one-time adjustment to their AELs intended to correct inequities or abnormalities in the base year expense level, to reflect changes in operating circumstances since the base year, and to reflect the higher cost of operations in economically distressed areas. The revised equation on which formal review AELs are based uses measures of local costs (such as government wage levels) and measures of housing agency operating characteristics. If the predicted expense level is more than 15 percent above the agency's current actual AEL, then the PHA can use the predicted AEL to compute a new AEL. Small PHAs will be most likely to gain from the adjustment, since their costs vary most from the expense levels predicted under

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[45]HUD, *Alternative Operating Subsidy Systems for the Public Housing Program*, 1982, pp. 17-22.

[46]Final Rule, *Federal Register*, February 4, 1992.

the formula. (A full discussion of the formal review process, as well as a simulation of its impacts, is presented in Chapter 2 of this Report.)

1.3.3 Changes Affecting Modernization and Capital Needs

At the time of the previous analysis of public housing funding systems in 1982, the Comprehensive Improvement Assistance Program was just being implemented. As discussed above, CIAP replaced the piecemeal approach to capital funding that preceded it. Under CIAP, PHAs were required to submit annual, competitive applications, documenting their capital needs and outlining five-year, comprehensive modernization plans. In 1986, an additional source of funds for modernization was made available with the authorization of the Major Reconstruction of Obsolete Projects (MROP) program. MROP permitted PHAs to apply for 20 percent of appropriated development funds to be used for the reconstruction of public housing that needed extensive structural work or redesign of units.

Between 1981 and 1990, a total of $12.4 billion in CIAP and MROP funding was approved.[47] As shown earlier in Exhibit 1.7, 34 percent of these funds have gone to the largest PHAs, compared to about 22 percent to smaller PHAs with under 500 units.[48] Over the years, CIAP funds have been provided in a variety of different categories beyond the basic category of comprehensive modernization. In 1990, the comprehensive category accounted for 81 percent of the total. Other categories have included:

- Emergency—work needed to address conditions that immediately threaten life, health, and safety;
- Special Purpose—originally limited to energy conservation; since 1989 expanded to cover major equipment or structural systems, security, handicapped accessibility, and vacancy reduction;
- Homeownership modernization—limited to projects under Turnkey III or the Mutual Help Homeownership Opportunities programs; and

[47]HUD data as of February 23, 1990 from the Budget Division, Office of Public and Indian Housing. Of the $12.4 billion total, approximately $306 million were MROP funds approved between 1986 and 1989.

[48]HUD Office of Public and Indian Housing (Office of Construction, Rehabilitation and Maintenance, Modernization Division), *Modernization Approval Data System - FY 1990 Reports*.

- Various other set-asides—such as, lead-based paint abatement, non-discrimination, and resident management.

CIAP offered several advantages over the earlier modernization program. First, the program gave housing agencies more responsibility for determining modernization needs. Second, there was more money available to address long-neglected needs, although funding was still not sufficient to address the full backlog. Third, the CIAP program permitted multi-phased modernization for large developments, which could be distributed over several funding cycles. Finally, CIAP also provided funding for management improvements.

The approach also had drawbacks. CIAP's emphasis on comprehensive improvements may have forced PHAs to choose among developments as opposed to work items needed across sites. The system also appeared to create incentives to undertake early replacements in CIAP-funded projects (since no additional funds would be provided) and to disinvest in sites for which the PHA planned to apply for CIAP funds in the future. While the overall intent of the program was to encourage comprehensive modernization, the set-asides noted above were in part an attempt to add flexibility to the system to address special needs. Finally, CIAP planning and the preparation of applications was extremely time-consuming, and the competitive nature of the grants may have meant that awards reflected the quality of the application (and the ability and aggressiveness of the applicant) as much as the urgency of the need. Most fundamental, the funding available was far short of what was required to address the backlog of modernization needs and also meet ongoing needs resulting from the aging of the stock.

As of FY 1992, only small agencies with fewer than 500 units will continue to be funded under CIAP, and beginning in FY 1993 only agencies with fewer than 250 units will continue under the program. For larger agencies, CIAP will be replaced by the Comprehensive Grant Program (CGP).[49] Under CGP, formula funding for modernization will replace the competitive grant approach of CIAP. The funding formula is based on research, completed over the last decade, which provided estimates of both the amount and distribution of backlog repairs outstanding in the public housing stock (as of 1985) and the rate at which new needs (accrual) arise. The funding formula gives equal weight to backlog and accruing modernization needs, taking into account funding already received by the PHA under CIAP and MROP. Special limits

[49]Final Rule, *Federal Register*, February 14, 1992.

will be applied to PHAs that are "modernization troubled"—those agencies with poor spending histories for modernization funds.[50]

The new, formula-based approach is intended to establish a predictable flow of modernization funding and to return responsibility for modernization planning and decision-making to local agencies. PHAs should benefit from decreased administrative burden, more stable funding, and increased fairness under the formula-driven approach.

1.4 MANAGEMENT, PERFORMANCE, AND FUNDING ISSUES

The previous sections have described the public housing finance system, with particular attention to changes of the past decade. The PFS contains some incentives: PHAs are limited to a formula-based expense level in order to control costs, but they are generally allowed to keep savings derived from more efficient management practices. Many of the changes discussed above reflect attempts to increase opportunities and financial incentives for good management and efficient operations.

At the same time, however, HUD recognizes that the PFS is not a direct incentive system, nor is it meant to be. Therefore, the Department has also sought approaches for systematically evaluating PHA performance and providing tools for management improvement. This section presents an overview of the Public Housing Management Assessment Program (PHMAP), which is currently being implemented for all PHAs. The section concludes with the perspectives of various PHA representatives on the range of changes over the last decade.

1.4.1 Management Incentives and Monitoring

Efficient management of public housing has long been a concern of HUD and of PHAs. Over the years there have been extensive efforts to develop standards for PHA management as well as to provide incentives for good performance.

The development of widely applicable performance indicators has been underway at least since 1979 when HUD first instituted criteria for identifying "troubled" agencies among large PHAs. At that time, the sole criterion was financial trouble, indicated by an operating reserve that was 20 percent or less of the maximum allowable level. In 1984, the category of

[50]See the more detailed discussion in Chapters 4 and 5.

Operationally Troubled agencies was added, consisting of large PHAs that failed a set of four gross indicators: tenant accounts receivable (TARs) exceeding 10 percent; vacancies exceeding 6 percent; operating reserves between 20 and 40 percent of maximum; and deteriorating physical condition of units threatening their long-term viability. By 1988, this set of indicators had been expanded to seven and incorporated into a formal designation system including the development of targets and timetables for improvements. The seven performance criteria were a reserve ratio of at least 30 percent, expenses less than or equal to income, a threshold for utility consumption increases of 5 percent, a vacancy threshold of 3 percent, TARs of not more than 10 percent, a 30-day vacant unit turnaround time, and the completion of housing quality inspections annually for 100 percent of the PHA's units.

In late 1987, HUD set up the Public Housing Decontrol Program, which was designed to reduce federal control over "well-run" housing agencies. PHAs that chose to participate were rated according to the seven performance standards, and those that met all of them received "recognized performer" status. PHAs meeting the standards were eligible for relief from specific procedural requirements, affording greater control over their budgets and reduced paperwork and federal oversight in their modernization program. However, an Inspector General audit issued in early 1990 determined that there was no benefit derived from the program -- either to PHAs or to the Department. As a result, the program was suspended in that year.[51]

The new PHMAP system grew out of these efforts, and reflects the Department's desire to develop a comprehensive system that includes objective criteria for measuring PHA performance across the full range of management areas. A HUD task force began work on PHMAP in early 1990. By the end of that year, the proposed indicators had been reviewed by a working group composed of HUD officials and PHA representatives and had undergone several field tests. At the same time, in the 1990 National Affordable Housing Act, Congress included a statutory requirement for such a program, mandating use of seven specific indicators and allowing other factors to be identified by HUD.

[51]Proposed Rule, *Federal Register*, April 17, 1991.

Ultimately, a total of 12 indicators were established for PHMAP. These standards, now being implemented and evaluated under an Interim Rule,[52] are as follows:

1. Number and percentage of vacancies--including progress made within the past three years to reduce vacancies.

2. Modernization performance, based on five components: a) unexpended funds over three years old, b) timeliness of fund obligation, c) contract administration, d) quality of physical work, and e) budget control.

3. Rents uncollected--as a percentage of total rents to be collected.

4. Energy consumption--compared to average consumption in the three-year rolling base period.

5. Unit turnaround--expressed as the average period of time the PHA required to repair and re-rent vacant units.

6. Outstanding work orders--based on the proportion of maintenance work orders not yet completed and progress made in the past three years to reduce work order completion time.

7. Annual inspection and condition of units and systems, based on four components: a) systems to track inspection and repair of units and systems, b) annual inspection of units, c) correction of unit deficiencies, and d) inspection and repair of systems.

8. Tenants accounts receivable--monies owed to a PHA by residents in possession, as a percentage of total tenant charges.

9. Operating reserves--as a percentage of maximum allowable operating reserves;

10. Routine operating expenses--compared to operating income and subsidy.

11. Resident initiatives--including support for anti-drug, resident participation/ management, homeownership and self-sufficiency efforts.

12. Development, based on four components: a) quality of contract administration, b) timeliness of development/MROP, c) quality of physical work, and d) budget controls.

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[52]Interim Rule, *Federal Register*, January 17, 1992.

Under PHMAP, housing agencies will receive grades ("A" to "F") for each indicator, which will then be combined to produce a total score. Based on total score, a PHA may be determined to be a "high performer," "standard," "troubled," or "mod-troubled." HUD Regional Administrators will review scores of PHAs falling within 10 percentage points of each tier and have discretion to adjust the designation based on factors beyond the PHA's control such as physical condition of developments or their neighborhood environment.[53]

High performers will be rewarded with fewer reporting requirements and less federal monitoring. Troubled and mod-troubled agencies will be required to enter into a Memorandum of Agreement with HUD that establishes actions, goals, and timetables for improving overall performance. Improvement plans will be required for all PHAs with scores below "C" on individual indicators. Technical assistance will be provided. For PHAs found to be in substantial default under the program, HUD may solicit proposals for another entity to manage all or part of the PHA's housing and/or petition for the appointment of a receiver.

PHMAP is currently being implemented in phases, beginning with medium and large PHAs. Among this group, a total of 42 PHAs (about 10 percent) were deemed troubled, while roughly 20 percent fell into the high performer group. All of the medium-sized, troubled agencies were new to the designation, since this size group had not been included in previous systems. For larger agencies, there was substantial overlap with the 1991 list of 23 troubled agencies; only a handful of PHAs were added or deleted as a result of the new criteria.

An important feature of PHMAP is the use of its modernization indicator (with five components) in the new Comprehensive Grant Program and CIAP, to identify PHAs that may be subject to reduced funding or other sanctions based on poor modernization performance. This addresses the Department's concerns about providing potentially large funding increases under Comprehensive Grants to PHAs with low capacity to use the money efficiently or in a timely manner. Ultimately, PHMAP scores are intended to be used as the management assessment component in other public housing competitive grant programs, thus providing an additional incentive for PHAs to achieve good performance on these indicators.

[53]Requests for modifications and exclusion of specific indicators are also available to deal with situations beyond a PHA's control.

1.4.2 Perspectives on PHA Funding and Performance

As noted at the outset, HUD's design for this research included interviews with a number of PHA directors, representatives of industry groups, and other public housing experts in order to collect their views on the likely impacts of potential alternatives to PFS and their perspectives on how changes of the last decade have affected PHAs. In addition to commenting on the changes and management improvement efforts described above, many of these respondents also emphasized the difficult environments in which many PHAs operate and the resulting high costs of public housing operations. Their views on specific changes and issues of the past decade are summarized below.

Changes in Tenant Income and Composition

Many PHA representatives stated that the last decade had seen a major decline in tenant incomes and a significant increase in the numbers of multi-problem tenants with great needs for social services. The 1981 Amendments and the implementation of federal preferences in 1988 were seen as important contributors to a longer-term trend. According to this view, the decline in real incomes of PHA tenants had an impact well beyond the substitution of federal subsidy for rents: it had a marked impact on the composition and social context of public housing, through the loss of working households (primarily in the group with incomes over 30 percent of median) and the shift to predominantly welfare families. Other special populations, including the frail elderly and the young disabled, are also growing rapidly, putting additional pressure on a system with little funding to meet new service needs.

From an operational perspective, PHA representatives believe that declining tenant incomes and other demographic changes have qualitatively changed the nature of public housing provision and have resulted in increased operating costs for PHAs—costs that are not covered in the PFS formulas. Among the reasons cited for higher costs were:

- Increased maintenance costs due to higher turnover among a more transient population as well as increased vandalism and lack of tenant upkeep resulting from the loss of sense of community. Larger households, higher proportions of children, and illegal doubling up (to avoid homelessness) contribute to higher maintenance costs. Frail elderly and disabled residents also place greater demands on site management.

- More difficulty in rent collections, coupled with higher legal costs for evictions. One reason offered for increased evictions was increasing numbers of very young heads of household with little experience as renters, producing problems of poor housekeeping and non-payment. Drug-related evictions were also thought to have increased. Several respondents noted that courts were reluctant to grant evictions, given the lack of housing alternatives for most affected households; this also had negative consequences for public housing communities.

- Increased need for social services coordination for a concentrated, poverty population; also special service needs of the elderly, disabled, and illiterate;

- Increased security problems associated with a poorer population that is more susceptible to drugs and crime; and

- Increased administrative burden to train and maintain occupancy staff to implement complex, changing rules concerning admissions and preferences.

There are few data to document the nature or timing of changes in tenant characteristics suggested above. Further, whether PHAs are actually spending more in these areas as a result of these changes cannot be documented. Nevertheless, PHA representatives indicated a need for some mechanism in the PFS for recognizing higher costs associated with changing populations, plus policies to foster a broader range of incomes within public housing. A system of ceiling rents had limited the payments required of better-off families. The 1981 abolition of the ceiling rents, in particular, was viewed as a disincentive for working families to move into public housing, as well as a factor discouraging existing tenants from moving towards self-sufficiency. (In recognition of the latter, in the 1990 National Affordable Housing Act, Congress placed a 10 percent limit on annual rent increases for families with income increases due to employment. Ceiling rents were also subsequently reintroduced in 1987.)

Specific Elements of PFS

Several comments pertained to specific adjustments to PFS. Regarding inflation adjustments, PHA representatives identified several areas where they believed that costs had increased faster than inflation, including the insurance component (which was permanently adjusted in 1989) and, more recently, employee benefits. HUD has been reluctant to entertain piecemeal adjustments to individual components, noting that while the single inflation factor approach might undercompensate PHAs in one area in a particular year, it could also produce a surplus with respect to another component of a PHA's budget. Nevertheless, some PHA representatives doubt the ability of any single inflation factor to fairly compensate PHAs for increases in a variety of different cost components.

Given this, PHA industry groups have consistently sought to add flexibility to the system by having an appeals process incorporated into PFS. The purpose of such a process would be to allow PHAs to demonstrate changes in operating conditions with adverse cost consequences that have not been recognized in PFS. Although HUD recently introduced the formal review process, PHA representatives have criticized the procedure, saying that it is not a true appeals process but rather a modified version of the range test, to be implemented without input from the PHAs. Further, they point out that larger PHAs will not benefit, even though they arguably have been shortchanged the most under PFS.

The impact of HUD's vacancy policy changes, according to observers, has varied based on the circumstances of the PHA. Many PHAs with strong management were able to use the COP effectively to address vacancy problems. For others—particularly very large and troubled PHAs—they believed that COPs may not have been an efficient or appropriate tool, given the more intractable nature of the underlying problems.

The PHA directors interviewed cited a number of reasons for high vacancies that reflect problems other than mismanagement, including vacancies due to units that are not marketable (for example, high concentrations of studio apartments in a market with many affordable one-bedroom units available to the elderly); vacant units needing modernization; and units for which the PHA lacks funds for turn-around repairs. It was also noted that, while COPs were intended to help PHAs make the "hard choices" (removing unmarketable units from the stock by demolition or disposition), the one-for-one replacement requirements introduced by the Housing and Community Development Act of 1987 reduced the PHAs' flexibility to eliminate problem units in this way, given limited funding and other difficulties developing new public housing.

More generally, PHA representatives believe that quantitative measures of performance (vacancy rates and other indicators) included in the new management assessment program (PHMAP) need to be tempered by consideration of factors such housing type, resident characteristics, and physical condition. Some PHA officials question whether it is possible to develop a uniform set of standards that can be accurately applied to such diverse entities as the over 3,000 public housing agencies nationwide.

A final area of change, one that appears to have received a more favorable reaction, is the switch to the new Comprehensive Grant Program for modernization. Positive features of the approach cited include increased predictability in funding and increased responsibility for modernization planning and decision-making at the PHA level. Some PHAs are also looking forward to decreased administrative burden under the system. Concern remains, however, that the total amount of funding appropriated for modernization will be inadequate relative to the backlog of physical needs and the demands of an aging housing stock.

Changes Affecting Administration and Service Delivery

While the public housing finance system has undergone various changes since 1982, many PHA officials believe that the most significant changes of the last decade are those that fall outside the PFS and reflect a qualitative difference in the nature of the job PHAs are expected to perform. This includes increased demands for service delivery due to the changing nature of the public housing tenant body (discussed above), as well as increased administrative burdens placed on PHAs by HUD.

With respect to administrative burden, PHA officials point to a broad array of policy and regulatory changes which have created additional workload without new funding for staff to handle these duties. Among the most commonly cited areas of growing administrative burden are:

- Increasingly complex occupancy and screening practices that require additional staff as well as more extensive staff training. Along with requirements related to Section 504 on handicapped access, tenant selection and preference rules have been cited by PHAs as the top cause of added administrative work for PHAs over the past 15 years.

- Handicapped accessibility regulations. Section 504 of the Housing and Rehabilitation Act of 1973 requires PHAs to undertake a variety of planning activities—needs assessments, review of administrative practices, and transition plans—in addition to undertaking physical modifications or adopting reasonable accommodations to ensure accessibility to the handicapped. A potentially broad array of on-going additional administrative costs (e.g., sign language interpreters, large-type advertising) are anticipated as a part of implementation. PHAs must also comply with state regulations on handicapped access, which are more stringent than the federal rules in some cases.

- Planning requirements for modernization. PHAs have in the recent past been required to develop annual submissions, five-year funding requests, and detailed needs assessments that have placed added demands on PHA staff. First-year planning and administrative costs not covered under CIAP budgets must be covered through the operating budget. It is not yet clear whether the CGP will reduce these burdens.

- Increasingly complex budgeting and accounting packages. While PHAs indicate that the result may be better quality data, significant resources are involved in data assembly and reporting.

- Costs for legal and administrative staff to handle lease grievance and eviction rules. These are mentioned as specific areas leading to increased costs.

- Requirements from HUD for new record-keeping and other data requests. Such reporting burdens are frequently mentioned. Agencies are particularly concerned about the data-gathering burden associated with the newly-established PHMAP program, as well as about fair housing, audits, and other monitoring that requires extensive PHA records assembly and other preparation.

- The need to hire grantspeople to be successful in securing competitive funding for special activities.

A final source of increased administrative burden, according to PHA representatives, is new program development. This includes the design and implementation of new program activities (such as the Family Self-Sufficiency program, resident management, and homeownership programs) with little or no additional funding. While PHAs do not question the importance of these programs, they do not believe they can successfully fulfill these obligations without new resources.

1.5 CHANGES IN PHA BUDGETS

Despite the many developments of the last decade, the size and composition of public housing agency budgets have not changed significantly. This is in part attributable to the PFS system, which serves to constrain growth in operating expenditures. Expenditures have only been allowed to grow in real dollars to the extent allowed by the delta adjustment and by policy and technical changes to the PFS, such as the recent implementation of formal review.

Exhibit 1.10 presents data on changes in PHA operating expenses for 1980 and 1989. Expense data are presented both with and without utilities, since the latter constitutes a

Exhibit 1.10

Comparison of PHA Total Operating Expenditures and Operating Expenditures Other than Utilities: FY 1980 and 1989

Means by PHA Size and Region

PHA Size/ Region	Total Operating Expenditures PUM			Operating Expenditures Other than Utilities PUM		
	1980	1989	percent change	1980	1989	percent change
Extra-Large						
Northeast	$229.74	$306.51	33.4%	$122.24	$215.14	76.0%
South	152.49	184.78	21.2	90.43	125.68	39.0
Midwest	184.69	261.14	41.4	110.61	179.67	62.4
West	213.92	296.30	38.5	164.46	245.92	49.5
Large						
Northeast	195.30	238.90	22.3	103.77	158.88	53.1
South	140.13	195.66	39.6	77.46	135.83	75.4
Midwest	134.01	166.73	24.4	87.23	121.15	38.9
West	158.23	234.19	48.0	120.08	187.00	55.7
Medium						
Northeast	170.33	237.84	39.6	84.78	154.88	82.7
South	126.44	180.49	42.7	76.01	124.79	64.2
Midwest	122.44	157.14	28.3	78.56	113.81	44.9
West	143.24	179.63	25.4	102.60	147.17	43.4
Small						
Northeast	164.41	223.22	35.8	84.06	141.49	68.3
South	107.80	158.17	46.7	65.57	112.87	72.1
Midwest	111.96	156.99	40.2	68.03	112.70	65.7
West	132.61	197.08	48.6	108.58	162.62	49.8
ALL	$145.34	$196.60	35.3%	$86.09	$137.99	60.3%

Data Base: PFS Time Series Analysis Sample, N= 366 PHAs, SORES data.

significant proportion of most PHAs' total operating expenditures but is covered as a pass-through under PFS.

As shown in Exhibit 1.10, overall operating expenditures including utilities have increased by 35.3 percent over this period. The extent of the change varies among PHA size categories and regions, from a 21.2 percent increase in expenditures for extra-large PHAs in the South to a 48.6 percent in increase for small PHAs in the West. However, utility costs declined during the decade, offsetting much higher percentage increases in non-utility operating expenses. Average non-utility expenditures grew by 60.3 percent over the decade, with the greatest increases observed among extra-large and medium-sized PHAs in the Northeast and the lowest among large Midwestern agencies.

Exhibit 1.11 shows changes in PHA rental income, both in absolute dollars and in the proportion of operating expenditures covered by rent as opposed to subsidy payments. Although the overall proportion of total costs (without utilities) covered from rents has dropped from 97 percent to 79 percent, the proportion of total costs including utilities covered by rents has remained fairly constant, at about 56 percent nationally. This figure ranges from a low of 32.5 percent in extra-large PHAs in the South and Midwest to over 70 percent for medium-sized agencies in the West. The greatest decline in the proportion of costs covered by rents was seen in the larger agencies in the South. The greatest increases over the decade were observed for extra-large PHAs in the West.

Although the PFS does not permit much growth in operating expenditures, it does allow for shifting between budget categories. Some public housing officials have stated that increased costs for some items has required them to shift spending from one category to another. An often-cited example is reduction in maintenance expenditures in order to cover necessary increases in security or administrative costs. Exhibit 1.12 presents data on the composition of PHA budgets in 1980 and 1989. Utilities have been excluded. Although some reallocation is evident, this does not appear to be extreme. The data show some decrease in the proportion of total spending devoted to maintenance, and there have been modest increases in spending for security and general expenditures, which include employee benefits and workers compensation, (categories PHA representatives often mentioned as examples of costs that have increased more rapidly than assumed under annual adjustments to PFS).

Exhibit 1.11

Comparisons of PHA Dwelling Rental Income: FY 1980 and 1989 PUM

Means by PHA Size and Region

PHA Size/ Region	Dwelling Rental Income PUM			Dwelling Rental Income as a percent of Total Operating Expenditures PUM			
				(with utilities)		(without utilities)	
	1980	1989	percent change	1980	1989	1980	1989
Extra–Large							
Northeast	$85.01	$120.69	42.0%	37.0%	39.4%	69.5%	56.1%
South	62.25	60.06	(3.5)	40.8	32.5	68.8	47.8
Midwest	69.97	84.80	21.2	37.9	32.5	63.3	47.2
West	109.44	197.65	80.6	51.2	66.7	66.5	80.4
Large							
Northeast	91.07	127.72	40.2	46.6	53.5	87.8	80.4
South	71.55	79.77	11.5	51.1	40.8	92.4	58.7
Midwest	65.86	67.47	2.4	49.1	40.5	75.5	55.7
West	90.42	136.22	50.7	57.1	58.2	75.3	72.8
Medium							
Northeast	98.72	151.68	53.6	58.0	63.8	116.4	97.9
South	79.79	92.39	15.8	63.1	51.2	105.0	74.0
Midwest	79.55	83.78	5.3	65.0	53.3	101.3	73.6
West	85.48	126.39	47.9	59.7	70.4	83.3	85.9
Small							
Northeast	103.78	153.90	48.3	63.1	68.9	123.5	108.8
South	75.71	96.17	27.0	70.2	60.8	115.5	85.2
Midwest	76.56	97.95	27.9	68.4	62.4	112.5	86.9
West	92.59	133.86	44.6	69.8	67.9	85.3	82.3
ALL	$83.26	$109.57	31.6%	57.3%	55.7%	96.7%	79.4%

Data Base: PFS Time Series Analysis Sample, N=366 PHAs, SORES data.

Exhibit 1.12

Comparison of PHA Budget Composition, Excluding Utilities: FY 1980 and 1989

Overall Means

PHA Size	Budget Item	1980 PUM	1980 Percent of Total Operating Expenses	1989 PUM	1989 Percent of Total Operating Expenses
Extra Large	Total Operating Expenditures	$115.54	100.0%	$186.06	100.0%
	Tenant Services	2.83	2.4	3.78	2.0
	Administration	24.73	21.4	43.01	23.1
	Maintenance	53.55	46.3	74.10	39.8
	Protective Services	4.41	3.8	11.12	6.0
	General	23.22	20.1	41.13	22.1
	Non–Routine Maintenance	3.65	3.2	8.88	4.8
	Capital Repairs	2.38	2.1	4.05	2.2
Large	Total Operating Expenditures	95.05	100.0%	146.66	100.0%
	Tenant Services	3.86	4.1	3.03	2.1
	Administration	22.95	24.1	34.22	23.3
	Maintenance	43.05	45.3	61.10	41.7
	Protective Services	1.79	1.9	2.37	1.6
	General	19.29	20.3	33.87	23.1
	Non–Routine Maintenance	3.25	3.4	7.41	5.1
	Capital Repairs	3.28	3.5	4.66	3.2
Medium	Total Operating Expenditures	82.84	100.0%	134.50	100.0%
	Tenant Services	2.67	3.2	2.96	2.2
	Administration	20.12	24.3	31.11	23.1
	Maintenance	36.67	44.3	53.46	39.7
	Protective Services	0.61	0.7	2.96	2.2
	General	15.90	19.2	33.90	25.2
	Non–Routine Maintenance	3.28	4.0	6.09	4.5
	Capital Repairs	4.25	5.1	5.54	4.1
Small	Total Operating Expenditures	76.13	100.0%	125.00	100.0%
	Tenant Services	1.11	1.5	1.36	1.1
	Administration	19.27	25.3	31.09	24.9
	Maintenance	32.18	42.3	48.74	39.0
	Protective Services	0.22	0.3	0.32	0.3
	General	15.62	20.5	32.42	25.9
	Non–Routine Maintenance	3.58	4.7	4.91	3.9
	Capital Repairs	4.40	5.8%	6.10	4.9%

Data Base: PFS Time Series Analysis Sample, N=366.
Notes: Columns may not add to 100 percent due to rounding.

Finally, while it has been argued that PHAs may be using reserves to offset higher expenditures, based on data from prior studies this does not appear to be the case, at least over the last ten years. As shown in Exhibit 1.13, reserve levels as a percent of maximum allowable reserves dropped significantly between 1969 and 1978 and have not rebounded. While small and medium PHAs seem to have been able to build up their reserve levels to some degree, reserve levels for large and extra large agencies are at approximately the same level now that they were in 1978.

1.6 CONCLUSION

A variety of changes in the funding and operations of public housing agencies have been examined in this chapter. Some of the changes were relatively minor technical adjustments to PFS, which were implemented without substantial impact on housing agency finances or operations. Examples include the simplification of the "delta" calculation in the PFS system, changes to the rules about accumulating operating reserves, and modifications to the treatment of investment income. Other changes represent more fundamental revisions in the public housing program. Of particular importance were the 1981 income limits, followed by implementation of federal preferences in 1988. While many PHA representatives argue that the changes have led to increased management costs (due to administrative complexity and changes in the tenant population), the changes also reflect a Congressional determination of who should be served by the public housing program and the replacement of a highly decentralized approach with a uniform policy for the provision of federal benefits. Other important changes of the last decade include attempts to introduce stronger incentives into PFS (particularly regarding the treatment of vacancies), further development of a direct program for assessing PHA management performance and offering incentives for improvement, and the recent transition from a competitive, discretionary modernization program to one based on formula grants.

Exhibit 1.13

Public Housing Agency Operating Reserves as a Percent of Maximum Allowable Reserves

PHA Size	Mean Percent of Maximum		
	1969	1978	1989
Extra Large	65%	41%	42%
Large	93%	58%	59%
Medium	85%	52%	68%
Small	91%	71%	73%
Very Small			81%
All (N)	90% (227)	66% (314)	65% (366)

Notes: 1. FY 1969 and 1978 data from *Evaluation of the Performance Funding System, Working Paper on Changes in Public Housing Agency Finances* (Abt Associates, 1980). Data for Small and Very Small PHAs were combined for FY 1969 and FY 1978. Means were calculated for a sample of PHAs.

2. FY 1989 ROBOTS data compiled by HUD for Abt Associates. Means were calculated for the universe of PHAs.

CHAPTER 2

FUNDING SYSTEMS BASED ON PUBLIC HOUSING OPERATING COSTS

Chapter 1 introduced two major types of funding public housing agencies (PHAs) receive from the Federal Government: operating subsidies and capital subsidies. This chapter will present the current operating subsidy mechanism, the Performance Funding System, as the base case for comparisons that include operating costs throughout this report. It will also analyze a recent modification to the PFS system, the formal review process.

2.1 FUNDING UNDER THE CURRENT PERFORMANCE FUNDING SYSTEM (BASE CASE PFS)

As discussed in Chapter 1, the Performance Funding System was designed to reflect operating costs of well-managed housing agencies. When it was implemented in 1975, subsidies were constrained relative to the actual costs of some PHAs, based on derivation of an "allowable" expense figure. The calculated subsidy amount under PFS is the difference between the estimate of allowed operating costs and an estimate of income from rents and any other sources. The estimate of operating costs in turn is based on the "allowable expense level" (AEL) in the previous year increased by inflation plus a small adjustment for aging of the housing stock, and an estimate of the cost of a fixed level of utilities. Ultimately, AELs depend on spending in the "base year," generally 1975.

The AELs that were established at the outset of the PFS were supposed to reflect the operating conditions of the PHA at that time. These initial AELs may not have been established at appropriate levels for all PHAs.[1] Also, not all changes in operating circumstances have been incorporated in subsequent adjustments to the AEL, owing to limitations of the "delta" calculations. It is widely recognized that the PFS, as a system based on historical costs, has carried with it the inequities and biases of past patterns of AELs. The introduction of the formal

[1]HUD's report, *Alternative Operating Subsidy Systems for the Public Housing Program*, of May 1982, discusses some of the problems in the PFS arising from the base year expense levels. It is mentioned that many PHA officials have complained that the expense level of 1974-75 was depressed because of the stringency of the Interim Funding System which operated in 1972-75. (p.19). See also Merrill, Sally R., et al, *Evaluation of the Performance Funding System: Summary Report* (Cambridge, MA, Abt Associates, 1981).

review process to the PFS, examined in this chapter, is in fact a response to these concerns about the existing PFS. The formal review process will be discussed in later sections of this chapter, after presentation of the PFS base case.

2.1.1 The PFS Base Case

The base case PFS for this study is defined as the PFS that was in operation during FY 1989, the most recent year for which AEL data were fully available. PFS data on the AEL in FY 1989 were available for 2,929 of the 3,252 PHAs in the United States.[2] Of these 2,795 are Public Housing Agencies, and the remaining 134 are Indian Housing Authorities.[3]

The PFS base case is summarized in Exhibit 2.1. As in the rest of this report, figures are shown in 1992 dollars.[4] The table shows several pieces of information about the PFS *before* the advent of the formal appeals process—i.e., the PFS base case. In the table, PHAs have been grouped by size and region, as they will be throughout this report. The PHA size categories used for this study are:

- Extra-large—6,500 or more units;
- Large—1,250 to 6,499 units;
- Medium—500 to 1,249 units;
- Small—100 to 499 units; and
- Very small—under 100 units.

The average Allowable Expense Levels in 1992 dollars per unit month (PUM) indicate the range and variation in PHA allowed expenditures (exclusive of utilities). Allowable expenditures were

[2]Many of the remaining PHAs received no PFS subsidy, or very negligible subsidy for audit only. Data are missing only for 323 PHAs in the PFS. Data on AEL and PFS Operating Subsidy Eligibility were obtained from HUD's Form 52723.

[3]There were no missing values for AEL in FY 1989 for Indian Housing Authorities. Hence, the 134 Indian Housing Authorities in our study constitute all of the Indian Housing Authorities in the universe of the PFS analysis.

[4]That is, the characteristics of the PFS as simulated are those of 1989, but the system is displayed using the FY 1992 appropriations amounts.

Exhibit 2.1

Performance Funding System (PFS)
Base Case, in FY 1992 Dollars

PHA Size/ Region	Allowable Expense Level PUM	Number of PHAs	PFS Eligibility PUM	Total PFS Eligibility	Percent of Total PFS Eligibility	Percent of Total Units
Extra-Large	$318.67	20	$220.39	$1,035,209,650	48.4%	32.3%
Northeast	357.50	7	214.92	620,676,385	29.0	19.9
South	220.55	4	196.02	91,619,412	4.3	3.2
Midwest	265.15	8	250.44	309,706,392	14.5	8.5
West	317.94	1	125.70	13,207,461	0.6	0.7
Large	221.11	119	153.16	564,292,881	26.4	25.4
Northeast	248.81	46	162.19	190,210,553	8.9	8.1
South	191.62	28	159.32	144,818,143	6.8	6.3
Midwest	192.43	31	143.76	149,975,653	7.0	7.2
West	264.45	14	141.72	79,288,532	3.7	3.9
Medium	190.91	234	103.47	225,971,874	10.6	15.0
Northeast	208.70	69	95.04	62,114,009	2.9	4.5
South	173.27	66	105.65	65,168,091	3.0	4.2
Midwest	176.67	67	102.86	64,400,220	3.0	4.3
West	219.35	32	119.29	34,289,554	1.6	2.0
Small	168.30	1,189	79.72	251,601,904	11.8	21.7
Northeast	197.75	243	71.74	51,033,383	2.4	4.9
South	153.65	399	77.17	84,032,018	3.9	7.5
Midwest	155.67	446	76.59	83,296,329	3.9	7.5
West	200.91	101	123.97	33,240,175	1.6	1.8
Very Small	155.93	1,367	75.37	60,547,025	2.8	5.5
Northeast	204.37	113	83.42	6,923,390	0.3	0.6
South	147.98	295	76.37	14,450,307	0.7	1.3
Midwest	139.61	804	62.81	27,772,988	1.3	3.0
West	208.80	155	128.27	11,400,339	0.5	0.6
ALL	233.04	2,929	147.17	2,137,623,334	100.0	100.0
Northeast	293.77	478	169.00	930,957,721	43.6	37.9
South	177.13	792	122.30	400,087,971	18.7	22.5
Midwest	196.20	1,356	143.19	635,151,582	29.7	30.5
West	$242.05	303	$130.96	$171,426,060	8.0%	9.0%

Data Base: Simulations from PFS Base Case, N=2,929 PHAs.

Notes: 1. Columns may not add to totals nor to 100 percent due to rounding.
2. Base Case system contains characteristics in effect in FY 1989, shown using FY 1992 appropriation amounts.

highest for the extra-large agencies in the Northeast ($358 PUM) and West ($318 for Los Angeles, the only PHA in this stratum). They were lowest for the very small agencies in the Midwest ($140 PUM). Although there is regional variation within each size category, the magnitudes of the AEL figures follow the PHA sizes: $319 PUM for the extra-large agencies, $221 for the large, $191 for the medium agencies, $168 for the small, and $156 for the very small PHAs.

The PFS eligibility levels per unit month, shown in the third column of Exhibit 2.1, are calculated from the AELs after adjustments (for utilities and other smaller items) and after deduction of rental and other income. They represent the size of the gap (between expenses and income) that is eligible for coverage under PFS. The magnitudes again follow the PHA size categories, with the highest figure for the extra-large agencies and the lowest for the very small agencies. Regional differences within size categories are also apparent.

The PFS subsidy per unit month was the highest for extra-large PHAs, at $220. For large PHAs it was $153; for medium PHAs, $103; for small PHAs, $80; and for very small PHAs, $75. Extra-large PHAs in the Midwest received the highest PFS subsidy per unit month ($250) among all size by region categories; it was almost 14 percent higher than that for the extra-large category as a whole. Western PHAs of medium, small, and very small size also had the highest per unit month subsidy in ***their*** respective size categories. In fact, the PFS subsidy per unit month of very small PHAs in the West was over 70 percent higher than that of all very small PHAs ($128 compared to $75). The PFS subsidy per unit month of small PHAs in the West was over 55 percent higher than that of all small PHAs ($124 compared to $80).

The fourth column of Exhibit 2.1 shows the total dollars of PFS eligibility for each stratum of PHAs. These total PFS figures show the influence of a combination of factors, including the number of public housing units, the level of allowable expenses, and the size of the gap between allowable expenses and income (primarily tenant rents). From a total of $2.14 billion in PFS operating subsidy in FY 1992, extra-large PHAs received nearly half (approximately $1.04 billion). Large PHAs received about 26 percent of the PFS operating subsidy, approximately $564 million. The approximate shares of medium, small, and very small PHAs were 11 percent, 12 percent, and 3 percent, respectively. Medium PHAs received almost $226 million in PFS subsidy, small PHAs received almost $252 million, and very small PHAs received almost $61 million in operating subsidy.

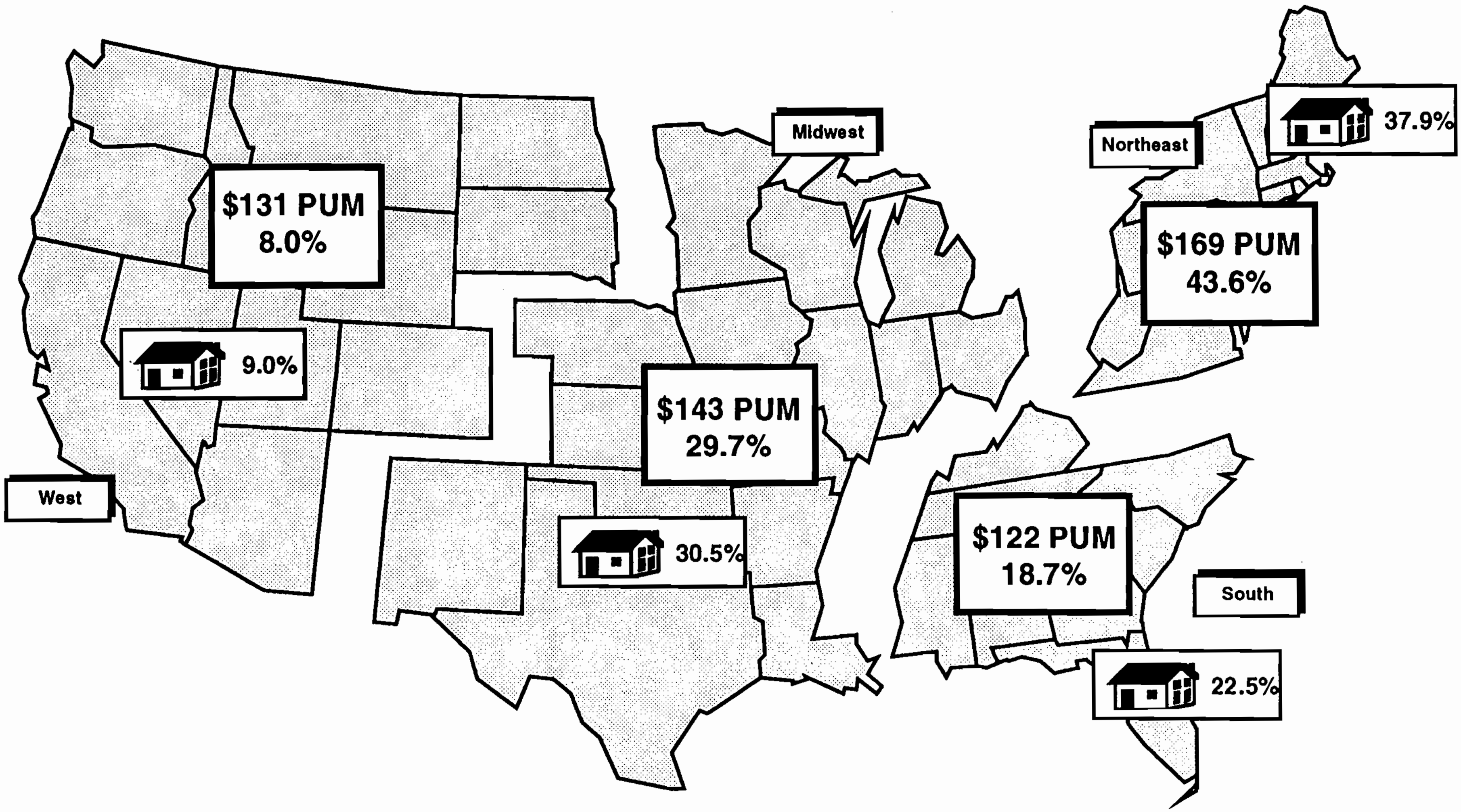
The final column of Exhibit 2.1 shows the proportion of all public housing units in each stratum. This can be compared to the proportion of total subsidy going to that stratum, although again, PFS eligibility depends on other factors beyond share of units, such as proportion of high-rise buildings and share of family units compared to elderly units. Extra-large PHAs received a far greater share of PFS subsidy than their share of the total number of housing units. They received over 48 percent of the subsidy, though they owned only 32 percent of the total public housing units in FY 1992. Large PHAs received a slightly higher share of the PFS subsidy relative to their share of housing units. They received 26 percent of the PFS subsidy, while they own 25 percent of the housing units. Medium PHAs received only about 11 percent of the PFS subsidy though they own 15 percent of the housing units. The difference between the share of PFS subsidy and share of housing units was most apparent for the small and very small PHAs. Small PHAs received almost 12 percent of the PFS subsidy though they owned almost 22 percent of the housing units. Very small PHAs also received a smaller share of the PFS subsidy relative to their share of the number of housing units. They received almost 3 percent of the PFS eligibility though they owned almost 6 percent of the housing units. Among both the small PHAs and very small PHAs, the disparity between the share of PFS subsidy and share of housing units was the least for PHAs in the West.

Regional patterns, regardless of PHA size, are also interesting, as shown in Exhibit 2.2. The Northeast with a subsidy per unit month of $169, received the largest share of the total PFS operating subsidy. PHAs in the Northeast received almost 44 percent of the PFS subsidy though they represented only 38 percent of the total number of housing units. In fact, the Northeast is the only region that received a greater share of PFS subsidy than its share of the total number of housing units. The Midwest PHAs, with a subsidy of $143 per unit month, received almost 30 percent of the PFS subsidy while operating almost 31 percent of the total number of housing units. The South received 19 percent of the total PFS subsidy with almost 23 percent of the number of housing units. Its agencies had the lowest per unit month subsidy: $122. PHAs in the West received 8 percent of total PFS subsidy, received $131 PUM on average, and owned 9 percent of all public housing units under PFS.

The size and distribution of operating subsidies shown in Exhibits 2.1 and 2.2, and just described, constitute the base case for simulating alternative operating funding systems. We now turn to the first alternative system.

Exhibit 2.2

Performance Funding System Base Case: Regional Subsidy Allocation Per Unit Month (PUM) and Percent of Total PFS Eligibility



= indicates region's percent share of all public housing units included in PFS.

2.2 THE FORMAL REVIEW PROCESS: DESCRIPTION OF THE FINAL RULE

The Final Rule on the PFS formal review process was published in the *Federal Register* on February 4, 1992. The rule implements the Housing and Community Development Act of 1987, which required a modification of the PFS in order to correct some inequities in the base year expense levels due to changes in operating circumstances and the relative costs of operating in economically distressed localities. Under the formal review process, a revised PFS formula is used to compute the formula expense level (FEL) for each PHA.[5] The formal "review" process thus should not be confused with an appeals process.

The revised formula used to calculate the FEL was developed by HUD using regression analysis. It contains indicators of operating costs and variables that proxy the operating circumstances of PHAs and the relative condition of the local economy. City economic condition is proxied by the proportion of the population made up of renter households with below-poverty incomes who reside in old housing units. The size of the PHA and extent of its large units in family high-rise buildings are proxies for adverse operating circumstances. The five indicators in the revised formula are the following:

(i) Pre-1940 rental units occupied by poor households in 1980 as a percentage of the 1980 population of the community.

(ii) Local government wage rate index.

(iii) The PHA's current number of 2 or more bedroom units available for occupancy (maximum 15,000 units).

(iv) The current ratio of the number of two- or more bedroom units available for occupancy in high-rise family projects of the PHA to the number of all units available for occupancy in the PHA.

(v) The current ratio of the number of three- or more bedroom units available for occupancy in the PHA to the number of all units available for occupancy in the PHA.

[5] The revised formula has also been substituted for the current formula, for calculating the impact of a significant change in the characteristics of a PHA's units. Any PHA submitting a budget to HUD after November 1, 1992 is required to use the revised formula if it is required to perform the long calculation of delta based on exceeding the threshold of unit count changes.

These indicators and their weights are described in Appendix A to this report. The indicators in the revised formula were chosen by HUD to meet the following criteria: following the intent of the statute and the framework of the proposed rule; being available and easily computable in a standardized format; having a common sense rationale for explaining variations in PHA/IHA operating expenses; being significantly correlated with PHA expenses; adding significantly to the statistical fit of a system of indicators; and having a formula coefficient in the expected direction.

PHAs will compute their formula expense levels (FELs) under the formal review process using a revised PFS Handbook. The FEL will then be used to compute the AEL. Under the final rule, if 0.85 times the FEL of a PHA is greater than the previous period AEL, then the PHA is entitled to a permanent increase in its AEL. The base to calculate the current AEL, for the PHAs entitled to increased AELs under the formal review process, will be 0.85 times the FEL (instead of the previous period AEL). The rule applies this 15 percent range test symmetrically, so that if 1.15 times FEL is greater than the previous period AEL, then a PHA may elect to lower its AEL. However, since the rule is applied only at the request of PHAs, it is unlikely that a PHA will actually request a lower AEL. Thus, the formal review process is, in effect, a 15 percent range test, applying only to PHAs with previous period AELs that are more than 15 percent below the revised FEL. HUD funded the PFS for FY 1992 to include the higher AELs for those PHAs that qualify under the formal review process. In the first year under the formal review process, the AEL of the fiscal year ending in calendar year 1992 is being compared to the FEL for that year in order to compute the AEL for the next fiscal year.[6]

The PFS with the formal review process forms the comparison case in the analysis in this chapter. The comparison case is a simulation of the application of the formal review process to the PFS for FY 1989, expressed in 1992 dollars. The simulation was conducted using data provided by HUD on the predicted values from the revised formula for each PHA. (Complete data on the actual formula factors were not available, nor was it within the scope of this study to evaluate the revised formula or ascertain the characteristics of the regression

[6]The formal review process rule is effective April 1, 1992, but PHAs could submit applications for formal review of their AEL until 60 days after the revisions to HUD's PFS handbook were issued (i.e., until November 1, 1992).

equation on which it is based.) The formal review simulation is compared to the PFS base case which, as described earlier, represents the actual operation of the PFS in FY 1989.

2.3 THE FORMAL REVIEW PROCESS: FINANCIAL IMPACTS

As described further in the rest of this section, the main impacts of the PFS formal review process on public housing funding are as follows:

- The estimated annual cost to the federal government of the increase in PFS subsidy resulting from the formal review process is $30.7 million (in 1992 dollars).

- The total dollar cost of PFS subsidy eligibility in the entire system is increased by only 1.4 percent as a result of the formal review process. Thus, the impact of the formal review process on the system is very small relative to the scale of operating subsidy as a whole.

- Of the 2,929 PHAs in our analysis universe, 780 PHAs (26.6 percent of the total number of PHAs) will receive higher PFS subsidy as a result of the formal review process. (This assumes that all PHAs eligible for an increase in AEL will request it.)

- We have assumed that no PHA will request lower PFS subsidy as result of the formal review process. Thus, the remaining 2149 PHAs (73.4 percent of those in PFS) will experience no change in their PFS subsidy as a result of the formal review process.

- Small PHAs will receive the greatest absolute benefit from the formal review process. They will receive the largest share (40.6 percent) of the increase in PFS subsidy resulting from the formal review process.

- Large and medium PHAs will each get roughly a fifth of the total increase in PFS subsidy (22.4 percent and 20.7 percent, respectively).

- Extra-large PHAs as a group will receive the smallest share (3.0 percent) of the increase in PFS subsidy resulting from the formal review process.

- Very small PHAs will experience the highest relative increase in subsidy relative to the subsidy without the formal review. Their PUM subsidy will increase by 6.7 percent.

- PHAs in the Midwest will receive the largest regional share (40.8 percent) of the increase in PFS subsidy resulting from the formal review process.

- PHAs in the South will receive the next largest regional share (34.2 percent) of the increase in PFS subsidy resulting from the formal review process.

- PHAs in the West will receive the smallest regional share (2.5 percent) of the increase in PFS subsidy resulting from the formal review process.

Exhibit 2.3 shows the comparison between the PFS base case and the simulation of the formal review process. The PFS eligibility figures per unit month (PUM) for FY 1989 are the same as in Exhibit 2.1. The next column of Exhibit 2.3 shows PFS eligibility figures with formal review—i.e., with substitution of new AELs for those agencies whose AEL changes meet the 85 percent threshold (range) test. The final column shows the dollar differences for all PHAs in PFS and for each stratum. For the PFS as a whole, the formal review process increases the subsidy by $2.11 PUM, some 1.4 percent. The greatest differences accrue to the very small agencies, both in absolute dollar terms and in proportion of change; as a group, their AELs increase by $5.06 PUM or 6.7 percent over the $75.37 base case.

Of the 2,929 PHAs in our analysis universe, 780 (26.6 percent) will receive higher PFS subsidy as a result of the formal review process. HUD has included for FY 92 the higher AELs assigned to those PHAs that qualify under the formal review process.[7] We do not expect any PHA to receive ***lower*** PFS subsidy as result of the formal review process. Thus, the remaining 2,149 PHAs will experience no change in their PFS subsidy as a result of the formal review process.

Of all the public housing units in our analysis, 15.7 percent will receive higher PFS subsidy under the formal review process. The largest share of these (34.5 percent) are units owned by small PHAs, but almost 24 percent are owned by large PHAs. Extra-large PHAs own 10.6 percent of the units that will benefit from the formal review process, while very small PHAs own the remaining 10.3 percent.

The budgetary impacts of the increase in PFS subsidy resulting from the formal review process are shown in Exhibit 2.4. The estimated annual cost to the federal government (in 1992 dollars) of the increase in PFS subsidy resulting from the formal review process is $30.7 million, a 1.4 percent increment above the FY 1992 PFS base case. Small PHAs will receive

[7]This is discussed in the "Response to Public Comments" part of the Formal Review Process Final Rule, *Federal Register*, February 4, 1992, p. 4285.

Exhibit 2.3

PFS Eligibility Under the Base Case and Under the Formal Review Process (FY 1992 PUM)

PHA Size/ Region	PFS Eligibility (Base Case PFS) PUM	PFS Eligibility with Formal Review Process PUM	Dollar Difference
Extra–Large	$220.39	$220.59	$0.20
Northeast	214.92	214.92	0.00
South	196.02	196.02	0.00
Midwest	250.44	251.18	0.74
West	125.70	125.70	0.00
Large	153.16	155.02	1.86
Northeast	162.19	162.67	0.48
South	159.32	162.68	3.36
Midwest	143.76	146.85	3.09
West	141.72	141.80	0.08
Medium	103.47	106.37	2.90
Northeast	95.04	99.31	4.27
South	105.65	108.77	3.12
Midwest	102.86	105.27	2.41
West	119.29	119.68	0.39
Small	79.72	83.67	3.95
Northeast	71.74	76.40	4.66
South	77.17	81.40	4.23
Midwest	76.59	80.28	3.69
West	123.97	125.95	1.98
Very Small	75.37	80.44	5.07
Northeast	83.42	86.37	2.95
South	76.37	81.16	4.79
Midwest	62.81	69.24	6.43
West	128.27	129.07	0.80
ALL	147.17	149.28	2.11
Northeast	169.00	170.25	1.25
South	122.30	125.51	3.21
Midwest	143.19	146.01	2.82
West	$130.96	$131.54	$0.58

Data Base: Simulations from PFS Base Case, N=2,929 PHAs.

Exhibit 2.4

Increase in PFS Subsidy for PHAs and IHAs Under the Formal Review Process

PHA Size/ Region	Dollar Increase in PFS Subsidy Over Base Case	Percent Increase over PFS Base Case	Percent Share of Increased Subsidy ($30.7 million)
Extra-Large	$914,240	0.1%	3.0%
Northeast	0	0.0	0.0
South	0	0.0	0.0
Midwest	914,240	0.3	3.0
West	0	0.0	0.0
Large	6,872,242	1.2	22.4
Northeast	557,305	0.3	1.8
South	3,046,836	2.1	9.9
Midwest	3,226,481	2.2	10.5
West	41,619	0.1	0.1
Medium	6,339,592	2.8	20.7
Northeast	2,791,351	4.5	9.1
South	1,923,234	3.0	6.3
Midwest	1,511,588	2.3	4.9
West	113,419	0.3	0.4
Small	12,460,245	5.0	40.6
Northeast	3,319,819	6.5	10.8
South	4,595,879	5.5	15.0
Midwest	4,012,913	4.8	13.1
West	531,633	1.6	1.7
Very Small	4,067,474	6.7	13.3
Northeast	244,931	3.5	0.8
South	906,387	6.3	3.0
Midwest	2,845,192	10.2	9.3
West	70,964	0.6	0.2
ALL	30,653,792	1.4	100.0
Northeast	6,913,407	0.7	22.6
South	10,472,336	2.6	34.2
Midwest	12,510,413	2.0	40.8
West	$757,636	0.4%	2.5%

Data Base: Simulations from PFS Base Case, N=2,929 PHAs.
Notes: Columns may not add to totals nor to 100 percent due to rounding.

the greatest absolute dollar impact, with an increase in PFS subsidy of $12.5 million (about 5 percent) over the PFS subsidy without the formal review process. The PFS subsidy received by large PHAs will increase by $6.9 million, which represents an increase of 1.2 percent over the PFS subsidy without the formal review. Medium PHAs will receive an increase in PFS subsidy of $6.3 million (2.8 percent), and very small PHAs will receive an increase of $4.1 million (6.7 percent) over the PFS subsidy without the formal review. Despite their size, extra-large PHAs will receive the least absolute as well as relative benefit from the formal review process. Their PFS subsidy will increase by only $0.9 million, an increase of less than 0.1 percent over the PFS subsidy received without the formal review. In fact, only two extra-large PHAs, both in the Midwest, will benefit at all from the formal review process.

Thus, among the different size categories, the greatest increase in subsidy relative to the PFS base case will accrue to very small PHAs. Very small PHAs in the Midwest will receive the greatest relative increase among all size/region categories; their PFS subsidy will increase by over 10 percent as a result of the formal review process.

Although extra-large PHAs receive a much smaller share of the total PFS subsidy increase, the number of housing units owned by extra-large PHAs that will benefit from the formal review process is slightly greater than the number of housing units owned by very small PHAs that will benefit from the formal review. Clearly, the impact of the formal review process on PFS subsidy, per unit month, for extra-large PHAs is quite small.

It was observed in Section 2.1 that in the base case PFS, extra-large and large PHAs received greater shares of the total PFS subsidy than their respective shares of the total number of public housing units. As shown in Exhibit 2.5, the formal review process results in slightly lower shares for extra-large and large PHAs, and slightly higher shares for medium, small, and very small PHAs, compared to the PFS without the formal review process. However, extra-large and large PHAs continue to receive greater shares of the total PFS subsidy than their respective shares of the total number of housing units, even under the formal review process; medium, small and very small PHAs continue to receive a lower share under the formal review process.

Exhibit 2.6 summarizes the impact of the formal review process on only the 780 PHAs that will receive higher subsidy. These PHAs, in the aggregate, will receive 15 percent more subsidy than under the base case PFS. We have noted before that, by contrast, the subsidy for

Exhibit 2.5

Comparison of PFS Eligibility and the Formal Review Process

PHA Size/ Region	Total PFS Eligibility	Number of PHAs	Total PFS Eligibility with Formal Review Process	Number of PHAs Qualifying	Percent of Total PFS Eligibility	Percent of Subsidy with Formal Review Process	Percent of Total Units
Extra-Large	$1,035,209,650	20	$1,036,123,890	2	48.4%	47.8%	32.3%
Northeast	620,676,385	7	620,676,385	0	29.0	28.6	19.9
South	91,619,412	4	91,619,412	0	4.3	4.2	3.2
Midwest	309,706,392	8	310,620,632	2	14.5	14.3	8.5
West	13,207,461	1	13,207,461	0	0.6	0.6	0.7
Large	564,292,881	119	571,165,123	15	26.4	26.3	25.4
Northeast	190,210,553	46	190,767,859	2	8.9	8.8	8.1
South	144,818,143	28	147,864,979	5	6.8	6.8	6.3
Midwest	149,975,653	31	153,202,134	7	7.0	7.1	7.2
West	79,288,532	14	79,330,151	1	3.7	3.7	3.9
Medium	225,971,874	234	232,311,466	50	10.6	10.7	15.0
Northeast	62,114,009	69	64,905,360	17	2.9	3.0	4.5
South	65,168,091	66	67,091,325	17	3.0	3.1	4.2
Midwest	64,400,220	67	65,911,808	12	3.0	3.0	4.3
West	34,289,554	32	34,402,973	4	1.6	1.6	2.0
Small	251,601,904	1,189	264,062,149	298	11.8	12.2	21.7
Northeast	51,033,383	243	54,353,202	53	2.4	2.5	4.9
South	84,032,018	399	88,627,897	108	3.9	4.1	7.5
Midwest	83,296,329	446	87,309,242	122	3.9	4.0	7.5
West	33,240,175	101	33,771,808	15	1.6	1.6	1.8
Very Small	60,547,025	1,367	64,614,499	415	2.8	3.0	5.5
Northeast	6,923,390	113	7,168,322	18	0.3	0.3	0.6
South	14,450,307	295	15,356,694	79	0.7	0.7	1.3
Midwest	27,772,988	804	30,618,180	305	1.3	1.4	3.0
West	11,400,339	155	11,471,304	13	0.5	0.5	0.6
ALL	2,137,623,334	2,929	2,168,277,127	780	100.0	100.0	100.0
Northeast	930,957,721	478	937,871,127	90	43.6	43.3	37.9
South	400,087,971	792	410,560,307	209	18.7	18.9	22.5
Midwest	635,151,582	1,356	647,661,995	448	29.7	29.9	30.5
West	$171,426,060	303	$172,183,697	33	8.0%	7.9%	9.0%

Data Base: Simulations from PFS Base Case, N=2,929 PHAs.

Notes: Columns may not add to totals nor to 100 percent due to rounding.

the entire system will increase by only 1.4 percent as a result of implementing the formal review process.

As seen in Exhibit 2.6, 15.7 percent of all housing units in the operating subsidy system will receive higher AELs as a result of the formal review process. The dollar increase in subsidy per unit month, among the group of 780 PHAs that benefit from the formal review process, is the highest for small PHAs in the Northeast ($20.50), followed by large PHAs in the South ($18.65). For all 780 PHAs, the increase in subsidy per unit month is $13.44. By comparison (see Exhibit 2.3), the increase in subsidy per unit month for the entire system is only $2.11. Thus, we find that PHAs that are affected by the final rule receive a sizable impact from the formal review process, even though the impact on the entire system is quite small.

These results generally conform to HUD's finding[8] that PHAs with fewer than 1,250 units are the group most affected by the formal review process. In our estimation, 27.3 percent of this group are entitled to higher AELs under the formal review process. HUD's estimate of both the number of PHAs that gain from the formal review and the annual cost to the government are slightly higher than our estimates.[9] The difference may be explained by normal sampling error in HUD's analysis and by the fact that the present simulation did not quite cover the entire universe of PHAs under PFS, owing to missing data.[10]

2.4 THE FORMAL REVIEW PROCESS: BACKGROUND AND EFFECTS

Under the formal review process, a revised PFS formula is used to compute the formula expense level (FEL) for each PHA. The PFS with the formal review process still represents an approach to determining operating subsidy based on historical expense levels. The formal review process has been designed to operate within the context and constraints of the present system, as a one-time, elective adjustment opportunity based on a formula. It is important to

[8]HUD's estimates are reported, along with the Final Rule on the PFS formal review process, in the *Federal Register*, Vol. 57, No. 23, February 4, 1992, p. 4283.

[9]In HUD's estimate, 878 PHAs are potential gainers from the formal review process, and the estimated annual cost to the government is $30 million (in 1991 dollars). This compares with 780 PHAs and $30.6 million (in 1992 dollars) from the simulation.

[10]Again, data are missing on 324 authorities actually in PFS.

Exhibit 2.6

PFS Subsidy for those Qualifying for an Increase under the Formal Review Process

PHA Size/ Region	PUM PFS Subsidy	PUM PFS Subsidy with Formal Review Process	Dollar Difference	Percent Increase in Subsidy	Number of PHAs Qualifying	Percent of all Qualifying Units	Percent Share of Qualifying Units in Total Units
Extra-Large	$201.36	$205.14	$3.78	1.9%	2	10.6%	5.2%
Northeast	0.00	0.00	0.00	–	0	0.0	0.0
South	0.00	0.00	0.00	–	0	0.0	0.0
Midwest	201.36	205.14	3.78	1.9	2	10.6	19.6
West	0.00	0.00	0.00	–	0	0.0	0.0
Large	119.54	132.09	12.56	10.5	15	24.0	14.9
Northeast	98.56	111.18	12.62	12.8	2	1.9	3.8
South	124.05	142.70	18.65	15.0	5	7.2	18.0
Midwest	116.71	127.85	11.14	9.5	7	12.7	27.8
West	139.58	140.41	0.83	0.6	1	2.2	9.0
Medium	70.14	83.65	13.52	19.3	50	20.6	21.5
Northeast	70.61	87.56	16.95	24.0	17	7.2	25.2
South	69.94	81.33	11.39	16.3	17	7.4	27.4
Midwest	72.29	86.95	14.66	20.3	12	4.5	16.5
West	61.81	65.32	3.51	5.7	4	1.4	11.2
Small	53.56	69.38	15.83	29.6	298	34.5	24.9
Northeast	33.54	54.04	20.50	61.1	53	7.1	22.8
South	54.27	70.42	16.14	29.7	108	12.5	26.1
Midwest	55.26	68.73	13.47	24.4	122	13.1	27.4
West	112.65	125.06	12.41	11.0	15	1.9	16.0
Very Small	44.90	62.15	17.25	38.4	415	10.3	29.4
Northeast	27.89	45.45	17.56	63.0	18	0.6	16.8
South	39.77	57.53	17.76	44.6	79	2.2	27.0
Midwest	46.86	64.17	17.31	36.9	305	7.2	37.2
West	72.22	83.17	10.95	15.2	13	0.3	7.3
ALL	87.58	101.01	13.44	15.3	780	100.0	15.7
Northeast	56.67	74.64	17.97	31.7	90	16.9	7.0
South	74.20	89.87	15.68	21.1	209	29.3	20.4
Midwest	104.06	115.46	11.41	11.0	448	48.1	24.7
West	$108.48	$114.22	5.75	5.3%	33	5.8%	10.1%

Data Base: Simulations from PFS Base Case (Those qualifying for an operating subsidy increase under Formal Review Process), N=780.

Notes: Percent share of qualifying units in total units calculated within each stratum.

recognize that the inherent limitations of a formula-based system continue to exist, even with the formal review process' revision to the PFS formula.

Implications

The financial impact of the formal review process on both PHAs and the federal government is quite small. The PFS subsidy eligibility in the entire system is increased by only 1.4 percent, and a majority of the PHAs are entirely unaffected by the formal review process. As observed in Section 2.3, the formal review process does alter the distribution across size categories and regions very slightly, towards a distribution that corresponds more closely to the distribution of the public housing units. If the distribution of housing units reflects the legitimate distribution of operating costs, then the formal review process might be seen as allocating the PFS subsidy more equitably than the base case PFS.

However, it is well-known that a wide variety of factors contribute to differences in operating costs in both the public and private sectors; examples include local wage rates and utilities costs, type and age of structure, and size of dwelling units. As a result, closer correspondence to the distribution of public housing units does not, *per se,* imply improved equity.

In fact, it appears that the primary effect of the formal review process is to provide small increases in AEL to agencies whose expense levels per unit month are at the low end of the AEL distribution overall and for their size and region. Even after the application of the formal review process, the per unit month PFS subsidy of PHAs that benefit from the formal review will still be substantially lower than the PUM subsidy for the entire system, but the difference will be smaller than before. Under the previous PFS (base case), the per unit month subsidy of only those PHAs that will benefit from formal review was 40.5 percent lower (an absolute difference of $59.59) than the PUM subsidy for the entire system. However, after application of the formal review process, they will be 32.3 percent lower (an absolute difference of $48.27). In fact, in ***all*** size and region categories, we find that the per unit month subsidy for the group of PHAs that will benefit from the formal review process will still be lower than the mean subsidy of all PHAs.

The finding that the formal review process primarily benefits low-end outliers in terms of subsidy per unit month stands in contrast to the nature of the variables in the formal review equation. These variables, a set of indicators of economic distress and adverse operating conditions, might lead to the expectation that formal review would benefit the agencies with multiple dense family developments in depressed neighborhoods—probably the older, larger agencies in the Northeast and Midwest. Yet we have seen that the primary benefit is to small agencies and to those in other strata that receive relatively low PFS subsidy.

This contrast has prompted further analysis of the differences between the PHAs that stand to benefit from the formal review and the remainder of the agencies in the operating subsidy system. It has also prompted an examination of the effect of the 85 percent threshold in the final rule. The final rule reflects a determination by HUD that a 15 percent (rather than a lower percent) range test is appropriate for formula revision of AELs.[11] This assessment by HUD is based on HUD's recognition of the limitations of the revised equation. HUD has stated: "... [the revised equation] is limited by its heavy reliance on historical expenditure patterns, which in turn were largely determined by the subsidy funding system rather than by an objective standard of funding needs. The Formula Expense Level cost estimate produced by the equation is not an exact indicator of how much a [PHA] should be permitted to spend. In addition the formula itself has a range of error."[12]

2.4.1 Analysis of Differences in the Characteristics of the Group of PHAs that Gains from the Formal Review and the Group that is Unaffected

This section analyzes the characteristics of the group of 780 PHAs that will benefit from the formal review process and the group of 2,149 PHAs unaffected by the formal review. Since we are looking at essentially the universe of PHAs, large differences in characteristics of the two groups, if any, may help explain why one group is entitled to higher AELs and the other is not.

The characteristics available for analysis are three of the independent variables used in the revised equation (Local Government Wage Index 1987-1988, percentage of two or more bedroom units in high-rise family projects, and percentage of three or more bedroom units; see Appendix A), plus the 1991 R.S. Means Index (a variable measuring local construction costs);

[11]This is stated in the "Response to Public Comments" part of the Formal Review Process Final Rule, *Federal Register*, February 4, 1992, p. 4286.

[12]Ibid. See also "An Analysis of the Statistical Reliability of the Revised Formula Relative to the Prototype (AEL) Formula" (with Memorandum from Joseph G. Shiff, PIH, March 26, 1992).

the average number of bedrooms, and the previous period (FY 1988) AEL. The variable ***not*** available was the measure of poverty population in pre-1940 housing. The ratios of the means of the variables investigated are shown in Exhibit 2.7.

Examining first the ratios of means for all PHAs in the two groups, the table shows that the only large difference in means was for the FY 1988 AEL, which was 27 percent lower for PHAs benefitting from formal review. The wage indicator was, on average, 5 percent higher, and the construction index 3 percent lower (contrary to expectation). None of the variables relating to bedroom size mix was particularly different for the overall group.

Exhibit 2.7 also shows the ratios of means by size and region strata. Only a few of the ratios are particularly revealing. For all size and region groups, it is clear that those benefiting from the review had relatively low AELs. This is especially true for the very small PHAs, the group that gains the most from the Formal Review Process; the AEL was on average, 29 percent lower than for the very smalls not eligible under the review. The remaining differences in the variables are not notable, however. Gainers among both the large and the very small PHAs appear to have relatively more large units, implying heavier family than elderly occupancy. Exhibit 2.6 indicated that the percent increases in subsidy were relatively high in the Northeast among small and very small PHAs. The local government wage index tends to be higher in the Northeast, which may contribute to this outcome. In summary, however, our analysis of the characteristics of gainers and non-gainers provides limited insight as to their differences in terms of the variables in the revised formula.

2.4.2 Impacts of the Formal Review Process with a Hypothetical 95 Percent Range Test

The overall lack of systematic differences between the agencies that will benefit from formal review and those that will not, except for differences in previous year AELs, raises a question about another feature of the rule, the feature that requires the revised AEL to be at least 15 percent higher for the agency to qualify for a change. If the benefits of the rule accrue primarily because of differences in AEL, then the 15 percent threshold may be an important policy parameter.

Some PHAs, in their public comments on the formal review process, had requested a range test of 5 to 8 percent instead of the 15 percent stipulated in the Final Rule. However, recognizing the limitations of the revised equation (discussed above), HUD has determined a 15

Exhibit 2.7

Ratios of Means of Variables
(PHAs that Benefit from the Formal Review Process/PHAs that Do Not Benefit)

PHA Size/ Region	FY 88 AEL	2 or more Bedrooms	3 or more Bedrooms	Local Government Wage Index	R. S. Means Index	Average Bedroom Size
Extra-Large	0.82	1.10	1.08	0.94	0.94	1.06
Northeast	--	--	--	--	--	--
South	--	--	--	--	--	--
Midwest	0.87	1.20	1.30	0.98	0.95	1.13
West	--	--	--	--	--	--
Large	0.77	1.05	1.08	1.04	0.95	1.04
Northeast	0.83	1.03	0.96	1.11	0.99	1.02
South	0.77	1.04	1.08	1.05	1.01	1.03
Midwest	0.89	0.95	0.96	1.11	0.99	0.97
West	0.80	1.13	1.04	1.04	0.87	1.06
Medium	0.78	0.98	0.92	1.05	0.99	0.97
Northeast	0.80	0.84	0.77	1.11	1.00	0.89
South	0.79	1.06	0.95	1.06	0.99	1.00
Midwest	0.77	1.11	1.29	1.00	1.01	1.10
West	0.68	0.81	0.74	0.92	0.98	0.84
Small	0.77	0.98	0.99	1.08	0.99	0.99
Northeast	0.76	0.85	0.91	1.11	1.01	0.94
South	0.78	1.00	1.03	1.07	1.00	1.01
Midwest	0.83	0.96	1.00	1.14	1.01	0.99
West	0.65	1.08	0.97	0.98	0.95	0.95
Very Small	0.71	1.09	1.02	1.05	0.97	1.03
Northeast	0.75	0.90	1.00	1.14	1.02	0.99
South	0.74	0.99	1.02	1.06	1.00	1.02
Midwest	0.77	1.18	1.21	1.10	0.98	1.11
West	0.65	1.07	0.62	1.07	0.98	0.92
ALL	0.73	1.02	0.99	1.05	0.97	1.00
Northeast	0.75	0.84	0.90	1.11	1.01	0.94
South	0.76	1.00	1.03	1.06	1.00	1.02
Midwest	0.78	1.07	1.09	1.09	0.98	1.05
West	0.65	1.06	0.85	1.01	0.96	0.94

Data Base: Simulations from PFS Base Case, N=2,929 PHAs.

percent range test as appropriate. Since the threshold of the range test was not scientifically determined, the sensitivity of the impact of formal review to the level of the range test seems an appropriate issue for investigation. In this section, we analyze the impact of the formal review process under an alternative threshold that would entitle PHAs whose previous year AELs are less than 0.95 times the FEL of the previous year to revise their AEL upwards using 0.95 times the FEL as the base. Exhibit 2.8 summarizes the results of this comparison.

The analysis shows that the effects of the formal review process are somewhat sensitive to the level at which the threshold is set (here 95 percent rather than 85 percent). Another way to state the alternative threshold is that agencies could seek an adjustment for a 5 percent or greater difference in AEL, rather than only for a difference of 15 percent or more. If this were the case, the budgetary impact of the rule would be greater, and its benefits would be distributed more widely.

Under this alternative threshold, 1,318 PHAs (45 percent of the total number) would benefit. The total subsidy would increase by $73.5 million. Thus, the increase in federal funding resulting from this alternative range test is over three times the increase resulting from the Final Rule of the formal review process. The number of PHAs that would receive the impact of formal review process would be increased by almost 70 percent. The PFS subsidy per unit month would be higher than under the final rule by a magnitude of over $3 for the entire system. However, as the percent of subsidy columns in Exhibit 2.7 show, there would be little difference in distributional impact. Indeed, compared to the 85 percent final rule, the 95 percent threshold would reduce very slightly the share of extra-large PHAs in the total PFS subsidy and raise very slightly the shares of medium, small, and very small PHAs. The share of large PHAs in the PFS subsidy would be virtually unchanged.

The largest share of the $81.6 million ***increase*** in subsidy (shown in Exhibit 2.9) resulting from formal review with a 95 percent range test would go to small PHAs (32.3 percent). Large PHAs would receive the second largest share (24.5 percent) of the increase in subsidy; extra-large PHAs would receive 14.8 percent of the increase; and very small PHAs would receive 9.1 percent of the increase. The strongest contrast with the 85 percent range test is that the share of the increased subsidy of extra-large PHAs would be almost five times greater under the 95 percent range test. The share of the increase of large PHAs would also be higher,

Exhibit 2.8

Comparison of 85 Percent and 95 Percent Thresholds: Formal Review Process

PHA Size/ Region	85 Percent Threshold			95 Percent Threshold		
	$ Eligibility PUM	Number of PHAs Qualifying	Percent of Subsidy	$ Eligibility PUM	Number of PHAs Qualifying	Percent of Subsidy
Extra–Large	$220.59	2	47.8%	$222.70	7	47.3%
Northeast	214.92	0	28.6	216.04	2	28.2
South	196.02	0	4.2	198.68	2	4.2
Midwest	251.18	2	14.3	255.58	3	14.3
West	125.70	0	0.6	125.70	0	0.6
Large	155.02	15	26.3	158.04	33	26.3
Northeast	162.67	2	8.8	164.21	7	8.7
South	162.68	5	6.8	165.26	8	6.8
Midwest	146.85	7	7.1	152.49	16	7.2
West	141.80	1	3.7	143.72	2	3.6
Medium	106.37	50	10.7	109.98	95	10.9
Northeast	99.31	17	3.0	103.62	26	3.1
South	108.77	17	3.1	112.62	30	3.1
Midwest	105.27	12	3.0	108.60	31	3.1
West	119.68	4	1.6	121.79	8	1.6
Small	83.67	298	12.2	87.24	534	12.5
Northeast	76.40	53	2.5	79.86	91	2.6
South	81.40	108	4.1	85.04	201	4.2
Midwest	80.28	122	4.0	84.17	218	4.1
West	125.95	15	1.6	128.28	24	1.6
Very Small	80.44	415	3.0	83.73	649	3.0
Northeast	86.37	18	0.3	89.32	34	0.3
South	81.16	79	0.7	84.28	136	0.7
Midwest	69.24	305	1.4	73.07	451	1.5
West	129.07	13	0.5	130.36	28	0.5
ALL	149.28	780	100.0	152.23	1,318	100.0
Northeast	170.25	90	43.3	172.17	160	42.9
South	125.51	209	18.9	128.72	377	19.0
Midwest	146.01	448	29.9	150.37	719	30.2
West	$131.54	33	7.9%	$133.39	62	7.9%

Data Base: Simulations from PFS Base Case, N=2,929 PHAs.
Note: Columns may not add to 100 percent due to rounding.

Exhibit 2.9

Increase in PFS Subsidy for PHAs and IHAs Under the Formal Review Process

PHA Size/ Region	Dollar Increase in PFS Subsidy Over Base Case	Percent Increase over PFS Base Case	Percent Share of Increased Subsidy ($81.6 million)
Extra-Large	$12,053,683	1.2%	14.8%
Northeast	3,602,969	0.6	4.4
South	1,382,905	1.5	1.7
Midwest	7,067,809	2.3	8.7
West	0	0.0	0.0
Large	19,978,851	3.5	24.5
Northeast	2,622,807	1.4	3.2
South	5,998,263	4.1	7.3
Midwest	10,118,011	6.7	12.4
West	1,239,770	1.6	1.5
Medium	15,797,522	7.0	19.3
Northeast	6,231,904	10.0	7.6
South	4,771,721	7.3	5.8
Midwest	3,994,913	6.2	4.9
West	798,985	2.3	1.0
Small	26,360,549	10.5	32.3
Northeast	6,416,030	12.6	7.9
South	9,509,719	11.3	11.6
Midwest	9,152,588	11.0	11.2
West	1,282,212	3.9	1.6
Very Small	7,453,469	12.3	9.1
Northeast	543,866	7.9	0.7
South	1,662,813	11.5	2.0
Midwest	5,041,123	18.2	6.2
West	205,667	1.8	0.3
ALL	81,644,074	3.8	100.0
Northeast	19,417,576	2.1	23.8
South	23,325,421	5.8	28.6
Midwest	35,374,443	5.6	43.3
West	$3,526,634	2.1%	4.3%

Data Base: Simulations from PFS Base Case, N=2,929 PHAs.
Notes: Columns may not add to totals nor to 100 percent due to rounding.

though only slightly so. The share of small and very small PHAs in the increased subsidy would be lower compared to the final rule. The share of medium PHAs would be only slightly lower.

The results of this sensitivity test may help to explain the contrast between the factors included in the revised formula of the formal review process and the incidence of its benefits. We noted before that an equation with measures of economic distress, high family density, and other adverse operating circumstances as independent variables would not generally be expected to benefit the smallest agencies. However, the inclusion of the 85 percent threshold focuses the rule's benefits slightly more on the low-end outliers in terms of allowable expense levels. Further, by setting the threshold in percentage terms, the rule requires a much larger absolute (dollar) difference between the revised AEL and the base case for PHAs with higher AELs per unit month. HUD's decision to set the threshold at 85 percent reflects the fact that formal review is based on a regression equation with stochastic error around its estimates. Because of accuracy issues concerning the underlying data and the estimates, only differences 15 percent or greater were deemed robust enough to address via changes in AEL.

2.5 CONCLUSION

This chapter has introduced the Performance Funding System (PFS) as the base case for studying alternative systems of providing operating subsidy to PHAs. A variety of the characteristics of base case PFS were examined, including the size and distribution of total funding, the levels of funding per unit month, and the patterns by PHA size and region. In the later chapters that focus on capital funding and combined systems, these same characteristics will be analyzed for each of the other base and alternative cases presented in this Report.

In comparison with the PFS base case, this chapter has also examined a recent revision to operating subsidy called the formal review process. Simulation of this revision compared to base case PFS has shown that its effects are likely to be quite small in magnitude and to be concentrated among the smaller public housing agencies. Further analysis of the simulated effects of the formal review process indicated that its primary beneficiaries are agencies with low allowable expense levels relative to other PHAs with similar characteristics. The analysis also showed the potential impact of changing the threshold in the formal review process Final Rule.

CHAPTER 3

ALTERNATIVE FUNDING SYSTEMS: A SYSTEM BASED ON PRIVATE MARKET OPERATING COSTS

A funding system for public housing operating costs based on private market operating costs represents another alternative system warranting consideration. In its simplest form, such a system would establish benchmark "allowable costs" based on private market operating costs for localities and invoke a formula (representing the difference between the benchmark private costs and PHA revenues) to provide operating subsidy. Annual payments for development and modernization costs would be handled outside this funding system. A method of adjusting costs for inflation would be needed.

The rationale for such a system is similar to that of an FMR or voucher-based system: to use the "discipline of the private market" as a means of encouraging cost-effective use of the public housing stock.[1] Attractive aspects of this system include the possibility of establishing an acceptable level of operating expenses based on private market experience, and the potential for encouraging PHAs to operate public housing as efficiently as possible with available funds. However, a funding system based on private market operating costs would not be as simple as an FMR-based system, since it would require on-going data collection about private housing operations.

The 1982 HUD study of public housing financing options identified significant methodological and practical problems with a funding system based on private market costs.[2] The available private market data were not considered reliable, and there was little information about the building or neighborhood characteristics that could affect costs in the private market. To some extent, these problems continue to limit the usefulness of a private market model. This chapter will discuss the practical and conceptual issues of a system based on private market costs. The sources and limitations of the private market data currently available will then be reviewed, followed by comparisons of public housing and private market operating costs (based on the available data). We then present a discussion of what public housing costs would be if

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[1]An FMR system is examined in Chapter 7.

[2]HUD, *Alternative Operating Subsidy Systems for the Public Housing Program*, 1982, Chapter 10.

they had a cost structure similar to that of the HUD-insured Multifamily housing stock. Appendix B provides a detailed commentary on the comparability of available private and public housing data.

3.1 ISSUES IN COMPARING PUBLIC AND PRIVATE HOUSING OPERATING COSTS

Developing a private market model for setting acceptable public housing operating cost levels requires acceptance of the notion that the costs for public and private housing are somehow comparable, and that their operating environments are sufficiently similar to make direct cost comparisons between the two sectors. In fact, the public and private (unsubsidized) sectors operate under some quite different constraints. It is important to consider these issues before comparing the operating cost data.

It is widely agreed that housing agencies have significantly greater administrative responsibilities than purely private housing managers.[3] PHAs must follow strict tenant selection policies which emphasize serving the poorest households. They must determine eligibility (which must be verified by a third party); they must regularly recertify tenants' incomes and recalculate tenant rent payments. Housing agencies are further governed by strict grievance and eviction policies and regulations, which circumscribe their ability to evict problem tenants. In addition, many housing agencies provide services beyond traditional "housing services" (management and maintenance). For example, they may coordinate social services and other activities (such as youth programs or resident organizations) for residents.

There are also extensive federal regulatory and reporting requirements that govern PHA operations and affect their costs. HUD requires that housing agencies report on a wide range of functions from budgets to occupancy data to modernization plans. Instead of funding capital reserve accounts as part of operating costs, capital improvements and modernization projects have until now been funded under a separate program with its own annual applications, planning process, and administration.

The marketing dynamics of public housing are also quite different from the private sector. Public housing is generally a scarce resource; in many areas of the country, the demand

[3]This discussion focuses first on private management of rental housing with no government insurance or subsidy.

for apartments is far greater than the supply, as evidenced by lengthy housing agency waiting lists and the long periods of time applicants may wait before being placed in a unit. (Management of waiting lists is thus another area of greater administrative responsibility in the public sector.)

Purely private housing managers have significantly fewer administrative obligations. Their responsibilities to tenants are limited to housing services and maintenance. While they generally do check tenant incomes and references, they are not required to obtain third-party verification, nor to adjust rents based on income changes. However, private sector operating costs depend on rental revenue and financing arrangements; they therefore are dictated to a much greater extent by supply and demand in the market. A depressed real estate market may result in lower occupancy rates and/or lower rents. Unlike public housing, there may not be a list of interested prospective tenants waiting to fill vacancies. If rental income falls, operating expenditures must be lowered to avoid operating deficits.

Private market developments also have categories of costs that are not found in public housing operations. For example, real estate taxes are a significant percentage of total operating costs for private developments (generally somewhere between 13 and 23 percent, according to data from the Institute for Real Estate Management).[4] As public agencies, public housing agencies do not pay real estate taxes other than a small payment in lieu of taxes. Another category of private market costs not found to any degree in the public sector is advertising and other marketing costs. Finally, public housing agencies receive funding for modernization needs separately from funding for operating costs. In the private market, accrued modernization needs must be funded as part of operating costs.

Other areas that may differ in important ways between the private market and public housing include the characteristics of the housing stocks, the operating environments, and the people housed. For example, an older physical stock or one of lower quality construction would require higher expenditures per unit for maintenance, whether privately or publicly owned. A development more densely populated with larger families would cost more, on average, for

[4] *Income/Expense Analysis: Conventional Apartments*, 1990 Edition, Institute of Real Estate Management.

management and upkeep. Contrasts in neighborhood characteristics (especially in rates of vandalism and crime) could make management of private and public housing very different tasks.

It is clear that the public and private sectors operate under different constraints and have somewhat different cost pressures. It is therefore somewhat questionable whether direct comparisons between the two sectors are valid. In this analysis, attempts have been made to account for the different operating circumstances encountered in the public and private sectors in two ways: by making adjustments to the available cost data; and by selecting as a comparison case a sample of properties that may be more similar to public housing in physical characteristics, location, administrative structure and tenant characteristics -- the HUD-insured multifamily housing stock. To some extent, such adjustments compromise the "purity" of a private market model. However, these adjustments seem necessary to make meaningful comparisons between public and private housing costs.

3.2 NATURE OF AVAILABLE PRIVATE MARKET COST DATA

As discussed above, a private market model based on comparing costs in the public and private sectors can be conceptually difficult because of the differing cost pressures and constraints in the two sectors. Developing a valid private market model for public housing costs also depends on the availability of reliable private market cost data to use as a comparison case for public housing operations. HUD's 1982 study on public housing financing options found that the private market data available at that time were not very reliable and did not provide a useful comparison case for public housing operations. The two sources of private market data currently available -- the Institute for Real Estate Management's published data on conventional and federally assisted properties and the database developed for HUD by Abt Associates Inc. on the HUD-insured multifamily housing stock[5] -- are somewhat more useful as private market comparison cases, but there are still problems of comparability between these two data sources and the public housing data available for this study.[6]

[5]Abt Associates Inc., *Assessment of the HUD-insured Multifamily Housing Stock*, 1992.

[6]A third data source considered for use in this study was the National Apartment Association's *Survey of Income and Expenses in Rental Apartment Communities*. However, the survey covers only 2,213 buildings compared to IREM's 5,007; and only 43 metropolitan areas compared to IREM's 191. Further, the cost categories provide less detail. Therefore, we did not pursue use of this data source.

3.2.1 IREM Data

The Institute of Real Estate Management (IREM) of the National Association of Realtors regularly collects income and expense data on a national sample of private market apartment buildings. The data are published annually in two volumes, ***Income/Expense Analysis: Conventional Apartments*** and ***Income/Expense Analysis: Federally Assisted Apartments***.[7] At the time of the 1982 study, IREM published only one volume, which combined costs for a small number of assisted properties (those participating in a subsidy program) with a much larger number of unassisted properties. A separate volume on assisted properties was first published in 1986. In this chapter, some summary data from both IREM's conventional housing and assisted samples will be presented. However, the sample of federally assisted properties will be used as the primary basis of comparison with housing agency costs, because it should more closely resemble the physical characteristics and tenant demographics found in public housing.[8]

The IREM reports provide median income and expenses per square foot of residential building space for a large number of income and expense items. Data for the conventional properties are furnished for four building types: elevator buildings, low-rise buildings with 12-24 units, low-rise buildings with 25 or more units, and garden-type developments. Data for federally assisted apartments are furnished for three building types: elevator, low-rise and garden.[9] The volume on federally assisted developments also includes some data by building type and subsidy category (Section 202 Properties, Other Section 8 Elderly, All 221(d)3 Properties, All 236 Properties, Other Section 8 Family). Figures are reported for eight U.S. regions (shown in Exhibit 3.1 as they relate to the 10 HUD regions) and for selected

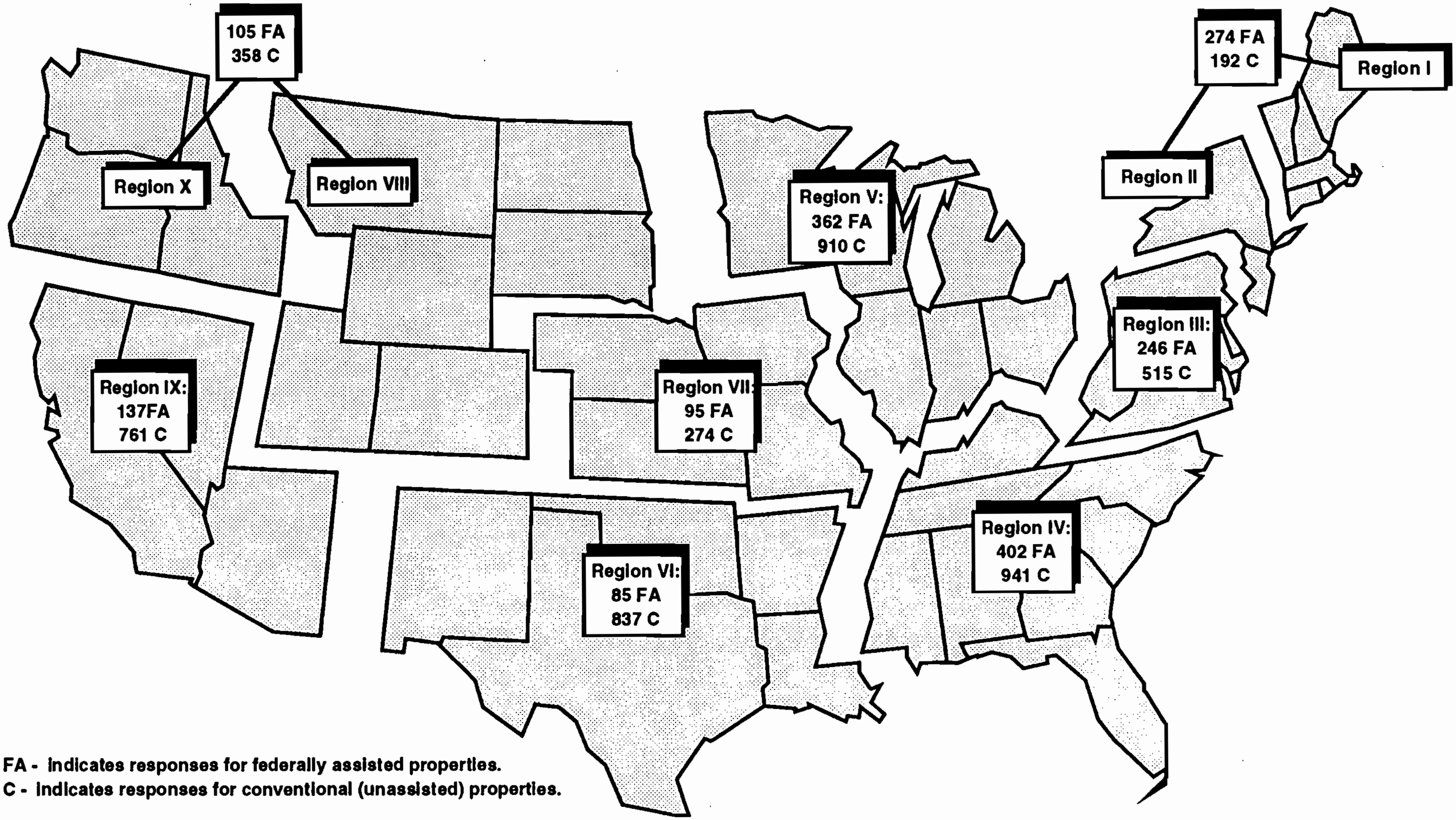
[7]Data for the current analysis come from *Income/Expense Analysis: Conventional Apartments* and *Income/Expense Analysis: Federally Assisted Apartments*, 1990 Edition, Institute of Real Estate Management. The data pertain to income and expenses actually incurred in calendar year 1989. Data for public housing authorities and HUD-insured projects come from operating statements for fiscal year ending 1989. These data also reflect 1989 costs.

[8]Comparability of assisted with public housing will be discussed in the context of the HUD-insured multifamily stock data, below.

[9]IREM's definitions of building types are as follows: High Rise Elevator Projects are elevator buildings of four or more stories. Low-Rise Projects include walk-up and elevator buildings, three stories or less. Garden Type Projects are defined to be "a group of low-rise apartment buildings situated on a sizable landscaped plot, under one management." Thus, the categories are not completely distinct.

Exhibit 3.1

IREM Region Definitions and Number of Properties Reporting



FA - indicates responses for federally assisted properties.
C - indicates responses for conventional (unassisted) properties.

metropolitan areas. However, the numbers of properties represented in the IREM survey for the metropolitan areas are too small for acceptable comparisons. For example, only 5 elevator buildings are reported in New York City, 9 elevator buildings in Los Angeles, and 5 elevator buildings in Baltimore.

The IREM data on federally assisted properties include 1,700 properties nationwide, containing over 195,000 units. The typical assisted property responding to the IREM survey contains 106 units with 4 rooms per unit.

Limitations of the IREM Data

The most fundamental limitations of the IREM data are:

- the self-selection of properties which underlies the reporting process;
- the lack of a consistent sample from year to year;
- sparse information on the characteristics of the buildings;
- the limited nature of the published data (only medians by region and building type are presented, with no summary data across all building types); and
- the small numbers of properties represented in the metropolitan areas, which preclude obtaining localized private market cost figures directly from the IREM data.

These limitations are discussed in more detail below.

The Institute of Real Estate Management's published volumes report data voluntarily submitted by real estate managers (the Institute's own members, certified property managers, and "the public at large which is involved with the fiscal management of multi-unit properties"). As a result, the data are subject to self-selection and a potential bias of unknown direction and size. The properties reporting also change substantially from year to year; the proportion of developments represented in the sample for four consecutive years is less than 20 percent. This greatly impedes the reliability of the data in supporting analysis of variations over time.

In order to compare private operating costs with public housing operating costs, it is important to control for factors that affect costs; such factors include the age of the housing stock and infrastructure, the size and type of units, tenant composition, neighborhood characteristics and operating conditions. Unfortunately, we know very little about the characteristics of the IREM properties. Published descriptive data on the IREM properties are limited to structure type, average size of units, and kind of utilities furnished. Information on the age of the stock and quality of infrastructure, neighborhood characteristics, and tenant composition (the age of tenants, for example, being relevant to costs) is not collected.[10]

The problem of obtaining localized cost figures (since the numbers of properties reporting in metropolitan areas represented in the IREM data are too small for reliability) can be addressed by using a price index in combination with the regional data. Obviously, this is not a perfect solution, since the source data vary according to only eight regional categories. Nevertheless, a local allowable cost figure could be constructed once a price index is chosen. Candidate price indices include components of the Consumer Price Index (such as the household furnishings and operations index), local government wage rates (LGWRs), or a combination of price series.[11] This same index could be used for annual inflation adjustments.

In summary, the IREM reports are the largest and most detailed, continuously available data base of private market housing operating costs. However, the data have serious drawbacks when considered as the basis for devising a system of public housing "allowable" costs. The self-selected sample, the lack of descriptive characteristics of the buildings, and the highly aggregated geographical coverage all impair the usefulness of the data.

3.2.2 The HUD-Insured Multifamily Housing Data

The analysis in this chapter relies primarily on data from a study Abt Associates has recently completed on the HUD-insured Multifamily housing stock.[12] That study's data base is composed of extensive information on a representative national sample of 570 HUD-insured

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[10]Although data on the age of buildings are collected, they are not available for the full regional sample. Indeed, IREM will not release the data tapes to users for further analysis. The only published information on the age of the stock pertains to buildings represented in the sample for four consecutive years (less than 20 percent of the sample) and a few metropolitan areas.

[11]The extent to which various indices, or combinations of them, have adequate coverage and represent housing goods and services has been previously discussed in analyses of the PFS inflation factor. See Merrill, Sally R. et al., *Evaluation of the Performance Funding System: Technical Components, Decision Rules and Administration*, Cambridge MA, Abt Associates, Inc., 1980; and Struyk, Raymond J., Malpezzi, Stephen and Wann, Frank, *The PFS Inflation Factor: Initial Analysis of Alternatives*, Urban Institute Working Paper, 1980.

[12]Abt Associates Inc., *Assessment of the HUD-Insured Multifamily Housing Stock*, 1992.

buildings. It combines information from HUD's Multifamily Insured and Direct Loan Information System (MIDLIS), HUD's Multifamily Information and Processing System (MIPS), other computerized data on the insured stock, direct observations of property physical condition, responses to an owner/manager survey, and a market assessment. HUD data from MIPS contributes the necessary information on operating costs and revenues. Inspection data have been tied to cost files to estimate the cost of remedying the backlog of repair and replacement needs. The responses to the owner/manager surveys, supplemented by other HUD and Abt data, provide valuable information on tenant characteristics.

The sampling frame for the study of the Multifamily stock began with the MIDLIS data. Properties in the MIDLIS data base are of three types: unassisted; older assisted; and newer assisted. These categories are based on the type of HUD subsidy or assistance received by the property.[13] In theory, the unassisted properties would be the closest approximation to a private market model. These properties have government-insured mortgages but otherwise operate in the private market. However, the unassisted property sample size available from the study is too small to consider these properties alone. In addition, analysis of the data has shown that costs across the three types of stock are similar, and that most tenants even in these ***unassisted*** properties are low-income people (that is, household income is less than 80 percent of the median income for the area). The full data set can thus be used as a comparison case for public housing.

The HUD-insured Multifamily housing stock is also a useful comparison case because the owners or managers of assisted properties must comply with many of the same administrative requirements as PHAs. Like housing agencies, they must comply with tenant selection policies, reconfirm tenant income and rent contributions, and provide financial reports to HUD. Their

[13] *Unassisted properties* include properties participating in the following programs, unless they have some rental assistance: 207 Multifamily Housing, 220 Urban Renewal, 231 Elderly, 221(d)(3) Market Interest Rate, 221(d)(4) Multifamily Rental Housing. *Older assisted properties* include 221(d)(3) Below Market Interest Rate, 236(j)(1) Interest Supplement on Rental or Cooperative Housing, any property that has a Rent Assistance or Rent Supplement Contract, and any insured multifamily property having one of the following types of Section 8 assistance: Loan Management Set Aside; Property Disposition; Rent Supplement Conversion; and Rent Assistance Program Conversion. *Newer assisted* properties include any insured multifamily property having any one of the following types of Section 8 assistance: New Construction, Substantial Rehab, Mod Rehab.

administrative structure and costs may therefore be more similar to PHAs than the structure and costs of purely private (unsubsidized) properties.

3.2.3 Summary Data on Costs in the IREM and HUD-Insured Multifamily Samples

Exhibit 3.2 shows median total operating costs, including utilities, by building type and region for the IREM Conventional Apartments, the IREM Federally Assisted Apartments and the HUD-Insured Multifamily Housing sample. While there is certainly variation in median operating costs among groups of properties and among regions, the most notable feature of Exhibit 3.2 is the overall consistency and similarity of figures, despite the disparate sources and coverage.

Not surprisingly, costs tend to be highest in the Northeast (Regions 1 and 2) for most categories, ranging from $262 to $321 per unit month for IREM conventional buildings, $333 to $377 for IREM Federally Assisted properties, and $311 to $373 for HUD-insured Multifamily buildings. Costs tend to be low in IREM Regions 6, 7, 8, and 10 (the Plains and Mountain states and the Northwest) for all three groups of properties. Costs in the IREM Federally Assisted sample and the HUD-Insured sample are very similar, both in comparisons by building types and in regional patterns. The categories in which there are larger discrepancies tend to be those with small Multifamily sample sizes (e.g., highrises in Region 7).

The total costs for elevator buildings in the IREM conventional building data are higher than in elevator buildings in the IREM assisted sample or that of HUD-insured buildings. Costs in low-rise and garden/townhouse buildings are generally lower in IREM conventional apartments than in the buildings reported in the other two sources. The lower costs in the assisted elevator buildings may be due to differences in occupancy. Assisted elevator buildings generally have more elderly tenants, while the low-rise stock has more families. Costs for units or developments occupied by elderly tenants tend to be lower than costs for family units, due to the smaller household sizes in elderly units and the lesser wear-and-tear. The higher costs in the low-rise assisted buildings may reflect the higher administrative costs associated with subsidy programs, as well as the greater wear and tear on units associated with larger households.

Overall, we can say that there is substantial consistency in the levels of costs derived from the IREM published data and the HUD-Insured Multifamily data set, as well as broad

Exhibit 3.2

IREM and HUD Multifamily Summary Data
Median Total Operating Costs Per Unit Month
in 1992 dollars

By Region and Building Type

IREM Region	IREM Conventional Buildings				IREM Federally Assisted Buildings			HUD–Insured Multifamily Buildings		
	Elevator	Low–Rise 12–24 units	Low–Rise 25+ units	Garden	Elevator	Low–Rise	Garden	High–rise	Walk–up	Townhouse
1 and 2	$321.08 (32)	$262.45 (28)	$262.97 (50)	$289.09 (82)	$375.01 (130)	$377.36 (64)	$333.56 (80)	$373.61 (44)	$342.91 (25)	$311.19 (15)
3	$372.50 (90)	$256.68 (16)	$231.95 (47)	$236.60 (362)	$277.56 (82)	$293.61 (34)	$277.71 (130)	$281.67 (16)	$290.61 (24)	$257.21 (14)
4	$246.43 (14)	$144.25 (26)	$191.09 (115)	$203.51 (786)	$221.64 (26)	$183.41 (66)	$201.24 (310)	$243.88 (18)	$188.80 (49)	$200.67 (32)
5	$313.11 (100)	$218.23 (80)	$252.88 (255)	$219.11 (475)	$262.48 (96)	$259.65 (127)	$241.38 (139)	$290.98 (35)	$239.33 (53)	$250.80 (47)
6	$232.44 (12)	$119.59 (10)	$209.08 (121)	$203.01 (694)	--[1]	$193.24 (23)	$182.02 (62)	--[1]	$232.38 (28)	$231.85 (26)
7	$280.82 (10)	$144.60 (29)	$203.14 (63)	$184.36 (172)	$207.22 (24)	$235.00 (39)	$223.57 (32)	$232.22 (6)	$230.91 (11)	$227.03 (12)
8 and 10	$233.51 (25)	$162.26 (28)	$188.70 (118)	$192.17 (187)	$216.06 (24)	$212.72 (34)	$284.50 (47)	$161.60 (9)	$231.41 (22)	$185.57 (7)
9	$341.00 (25)	$230.45 (118)	$235.90 (172)	$227.47 (446)	$253.57 (26)	$244.36 (40)	$260.08 (71)	$207.96 (17)	$262.14 (37)	$254.34 (20)
All USA	$319.79 (308)	$208.56 (335)	$220.07 (941)	$210.27 (3,204)	$285.74 (412)[2]	$248.77 (427)	$235.19 (871)	$283.76 (145)	$235.74 (249)	$235.87 (173)

Sources: *Income/Expense Analysis: Conventional Apartments, 1990 Edition*; Institute of Real Estate Management; pp. 152–171.
Income/Expense Analysis: Federally Assisted Apartments, 1990 Edition; Institute of Real Estate Management; pp. 98–158.
Multifamily Study Tenant Data File.

Notes: 1. No data reported. Insufficient observations.
2. Does not equal total building observations possibly due to missing data from Region 6 (Note 1).
3. Figures in parentheses are number of properties reported.
4. 1992 dollars are computed using implicit price deflators for gross domestic product, Index 1987=100, compiled by the Department of Commerce, Bureau of Economic Analysis.

similarities in patterns by property type and part of the country. The data from the Multifamily study are more appropriate for this analysis because the data include information on building types, neighborhood characteristics and tenancy -- all elements which may influence costs. Appendix B contains a detailed discussion of the comparability of the available public housing data with these two private market sources. The analysis in the remainder of this chapter will rely on the more complete and more reliable Multifamily data.

3.3 COMPARING COSTS IN THE HUD-INSURED MULTIFAMILY STOCK AND IN PHAS

The PHA operating cost data made available by HUD for this private market comparison come from the Statement of Operating Receipts and Expenditures (SORES) data base, which contains 1989 cost data submitted by 2,932 public and Indian housing authorities on HUD form 52599. Housing agencies in Alaska and the U.S. Territories are excluded because their costs and characteristics are very different. A second data base provides information on 1989 Allowable Expense Levels (AELs) for 3,248 public and Indian housing authorities. All cost data have been adjusted to 1992 dollars.

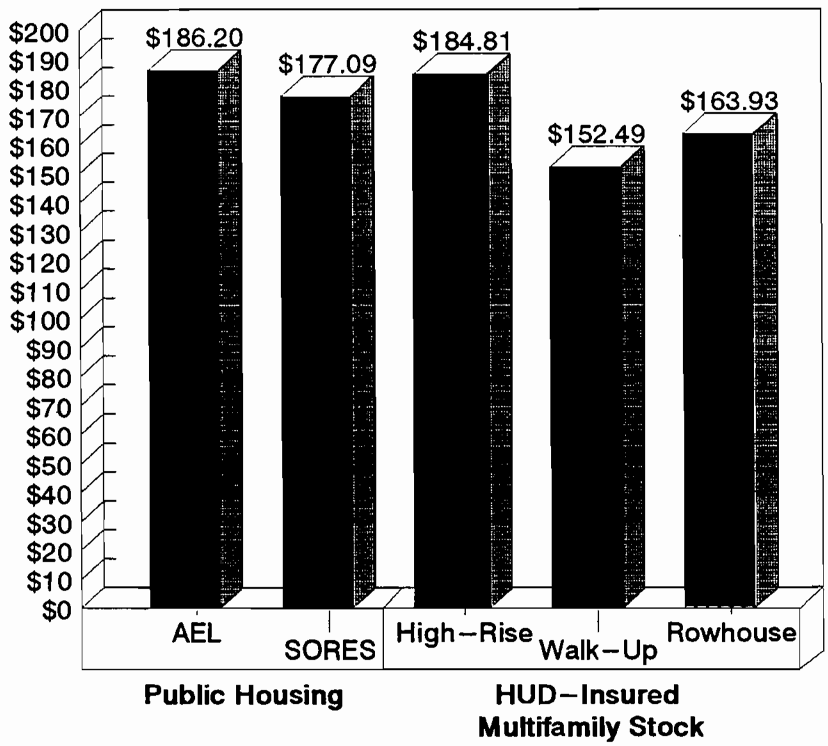
The HUD-Insured Multifamily cost data were compared to both PHA Allowable Expense Levels (AELs) and to actual operating expenditures based on the SORES data. The PHA data included all PHAs that have both AEL and SORES data with cost values over $10 per unit month. The data were weighted using the unit months from the AEL database to get a cost per unit month figure. Utilities were excluded since they are not part of the AEL. It should be noted that public housing costs are calculated on a per unit basis without regard to vacancies, rather than on an *occupied* per unit basis. Per unit costs would be somewhat higher if distributed only across occupied units.

Overall median costs in the Multifamily sample are fairly similar to housing agency AELs and operating costs, as shown in Exhibit 3.3. The two PHA medians -- $186.20 AEL and $177.09 SORES -- are very close to the Multifamily high-rise cost median ($184.81) but somewhat higher than the medians for the other property types.

A further breakdown of properties by central city status is shown in Exhibit 3.4. Again, the SORES and AEL values are quite similar to costs in the Multifamily stock. For example, the values for the Southern sample as a whole are the same, at $145 per unit month.

Exhibit 3.3

Median Costs Per Unit Month in 1992 Dollars



Notes:
1. PHA costs *include* administrative expenses, maintenance, protective services, general expenses, non–routine expenses, and payments in lieu of taxes; and *exclude* utilities.
2. Multifamily costs *include* administrative expenses, operating and maintenance, insurance, and real estate taxes; and *exclude* utilities. IREM data were used to estimate the portion of each property's total costs that were attributable to taxes (by region and building type).
3. 1992 dollars computed using implicit price deflators for gross domestic product, Index 1987=100, compiled by the Department of Commerce, Bureau of Economic Analysis.

Exhibit 3.4

Comparison of Per Unit Month Operating Costs for AEL, SORES and Multifamily Data (1992 Dollars)

	(1)	(2)	(3)	(4)	(5)		
Region	Per Unit Month Costs					Ratios of Per Unit Month Costs	
	PHA Data			Multifamily Data			
	Number of PHAs	AEL	SORES Total	Number of Properties	Total Cost Net of Taxes	(2)/(3) AEL/SORES (Total)	(5)/(3) Multifamily/ SORES
All Regions	2578	$204	$198	570	$177	1.03	0.89
Northeast							
Total	388	258	254	138	212	1.01	0.83
MSA–Central City	83	280	279	78	237	1.00	0.85
MSA–Not Central City	9	162	160	51	189	1.01	1.18
Non–MSA	296	181	173	9	143	1.04	0.83
South							
Total	724	151	145	100	145	1.04	1.00
MSA–Central City	59	170	169	56	153	1.01	0.91
MSA–Not Central City	1	130	129	22	138	1.01	1.07
Non–MSA	664	133	124	22	135	1.07	1.09
Midwest							
Total	1190	171	161	220	167	1.06	1.03
MSA–Central City	97	194	183	128	173	1.06	0.95
MSA–Not Central City	– –	– –	– –	66	168	– –	– –
Non–MSA	1051	140	131	26	133	1.07	1.02
Non–MSA, Indian	42	135	127	– –	– –	1.07	– –
West							
Total	276	208	200	112	178	1.04	0.89
MSA–Central City	32	229	222	67	170	1.03	0.77
MSA–Not Central City	– –	– –	– –	39	199	– –	– –
Non–MSA	177	189	188	6	131	1.01	0.70
Non–MSA, Indian	67	$189	$155	– –	– –	1.21	– –

Sources: Multifamily Study Data Base; PFS Data Base.

Notes: 1. PHA data and Multifamily data are weighted by the number of units in the PHA or property.

2. 1992 dollars are computed using implicit price deflators for gross domestic product, Index 1987=100, compiled by the Department of Commerce, Bureau of Economic Analysis.

Figures for the non-MSA properties in the Midwest are $131 to $140 PUM for public housing units, compared to $133 PUM for HUD-insured Multifamily units.

Total operating costs (including administrative, operating and maintenance and insurance) across regions and locations were generally lower in the Multifamily Housing data compared with the PHA data. Looking again at the final column of Exhibit 3.4, the range was from 70 percent of PHA costs (non-MSA, West) to 118 percent of PHA costs (MSA, not central city, Northeast) with an average of 89 percent. Some of the differences may be a result of actual lower costs in the private sector, and others may be the result of different definitions of cost elements, as described above, or simply sampling error. Differences in costs may also be caused by different levels of efficiency in different types of housing, or may be the result of different types of housing and tenants in the two categories of housing.

3.4 DESCRIPTORS FOR THE PHA AND MULTIFAMILY DATA

As shown in Exhibit 3.4, there appear to be some differences in the operating costs of public housing compared with the private, HUD-insured Multifamily properties. In order to understand the differences, we would like to have information on the characteristics of the properties that are expected to affect costs, including tenancy, building types, and age of structure. While we do not have many descriptors for the PHA stock, (33 to 28 percent), this section presents available information on characteristics that may affect costs.

Exhibit 3.5 shows the descriptors on the nature of the building types and location (central city MSA, non-central city MSA, or non-MSA) in the two data sets. For the PHA data file, we only have the building type descriptor for a subset of 417 PHAs.[14] The percentages in the table mean that, for example, the Northeast housing agencies in the data set have an average of 47 percent elevator developments, 16 percent walk-up developments, 22 percent

[14]HUD provided these data from the FORMS database. The data includes building type information for a subset of 417 PHAs including all extra large PHAs, most medium and large PHAs, and a small number of small PHAs. Without further information, we cannot determine whether these housing authorities are representative of all PHAs, although small and very small agencies are not well represented.

Exhibit 3.5

Characteristics of the Physical Stock: Public Housing and HUD–Insured Multifamily Housing

Mean Percents within each Region

Region	Public Housing Stock							HUD–Insured Multifamily Stock					
	High–rise	Walk–up	Rowhouse	Single–Family Detached	Mixed–Use	TOTAL	N	High–rise	Walk–up	Rowhouse	Single–Family Detached	TOTAL	N
Northeast	47%	16%	22%	1%	13%	100%	137	47%	36%	17%	0%	100%	138
MSA–Central City	48	16	20	1	14	100	68	52	35	13	0	100	78
MSA– Not Central City	28	24	48	0	0	100	3	45	31	25	0	100	51
Non–MSA	39	16	31	4	9	100	66	24	64	12	0	100	9
South	14	7	43	11	23	100	92	19	51	29	1	100	100
MSA–Central City	15	6	47	8	24	100	46	18	59	24	0	100	56
MSA– Not Central City	--[1]	--[1]	--[1]	--[1]	--[1]	--[1]	--[1]	26	55	13	5	100	22
Non–MSA	12	11	35	19	23	100	46	17	26	60	0	100	22
Midwest	28	12	31	5	19	100	118	21	42	36	1	100	220
MSA–Central City	29	13	29	4	18	100	73	28	42	29	1	100	128
MSA– Not Central City	--[1]	--[1]	--[1]	--[1]	--[1]	--[1]	--[1]	16	39	45	0	100	66
Non–MSA	23	9	37	9	21	100	37	5	54	42	0	100	26
West	18	14	39	11	18	100	70	27	50	23	0	100	112
MSA–Central City	22	13	41	5	19	100	25	32	53	16	0	100	67
MSA– Not Central City	--[1]	--[1]	--[1]	--[1]	--[1]	--[1]	--[1]	19	46	35	0	100	39
Non–MSA	18	21	19	25	17	100	21	24	41	35	0	100	6
ALL	33	13	30	5	17	100	417	28	44	28	0	100	570
MSA–Central City	36	13	28	3	17	100	212	32	46	22	1	100	329
MSA– Not Central City	28	24	48	0	0	100	3	26	40	33	0	100	178
Non–MSA	25%	13%	32%	12%	17%	100%	170	14%	44%	43%	0%	100%	63

Data Base: FORMS Data Base: PHAs with building type information available; Multifamily Study Data Base.

Notes: 1. No data available.

2. Rows may not add to 100 percent due to rounding.

rowhouse developments, and so on.[15] The table shows that overall, PHAs are slightly more likely to have high-rise buildings compared with the Multifamily stock (33 to 28 percent), and less likely to have walk-ups, especially in central cities (13 compared to 46 percent). In both PHAs and Multifamily properties, as would be expected, there are more elevator buildings in central city locations than in non-central city or non-MSA areas. Rowhouses are found in all types of areas, but single-family detached units (relatively small in overall numbers) are largely found in PHA non-MSA locations. We make these observations with the caveat that they are based on only 417 of the universe of more than 3,200 PHAs.

Exhibit 3.6 shows information on the size mix of housing units in the public and HUD-insured Multifamily stocks. These data are available for a large part of the PHA universe. The exhibit reveals that on average PHAs have larger units, as indicated both by the higher average number of bedrooms per unit and the percentage of units that have at least two or at least three bedrooms. For example, nearly a quarter of the units operated by PHAs in the Northeast contain 3 or more bedrooms, compared to 15 percent of the private Multifamily stock. The most striking difference is in the West, where the average public housing unit is nearly half a bedroom larger (2.06 compared to 1.59) and where the proportion of units with 3 or more bedrooms is nearly three times as great in central cities (27.3 percent for public housing compared to 9.7 percent in the HUD-Insured Multifamily stock).

Exhibit 3.7 shows that PHAs house more elderly households (ages 62 and over) on average than the Multifamily properties, but that the average household size is very similar across the two types of housing. Therefore, the non-elderly households in public housing are probably larger than in the Multifamily stock, a likelihood supported by the much larger percentage of units with 3 or more bedrooms.

We can therefore identify some differences between the characteristics of the stock and tenancy in public housing and those in the HUD-Insured Multifamily sample, and these differences may be related to differences in costs. It is expected that the larger units and larger non-elderly households found in public housing would be associated with higher costs. In fact,

[15]Unfortunately, the building type categories for the PHA data are slightly different from those used in the Multifamily study, since the PHA data include a category of "mixed" building types. In the Multifamily data, if a development had a combination of building types, the development was assigned to the predominant building type category based on the number of units in each building type in the property. Had this procedure been followed with PHAs, the distribution might look somewhat different.

Exhibit 3.6

Unit Size Distributions:
Public Housing and HUD–Insured Multifamily Housing

(Means within each Region)

Region	Public Housing Stock				HUD–Insured Multifamily Stock			
	N	Average Number of Bedrooms	Percent units 2+ BRs	Percent units 3+ BRs	N	Average Number of Bedrooms	Percent units 2+ BRs	Percent units 3+ BRs
Northeast	379	1.87	64.0%	23.1%	138	1.66	54.9%	15.1%
MSA–Central City	84	1.94	67.8	24.5	78	1.73	60.6	17.0
MSA–Not Central City	8	1.13	25.3	8.1	51	1.52	45.5	11.5
Non–MSA	287	1.65	51.3	18.4	9	1.80	59.4	20.0
South	715	2.07	72.1	29.2	100	1.82	64.3	20.8
MSA–Central City	59	2.06	73.9	27.7	56	1.80	64.5	19.0
MSA–Not Central City	1	1.45	46.0	17.0	22	1.84	66.4	22.9
Non–MSA	655	2.08	70.6	30.6	22	1.88	61.3	23.3
Midwest	1168	1.82	60.5	22.5	220	1.77	61.0	17.8
MSA–Central City	96	1.90	66.2	23.6	128	1.72	57.8	17.8
MSA–Not Central City	––[1]	––[1]	––[1]	––[1]	66	1.88	69.3	17.9
Non–MSA	1030	1.70	53.2	19.8	26	1.75	55.1	17.7
West	267	2.06	67.0	31.3	112	1.59	54.0	15.6
MSA–Central City	30	1.98	68.7	27.3	67	1.42	47.6	9.7
MSA–Not Central City	––[1]	––[1]	––[1]	––[1]	39	1.87	63.8	25.7
Non–MSA	170	1.90	63.4	25.0	6	1.80	63.0	26.7
ALL	2529	1.92	65.1	25.1	570	1.72	58.8	17.3
MSA–Central City	269	1.95	68.5	25.0	329	1.68	57.6	16.2
MSA–Not Central City	9	1.17	28.4	9.5	178	1.77	60.9	18.3
Non–MSA	2142	1.83	59.4%	23.5%	63	1.81	58.6%	19.9%

Data Base: FORMS Data Base; Multifamily Study Data Base.
Notes: 1. No data available.
2. Cases with average bedroom size=0 were deleted.

Exhibit 3.7

Data on Resident Households:
Public Housing and HUD–Insured Multifamily Housing

Means within each Region

Region	Public Housing: Average Household Size (N)	Public Housing: Percent Elderly (N)	HUD–Insured Multifamily: Average Household Size (N)	HUD–Insured Multifamily: Percent Elderly (N)
Northeast	2.37 (104)	41% (389)	2.40 (138)	33% (138)
MSA–Central City	2.42 (57)	36% (84)	2.33 (78)	22% (78)
MSA–Not Central City	1.39 (2)	76% (9)	2.46 (51)	46% (51)
Non–MSA	2.06 (45)	57% (296)	2.53 (9)	43% (9)
South	2.57 (95)	37% (723)	2.48 (100)	32% (100)
MSA–Central City	2.58 (46)	32% (59)	2.48 (56)	30% (56)
MSA–Not Central City	– –[1]	73% (1)	2.42 (22)	32% (22)
Non–MSA	2.55 (49)	42% (663)	2.54 (22)	38% (22)
Midwest	2.41 (100)	41% (1,145)	2.51 (220)	33% (220)
MSA–Central City	2.46 (63)	35% (97)	2.50 (128)	32% (128)
MSA–Not Central City	– –[1]	– –[1]	2.57 (66)	29% (66)
Non–MSA	2.14 (30)	49% (1,048)	2.41 (26)	45% (26)
West	2.89 (47)	41% (207)	2.44 (112)	35% (112)
MSA–Central City	2.68 (17)	38% (32)	2.31 (67)	36% (67)
MSA–Not Central City	– –[1]	– –[1]	2.63 (39)	34% (39)
Non–MSA	2.76 (15)	46% (175)	2.84 (6)	32% (6)
Total	2.47 (346)	40% (2,464)	2.47 (570)	33% (570)
MSA–Central City	2.48 (183)	35% (272)	2.42 (329)	41% (63)
MSA–Not Central City	1.39 (2)	75% (10)	2.53 (178)	30% (329)
Non–MSA	2.31 (139)	48% (2,182)	2.51 (63)	35% (178)

Data Base: FORMS Data Base; Multifamily Study Data Base.
Notes: 1. No data available.
2. Data on percent elderly are only available for 447 PHAs. (FORMS Data Base.)
3. Cases with average income $\leq$\$10, or average bedroom size=0 for the PHA, were deleted.

the comparison of SORES and Multifamily costs in Exhibit 3.4 generally showed this to be the case. On the other hand, higher percentages of elderly households should lower costs.

The building type data are more difficult to interpret, because public housing costs are reported at the PHA level, not the development level. Without some information on the family/elderly occupancy and household size of elevator buildings in PHAs, it is difficult to determine the effect of building type on costs. Such information is lacking at this time.

3.5 DEVELOPING A MODEL OF PUBLIC HOUSING OPERATING COSTS BASED ON PRIVATE MARKET COSTS

The goal of a private market model of public housing operating costs is to establish some benchmark "allowable costs" based on private market operating costs and to invoke a formula (representing the difference between the benchmark private costs and PHA revenues) to provide operating subsidy. Operating costs, whether in the public sector or in the private market, are affected by numerous factors, notably building characteristics, household characteristics, and neighborhood conditions. The data necessary to develop a model of public housing operating costs based on private market costs are limited, as explained in the preceding sections. In this section, we attempt to develop a model of public housing operating costs based on the operating costs found in Abt Associates' study of the HUD-insured Multifamily housing stock. To the extent possible, we have controlled for the factors believed to affect costs. ***However, the model is circumscribed by the limitations of the descriptive and cost data available for the public housing stock and the Multifamily stock.*** The section begins with a description of the methodology for developing the model, followed by a discussion of the results of applying these private market costs to a subset of public housing agencies.

As shown earlier (Exhibit 3.4), the per unit month operating costs for the HUD-insured multifamily stock were generally lower than public housing costs. Across all regions and locations, Multifamily costs averaged 89 percent of public housing operating costs. We expect that operating costs are closely tied to building type and to family/elderly occupancy with operating costs expected to be higher in high-rise buildings and in family properties. (These two characteristics also tend to be correlated with each other.) Exhibit 3.7 showed that PHAs tend to have more elderly tenants compared with the Multifamily properties, and Exhibit 3.5 showed that PHAs tend to have more highrise buildings in their stock. Costs also vary by region and central city location.

To try to create a "model" of what PHA costs would be if they had the same cost structure as the Multifamily stock, we undertook a number of steps to account for location and occupancy. We first computed the mean and median Multifamily operating cost by Census region, central city status, and the property's family/elderly occupancy. The results are presented in Exhibit 3.8. The exhibit also shows the number of observations in each cell; that is, the number of Multifamily properties by region and location. There is not information on enough properties in all locations to develop a reliable estimate of costs. For example, there are very few Multifamily properties in non-metropolitan areas, while there are a large number of PHAs in these areas. On the other hand, there are many Multifamily properties but very few PHAs in suburban areas. The only location type for which there are sufficient data for both PHAs and the Multifamily stock is in central cities, as shown in Exhibit 3.9. ***We therefore have limited our model to costs in central city areas.***

We want to apply the central city Multifamily properties' mean costs by family/elderly composition and by region to the PHAs, to create a Multifamily cost based on the *PHAs'* family/elderly composition. To do so, we used the variable WPCTELD, which is the percent of **units** in the PHA that are characterized as elderly. Conversely, the difference (1 - WPCTELD) is the percent of a PHA's units characterized as family units. This amounts to making an equivalent private market cost weighted by the public housing family/elderly mix. These mean costs are also stratified by region and location (central city).

Thus, for any PHA, a "Multifamily-type cost" would be:

$$MF_{pha} = MF_{fam} * (1 - WPCTELD) + MF_{eld} * WPCTELD$$

where: MF_{pha} is the HUD-insured Multifamily Housing Operating Cost weighted by PHA family/elderly occupancy mix,

MF_{fam} is Multifamily Family Housing Operating Cost for the PHA's region and central city status, and

MF_{eld} is Multifamily Elderly Housing Operating Cost for the PHA's region and central city status.

Exhibit 3.10 shows the mean and median values for the synthetic PHA costs created using the Multifamily cost structure by region (weighted by unit months); it also compares them

Exhibit 3.8

Operating Costs of HUD–Insured Multifamily Housing, by Location and Occupancy Type in 1992 dollars

Region	Family Developments			Elderly Developments		
	Mean	Median	Observations	Mean	Median	Observations
Northeast	$221	$210	113	$177	$172	24
MSA–Central City	243	220	71	165	178	6
MSA–Not Central City	190	183	35	187	201	16
Non–MSA	149	138	7	127	127	2
South	150	145	75	131	127	16
MSA–Central City	157	153	44	135	128	8
MSA–Not Central City	142	133	17	130	154	4
Non–MSA	131	139	14	124	123	4
Midwest	169	159	177	150	139	28
MSA–Central City	170	183	104	179	162	15
MSA–Not Central City	175	167	55	130	139	8
Non–MSA	143	142	18	94	106	5
West	185	172	82	151	140	28
MSA–Central City	175	153	48	154	138	18
MSA–Not Central City	210	187	29	148	149	9
Non–MSA	137	133	5	117	117	1
ALL	182	167	447	154	147	96
MSA–Central City	189	168	267	161	150	47
MSA–Not Central City	182	172	136	160	152	37
Non–MSA	$140	$139	44	$113	$116	12

Database: Multifamily Study Data Base.

Notes: 1992 dollars are computed using implicit price deflators for gross domestic product, Index 1987=100, compiled by the Department of Commerce, Bureau of Economic Analysis.

Exhibit 3.9

Ability to Match Cost Data for HUD-Insured Multifamily Stock and Public Housing Stock

Location	Public Housing Stock		HUD-Insured Multifamily Stock	
	Family	Elderly	Family	Elderly
MSA-Central City	✓	✓	✓	✓
MSA-Not Central City	X	X	✓	✓
Non-MSA	✓	✓	X	X

✓ Type and location of housing is well-represented in available cost data.

X Type and location of housing is not well-represented in available cost data.

Exhibit 3.10

Comparison of Public Housing and HUD–Insured Multifamily Housing Operating Costs (Excluding Utilities) in Central City Locations in 1992 Dollars Per Unit Month

Region	Synthetic PHA Operating Costs Using Multifamily Operating Cost Structure*		PHA Operating Costs**	Difference in Medians	
	Mean	Median	Median	$	%
Northeast	$215	$214	$280	$66	30.8%
South	150	150	170	20	13.3
Midwest	173	173	194	21	12.1
West	168	168	229	61	36.3

Notes: Synthetic PHA operating costs using the HUD–Insured Multifamily Stock Operating Costs weighted by PHA family/elderly mix (MF_{pha}) were derived using the following formula:

$$MF_{pha} = MF_{fam} * (1-WPCTELD) + MF_{eld} * WPCTELD;$$

where: MF_{fam} is Multifamily Family Housing Operating Costs for the PHA's Region and Central City status; and

MF_{eld} is Multifamily Elderly Housing Operating Costs for the PHA's Region and Central City status.

* Weighted by number of units in each PHA.
** Median Allowable Expense Levels (AELs) from Exhibit 3.4.

with the PHA Allowable Expense Levels (AELs). It shows that the median synthetic public housing costs based on the private cost data are lower by $20 to $66 (or from 12 to 36 percent) per unit month than the actual AELs under the Performance Funding System. While we have controlled for family/elderly occupancy and location, there are other factors which may affect costs; examples include the physical condition of the housing stock, and neighborhood characteristics such as crime or vandalism rates.

We next created a ratio of MF_{pha} / AEL for each PHA. This ratio compares what a PHA's costs ***would be*** if it had Multifamily-type costs (and its own distribution of family and elderly units) with its actual AEL. As shown in the upper panel of Exhibit 3.11, the largest group of housing agencies (37 percent) have a ratio between 0.9 and 1.1 (within 10 percent in either direction), meaning that the PHAs' costs would not be markedly different if they had Multifamily-type costs. However, when the PHA data are weighted by the total units in each PHA,[16] the results (shown in the lower panel of Exhibit 3.11) clearly indicate that it is the large PHAs that have costs considerably higher than the Multifamily version. Weighted by units, the ratio showed that the costs are much lower using the Multifamily costs compared to AELs. The synthetic private market cost for PHAs representing 32 percent of the total units was 30 to 50 percent lower than the PHAs' AELs.

So far, this analysis has excluded the costs of utilities. Utilities are a significant cost item; however the costs are difficult to estimate accurately. The property characteristics which most affect utility costs are building type and region. However, another key variable is whether the PHA pays the utility costs for the common areas only (such as hallways, community rooms, management offices, and elevators), or whether it also pays for tenants' utility use. This distinction clearly makes a significant difference in utility costs for a property. According to HUD, PHAs vary widely in the extent to which they pay for tenants' utility use; even within a PHA, some developments may have individual unit metering (e.g., for gas heat), while all-electric buildings remain on a single, master meter. Unfortunately, there are no data available at HUD or elsewhere to examine the mix of practices.

Two sets of utility cost estimates were developed for the Multifamily study. The first estimate is based on the utility costs actually reported to HUD by the Multifamily properties'

[16]Note that no adjustment is made for vacant units.

Exhibit 3.11

Comparison of Public Housing Costs with HUD–Insured Multifamily Housing–Type Synthetic Costs (for Central City Locations, Excluding Utilities)

	Multifamily–Type Synthetic Costs as a Percent of Public Housing Costs					
	50 to 69%	70 to 89%	90 to 109%	110 to 129%	130% or more	Total
PHAs						
Number	9	49	101	68	44	271
Percent	3.3%	18.1%	37.3%	25.1%	16.2%	100.0%
Public Housing Units						
Number	215,013	178,503	201,143	55,266	28,379	678,303
Percent	31.7%	26.3%	29.7%	8.1%	4.2%	100.0%

Notes: See Exhibit 3.10 for definition of Multifamily housing–type synthetic costs.

owners or managers. In approximately 75 percent of these properties, the owner paid all utility costs for the building, including both common areas and apartments. In the remaining 25 percent of the Multifamily properties, the tenants paid their own utilities. The reported utility costs therefore represent a mix of possible arrangements for paying utilities which ***may or may not*** resemble the mix of utility payment arrangements found in public housing.

The second measure of utility costs in the Multifamily study was based on an estimate of total utility cost, assuming that the property owner paid all utilities for common areas and apartments. These costs represent what we think are "real" costs of utilities. We have taken the amount reportedly paid for utilities and added an increment to those that do not appear to have included utility costs for apartments. These increments were developed using per square foot utility costs reported in the Institute for Real Estate Management's published data on utility costs for properties where all utility costs are paid by the owner.[17] (Presumably utility costs for apartments are included in the rent charged to tenants.)

The steps in developing PHA utility costs using the Multifamily structure are similar to those used in developing operating cost estimates. As stated earlier, building type and region are the key factors in determining costs, and we have sufficient data for both Multifamily properties and PHAs only in central city locations. We first determined mean utility costs by region and building type for the central city Multifamily properties. The mean reported and total utility costs are shown in Exhibit 3.12. Exhibit 3.13 shows that the PHA utilities expense levels by region for central city PHAs are higher than the regional means and medians for the Multifamily stock. The difference in the median ranges from $6 per unit month in the Northeast to $27 per unit month in the South.

Building type data are available for a subset of 212 central city PHAs. We used the Multifamily costs by building type and applied them to each PHA's distribution of building types to come up with an estimate of what the public housing agency's utility costs ***would be*** if they had Multifamily-type utility costs. The formula for this calculation is

[17]For each region and building type, a threshold was set. For any property where reported utilities per square foot were below this threshold, we assumed the reported costs were only for common areas and used IREM estimates to impute full utility costs.

Exhibit 3.12

Mean Utility Costs for the HUD–Insured Multifamily Stock by Region and Building Type for Central City Properties in 1992 Dollars Per Unit Month

Region	Reported Utility Costs				Total Utility Costs			
	High–Rise	Walk–Up	Rowhouse	All	High–Rise	Walk–Up	Rowhouse	All
Northeast	$84	$82	$67	$81	$87	$85	$78	$85
South	63	25	39	36	63	54	46	54
Midwest	61	54	49	54	71	62	67	66
West	48	49	31	46	72	56	46	60

Data Base: Multifamily Study Data Base.

Notes:
1. Reported Utility Costs include only the utility costs which owners reported to HUD. This figure includes the cost of utilities in common areas and whatever apartment utilities are provided.
2. Total Utility Costs include reported utility costs plus an increment representing the cost of apartment utility use for those properties which do not appear to pay for utilities in tenants' units.
3. 1992 dollars computed using implicit price deflators for gross domestic product, Index 1987=100, compiled by the Department of Commerce, Bureau of Economic Analysis.

Exhibit 3.13

Comparison of PHA Utilities Expense Levels and Multifamily Total Utility Cost by Region (Central City Only, in 1992 Dollars) Per Unit Month

Region	PHA Utilities Expense Levels by Region for Central City PHAs		Multifamily Total Utility Costs for Central City Properties		Difference in Medians	
	Mean	Median	Mean	Median	$	%
Northeast	$99	$92	$85	$85	$7	8.2%
South	80	78	54	52	26	50.0
Midwest	74	72	66	61	11	18.0
West	59	63	60	57	6	10.5

Notes: PHA Utilities Expense Levels from AEL Data Base.
Multifamily Total Utility Costs from Multifamily Study Data Base.

MFU_{pha} = (% HR * $MFU_{HR\ by\ region}$) + (% WU * $MFU_{WU\ by\ region}$) + (% RH * $MFU_{RH\ by\ region}$) + (% MX * $MFU_{All\ by\ region}$)[18]

where: MFU_{pha} is the synthetic public housing utility costs based on Multifamily utility costs;

% HR, WU, RH and MX is the percentage of High Rise, Walk Up, Row Houses, and Mixed building types, respectively, for each PHA; and

$MFU_{building\ type\ by\ region}$ is the mean Multifamily utility cost by building type and region.

We then created a total PHA operating cost including utilities, using the Multifamily cost structure, by adding the mean central city Multifamily operating cost for each region (shown in Exhibit 3.4) to the utility costs (using the total utility cost from the Multifamily data) appropriate for each PHA's distribution of building types. The formula for the utility cost calculation is:

MF_{PHAU} = ($MOCU_{HR}$ * % HR) + ($MOCU_{WU}$ * % WU) + ($MOCU_{RH}$ * % RH) + ($MOCU_{MX}$ * % MX)

where: MF_{PHAU} is the synthetic PHA total operating cost based on the Multifamily mean total operating cost by region, and the Multifamily utility costs adjusted for the PHA's building type distribution,

$MOCU_{Building\ Type}$ is the mean operating cost for the region plus the appropriate utility cost for the building type and region; and

% HR, WU, RH and MX is the percentage of High Rise, Walk Up, Row Houses, and Mixed building types, respectively, for each PHA.

As shown in Exhibit 3.14, the median synthetic PHA costs using the Multifamily cost structure are lower than the median sum of the PHA AEL and utilities expense levels. The range of the difference varies from 15 percent lower using the Multifamily costs for PHAs in the South, to 43 percent lower for PHAs in the Northeast. The differences are similar to the differences seen in operating costs excluding utilities, discussed earlier.

[18]Many PHA properties were categorized as mixed type. For these properties, we used the overall Multifamily average by region.

Exhibit 3.14

Mean and Median Total Operating Costs (Excluding Utilities) in Central City Locations by Region in 1992 Dollars Per Unit Month

Region	Synthetic PHA PUM Total Operating Costs Including Utilities, Using Multifamily Total Cost Structure*		Total PHA Operating Costs Including Utilities		Difference in Medians	
	Mean	Median	Mean	Median	$	%
Northeast	$246	$300	$379	$430	$130	43.3%
South	205	219	250	251	32	14.6
Midwest	193	212	267	257	45	21.2
West	217	226	288	265	39	17.3

Notes: 1. Synthetic PHA Total Operating Costs are derived from the following formula:

$$MF_{PHAU} = (MOCU_{HR} * \%HR) + (MOCU_{WU} * \%WU) + (MOCU_{RH} * \%RH) + (MOCU_{MX} * \%MX);$$

where: MF_{PHAU} is the synthetic total operating cost including utilities based on the Multifamily mean operating cost for the region, plus the Multifamily utility costs adjusted for the PHA's building type distribution;

$MOCU_{Building\ Type}$ is the mean operating costs for the region plus the appropriate utility cost for the building type and region; and

% HR, WU, RH, and MX is the percentage of High–Rise, Walk–Up, Rowhouses, and Mixed–Use building types, respectively, for each PHA.

2. Total PHA Operating Costs Including Utilities is the sum of the Allowable Expense Level plus the Utilities Expense Level.

* Weighted by number of units in each PHA.

The differences between private market costs and projected public housing costs (in these limited cases) may represent genuine lower costs in the private sector. The differences may also be the result of differences in the physical condition of the housing stock, the greater incidence of larger units (and thus larger households) in public housing, neighborhood characteristics, and other factors that have been discussed in this chapter.

There are also other issues which this model does not address. For example, the analysis does not account for the backlog and on-going accrual of modernization needs in public housing, which are covered under a separate funding mechanism. In the private market, these needs are considered part of operating costs. An adjustment for this difference presumably would widen the operating cost differences. Second, public housing costs are calculated on a per unit basis without regard to vacancies, rather than on an *occupied* per unit basis. Per unit costs would be somewhat higher if distributed only across occupied units. In addition, because data are only available for properties in central city locations, the model also cannot make any cost comparisons for the substantial number of housing agencies located in non-urban areas. With limited data to explore other sources of cost difference or to refine these comparisons, no firm conclusion can be drawn as to how PHAs would fare with a funding system based on the private market costs of the HUD-insured Multifamily stock.

CHAPTER 4

THE COMPREHENSIVE GRANT PROGRAM

The Comprehensive Grant Program (CGP), HUD's recently designed system for allocating funds for capital repair, replacement, and improvement, forms the base case for capital cost systems in this Report. This base case is described in Section 4.1, and the funding for FY 1992 is presented in Section 4.2. In Section 4.3, the CGP base case is compared to past modernization funding under CIAP (the Comprehensive Improvement Assistance Program); in Chapter 5, comparisons are made between the CGP and simulations based on alternative shares of backlog and accrual as well as alternative definitions of modernization need.

4.1 INTRODUCTION TO THE COMPREHENSIVE GRANT PROGRAM

A major thrust of HUD's research and modelling in the past seven years has been directed at developing estimates of the capital needs of public housing. The Modernization Needs Study[1] developed national, regional, and field office estimates of a wide range of existing modernization needs; these estimates are now referred to as the modernization "backlog." The physical inspection and cost data from the study were also used to model the effects of aging on the physical systems of public housing; the resulting estimates of the increase in capital needs over time are referred to as "accrual." Both sets of estimates have been used to develop the Comprehensive Grant system.

Unlike the PFS, which has been in operation for over 15 years, the "base case" system for funding capital costs has just recently been designed by HUD and is being implemented for the first time to determine capital funding for FY 1992. It will largely replace CIAP, the modernization program that has been in existence since 1980. The approach CGP takes was initially described in HUD'S *Report to Congress on Alternative Methods for Funding Public*

[1]*Study of the Modernization Needs of the Public and Indian Housing Stock - National, Regional and Field Office Estimates: Backlog of Modernization Needs*, Abt Associates Inc., 1988; *Future Accrual of Capital Repairs and Replacement Needs of Public Housing*, ICF Inc., 1989.

Housing Modernization[2] and was presented as a proposed rule in the Federal Register of April 26, 1991 and as a Final Rule on February 14, 1992.[3]

The CGP allocates modernization funds to PHAs and IHAs on the basis of a formula. Under this formula, each PHA is assigned a "share," expressed as a percent; these shares equal 100 percent for all PHAs in the CGP system. Each year, the funds allocated to any given PHA simply represent that PHA's share applied to the total annual appropriation. Thus, the CGP is wholly a ***distributional*** formula: Congress determines the level of funding and the PHAs automatically receive their formula share. The concept of "needed" funding, however, enters the CGP in two ways. First, in deciding upon an annual appropriation, Congress and HUD can refer to the extensive estimates of need developed in the Modernization Needs Study. Second, the formula shares themselves were developed from statistical models that related the estimated needs to PHA characteristics. The "needs" include estimates of both backlog (unmet current capital needs) and accrual (future needs based on aging). This "modelled" approach to capital spending is described in detail in the Report to Congress cited above. We also present a brief summary below.

It should be emphasized, however, that the CGP is a major and important departure from the competitive awards under CIAP. Under CIAP, individual applications from PHAs were reviewed and approved by HUD, based on its priorities and ranking systems. Although the funding allocation to the HUD regions was based on a formula, funding to individual PHAs fluctuated from year to year.

HUD had a number of important goals in mind in developing the CGP system to replace CIAP. The CGP aims at establishing a reliable and *predictable* funding mechanism for capital improvements. It seeks to include the annual accrual of capital improvement needs as well as to address the backlog of needs. The program is designed to provide housing agencies with greater discretion in planning and implementation of modernization activities. The new formula system is also expected to eliminate the perverse incentive some say exists under CIAP for a PHA or IHA to disinvest in a development in order to enhance prospects for comprehensive modernization funding under a competitive application process.

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[2]U.S. Department of Housing and Urban Development, Office of Policy Development and Research (April 1990).

[3]The rule was effective March 16, 1992.

4.1.1 Operation of the Comprehensive Grant Program

The Final Rule on the Comprehensive Grant Program specified that the new program applies to PHAs and IHAs with 500 or more units in FY 1992; beginning in FY 1993, it will cover PHAs and IHAs with 250 or more units. The Final Rule also revised the existing CIAP Program to limit its applicability. In FY 1992, a competitive application process will still be used for PHAs that own or operate fewer than 500 housing units; beginning in FY 1993, CIAP will only cover PHAs with fewer than 250 housing units. Thus, the new system of modernization funding contains an on-going CIAP component, although it is a very small share of total funding.

The most salient features of the final rule on the CGP are the following:

- **Applicability**: The CGP applies to all PHAs with 500 or more units (250 or more units from FY 1993 on). Analysis of the Modernization Needs data and the Modernization Approval Data System (MADS) data indicated that even small PHAs (with 250 to 499 units) have backlog modernization needs; they also have some experience with the modernization program and can therefore be expected to use a formula allocation of modernization funds effectively[4].

- **Coverage:** Housing owned by both public housing agencies and Indian housing authorities is covered by the CGP. For the purpose of the unit threshold of 500 units (250 units from FY 1993), and also for the unit counts that factor into funding amounts, an existing Section 23 bond-financed unit under the Annual Contributions Contract (ACC) counts as one unit; a unit under the Indian Mutual Help program counts as one unit; and a unit under the Turnkey III program counts as one-fourth of a unit. These are *in addition* to the agency's low-rent public housing units. Thus, the unit base is broader in CGP than in PFS. A PHA that has already qualified to participate in the CGP program may elect to continue in the program as long as it owns or operates at least 200 units.

- **Exclusion of New York City Housing Agency** (NYCHA) from the formula: In recognition of its unique size, the New York City Housing Agency is excluded from the formula system. The NYCHA participates in the CGP based on a direct estimate of the backlog and accrual needs of its stock.

- **Equal weights to backlog needs and accrual needs**: Separate formula shares were developed by HUD for both backlog needs and accrual, and the CGP uses both types of shares. Under the final rule, HUD allocates half of the appropriated amount by formula based on the backlog need (shares) of PHAs, and the other half of the appropriation by formula based on the accrual need (shares) of PHAs. Thus, backlog and accrual shares are equally weighted in the Comprehensive Grant

[4]*Report to Congress on Alternative Methods for Funding Public Housing Modernization*, p. IV-6.

share. HUD's rationale for this weighting[5] is that the backlog formula, based on the modernization need measured in 1985, does not take into account the needs that have accrued since that time; the accrual formula, although also based on 1985 figures, better captures the modernization needs that have accrued between 1986 and 1991 (which now actually form part of the backlog). Also, the accrual formula is expected to conform to the distribution of new modernization needs and is thus seen as likely to allow PHAs to address future needs more effectively.

- **Partial deduction of previous CIAP and Major Rehabilitation of Obsolete Projects (MROP) funding**: Under the Comprehensive Grant rule, HUD deducts from each PHA's backlog estimate 60 percent of CIAP funds received by the PHA from 1984 to 1991, and 40 percent of previously received MROP (Major Rehabilitation) funds (and only that amount of MROP which does not exceed the estimated backlog need of a specific MROP development). This deduction is subject to a maximum of 50 percent of the total estimated backlog need of a PHA. Since PHAs have had widely dissimilar past modernization funding experience, a partial deduction of previous funding is meant to improve equity in allocations under the CGP.

- **Reduced formula allocation for PHAs designated as modernization-troubled under PHMAP** (Public Housing Management Assessment Program): After the first year of formula funding under CGP, the capital funding for modernization-troubled PHAs will be restricted to their historical levels of modernization funding, expressed as their average funding for the last three fiscal years.

4.1.2 Development of the Comprehensive Grant Program

This report does not attempt to evaluate the design of the Comprehensive Grant Program nor its statistical basis, including the variables in the equation and the estimation technique that was used to generate the Comprehensive Grant shares. A brief description of HUD's design process, however, will help explain how the CGP is rooted in actual estimates of capital need and how those same estimates might be related to future appropriations.

The Modernization Needs Study, completed in 1985, carried out thorough inspections of 1,000 public housing developments nation-wide, using inspection procedures reviewed by both HUD and a committee representing the PHAs and their advocacy organizations. As discussed in more detail in Chapter 5, the inspections collected information on several types of capital need, including:

- FIX--the backlog of repairs to ***existing*** physical systems;

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[5]This rationale is discussed in the *Report to Congress on Alternative Methods for Funding Public Housing Modernization*, 1990, pp. IV-6 - IV-7.

- ADDS--capital improvements that might be ***added***;
- ENERGY--energy conservation improvements; and
- REDESIGN--substantial structure changes needed by a few PHAs for the long-term viability of their housing.
- LEAD PAINT removal and HANDICAPPED ACCESSIBILITY.

The sum of all of these estimates for each of the sampled developments was its estimate of the "backlog" of capital repairs and replacements. Then, based on the age of the capital systems in the developments, and the "expected" life of a given system, a model was developed to predict capital repair needs in the future: the "accrual" of modernization needs. ***The basic accrual estimates assume that the entire backlog of need has been funded.*** This is an important point which must be kept in mind. As will be discussed in Chapter 5.0, the current levels of funding under CGP (and previously under CIAP) have not been adequate to fund the clearance of the backlog except over a very extended time period.

Using these project-level data on needs and on project characteristics for the thousand developments in the sample, statistical models were later developed by HUD that ultimately derived dollar measures of backlog and accrual costs at the PHA level based on the 1985 data. The dollars were summed and shares computed for all PHA relative to the total. Based on similar descriptive variables for all PHAs, HUD updated the shares during the Spring of 1992 for CGP implementation.

The variables used to develop the CGP include indicators of PHA size, tenant composition, and building and neighborhood characteristics. Specifically, the following variables were used in the backlog and accrual equations:

Backlog Equation Only	**Both Backlog & Accrual Equations**	**Accrual Equation Only**
• Total Family Units	• Average Number of Bedrooms	• PHA Total Units
• High-rise Projects	• Large Family Units	• Low-rise Projects
	• Building Age	
• Severe Population Decline in the Community	• Local Cost Index	

A critique and evaluation of the development of the Comprehensive Grant system is outside the purview of this Report. As noted in Chapter 9, an evaluation of the derivation of CGP should be an important focus of future research.[6] However, the allocation of funds under CGP *is* presented and analyzed in this chapter and in Chapter 5. Along with PFS, it also appears as part of the Combined Cost System analyzed in Chapter 6.

4.2 THE COMPREHENSIVE GRANT PROGRAM: BASE CASE CAPITAL FUNDING

This section presents a simulation of the current operation of the CGP, based on the final CGP rule and the actual shares allocated to PHAs for FY 1992. The simulation forms the capital costs base case. The FY 1992 budget allocation for the Comprehensive Grant Program is $2.0 billion. In addition, $544.6 million has been allocated under CIAP for PHAs and IHAs with fewer than 500 units. This brings the total FY 1992 modernization allocation to $2.56 billion.[7] It is this amount that is used to make comparisons with other capital cost systems.

The base case simulation of the CGP differs in two respects from the Final Rule. First, it includes ***all*** PHAs, down to the smallest agencies with fewer than 250 units. The reason for including all PHAs in our simulation is that the HUD database on formula shares contains shares for all PHAs. Accordingly, the FY 1992 allocation to which the formula shares are applied in the simulation includes both the CGP and CIAP portions. This feature of our simulation conforms with HUD's own method of computing the CIAP allocation based on the backlog and

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[6]The approach to the development of the CGP is described in the *Report to Congress on Alternative Methods for Funding Public Housing Modernization*, Appendix B. The statistical methodology utilized to develop the CGP was multiple regression. The backlog and accrual data collected in the modernization needs study for the 1000-project sample formed the dependent variables. The project and other characteristics noted above formed the independent variables. The coefficients from the regression equations provided the weights for the project characteristics to yield estimates for projects not in the modernization study.

The difficulty arises in extending the results from the project level to the *PHA* level. The Modernization Needs Study was not designed to provide direct estimates of needs at the PHA level. However, an indirect approach may be used. The Modernization Needs Study's report on development of the sampling frame of 6,670 projects provides a wealth of data for individual projects. These data were supplemented by data from previous Abt and HUD studies to provide indicators of need at the PHA and community level, to apply to all of the projects. In addition, the sampling weights enable the statistical relationships of need to be generalized to all projects with the same set of indicators (the Abt sampling frame of 6,670 projects and other projects for which data were collected). Probably, the regression relationships between modernization needs and characteristics of a PHA's inventory of projects were then applied to a data base containing project, PHA, and community characteristics for each PHA to form PHA-level estimates of modernization need.

[7]These figures reflect the 4.7 percent recision of the original appropriation.

accrual formulas of the small PHAs. The New York City Housing Agency is also included in this simulation, because it was allotted a share in the HUD database.

Second, in the simulation, a 60 percent deduction of previous CIAP and MROP is built into the percentage share variables in the HUD database to limit CGP funding to a rough estimate of unfunded backlog. In contrast, the Final Rule stipulates that 60 percent of CIAP but only 40 percent of MROP (subject to some restrictions) will be deducted.

The simulation of the capital funding base case is based on an analysis of 3,224 PHAs in the comprehensive grants database; more than 1.4 million housing units are included. This population is larger than the one forming the operating subsidy base case (described in Chapter 2), because it includes PHAs and IHAs eligible for CGP but not part of PFS, such as those located in the Territories and those whose revenues cover their costs without operating subsidy.[8] The coverage of units is also greater, due to substantial numbers of Section 23 and Indian Mutual Help units in some agencies.

Exhibit 4.1 describes the Comprehensive Grant Program base case. It shows, by PHA size and region, the total allocation and the allocation per unit month for the groups of PHAs. The extra-large PHAs receive the major share of the CGP funding in FY 1992 under this simulation of the base case, almost 44 percent of the total. Thus, extra-large PHAs will get a share of the total allocation that is considerably greater than their 34 percent share of housing units. The shares of the FY 1992 allocation to all other size categories — large, medium, small, and very small — will be less than their respective shares of the total number of housing units, particularly for the small PHAs.

The comparison of shares for funding and total units also reveals regional differences, illustrated in Exhibit 4.2. For example, under the CGP base case, the Southern region will receive 22.1 percent of the funding, although it has 25.1 percent of the total number of units. The Midwest region will receive 29.1 percent of the funding and has 30.2 percent of the total number of units. The other two regions will receive a somewhat greater proportion of funding than their share in the total number of units. Of course, in a discussion of the equity or appropriateness of the relative shares, the share of housing units is only one factor. In addition

[8]It should also be noted that 68 PHAs are not included in the CGP base case because no data were available for them in HUD's Comp Grant data base. Ten of these PHAs are small and the remaining 58 fall into the very small category.

Exhibit 4.1

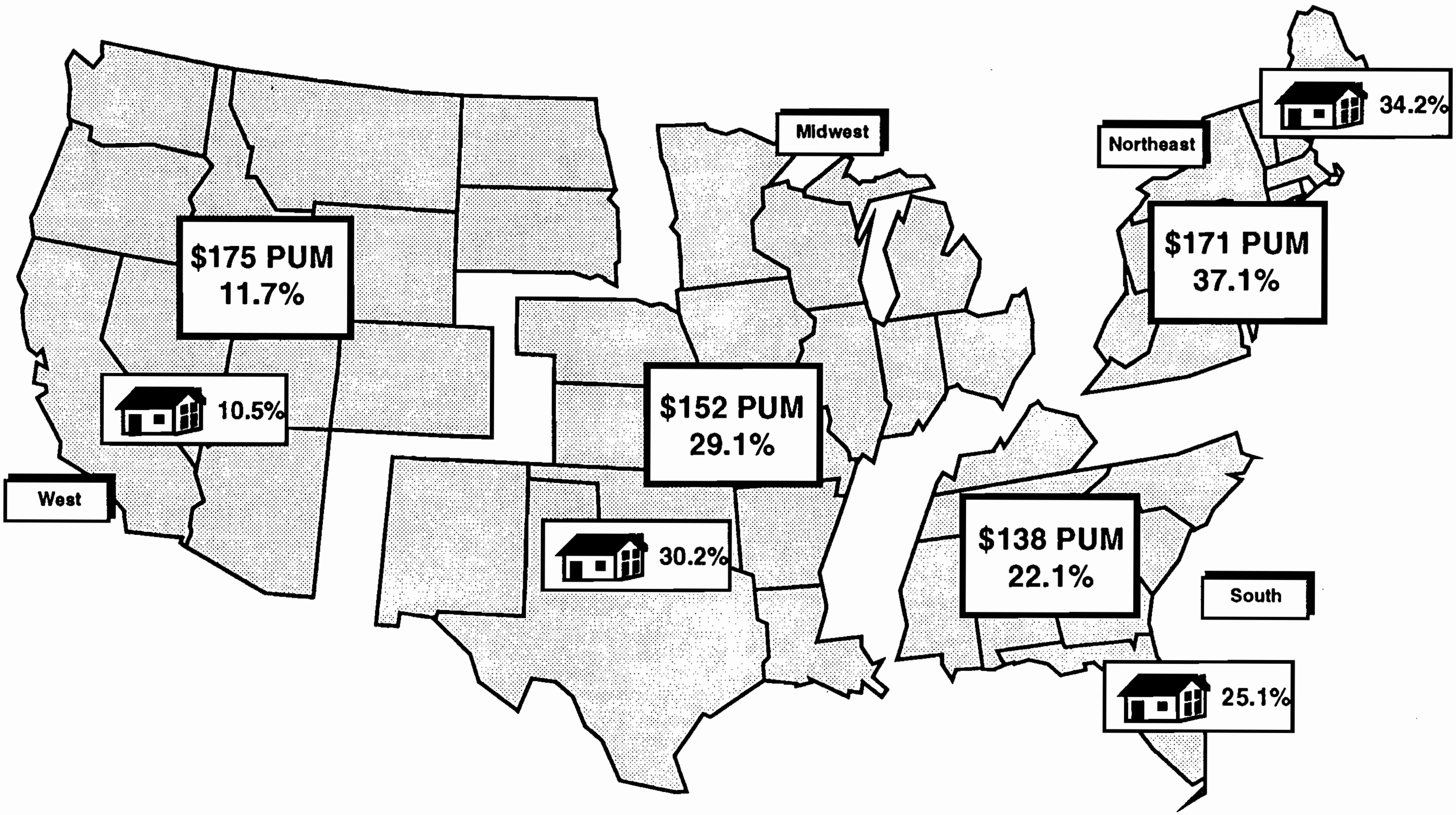
Comprehensive Grant Program (CGP)
Base Case 1992

PHA Size/ Region	Comprehensive Grant Program Per Unit Month 1992	Number of PHAs	Total CGP Eligibility 1992 (in millions)	Percent of Total CGP Eligibility	Percent of Total Units
Extra-Large	$199.99	23	$1,119.9	43.7%	34.4%
Northeast	200.72	7	583.6	22.8	17.8
South	177.14	5	208.1	8.1	7.2
Midwest	220.00	8	274.9	10.7	7.7
West	198.93	3	53.3	2.1	1.6
Large	142.64	134	565.9	22.1	24.3
Northeast	148.56	48	180.6	7.1	7.5
South	124.54	33	128.0	5.0	6.3
Midwest	139.68	37	170.0	6.6	7.5
West	172.29	16	87.3	3.4	3.1
Medium	135.11	274	336.2	13.1	15.3
Northeast	128.24	71	84.9	3.3	4.1
South	121.93	72	78.6	3.1	4.0
Midwest	129.49	78	91.4	3.6	4.3
West	170.78	53	81.4	3.2	2.9
Small	128.65	1,280	431.2	16.8	20.6
Northeast	128.29	248	91.1	3.6	4.4
South	119.80	397	127.3	5.0	6.5
Midwest	123.03	498	148.7	5.8	7.4
West	173.03	137	64.2	2.5	2.3
Very Small	121.82	1,513	108.4	4.2	5.5
Northeast	138.64	109	11.4	0.4	0.5
South	130.72	289	24.1	0.9	1.1
Midwest	112.20	973	60.4	2.4	3.3
West	147.25	142	12.4	0.5	0.5
ALL	157.18	3,224	2,561.6	100.0	100.0
Northeast	170.62	483	951.5	37.1	34.2
South	138.27	796	566.2	22.1	25.1
Midwest	151.52	1,594	745.3	29.1	30.2
West	$174.97	351	$298.6	11.7%	10.5%

Data Base: Simulations from Comp Grant Base Case, N=3,224 PHAs.
Notes: 1. Columns may not add to totals nor to 100 percent due to rounding.
2. Total Units are units eligible for CGP funding.

Exhibit 4.2

Comprehensive Grant Program Base Case: Regional Subsidy Allocation Per Unit Month (PUM) and Percent of Total CGP Eligibility



= indicates region's percent share of all public housing units included in CGP.

to the number of units, the age and structural characteristics of the buildings, climate, tenant characteristics and the history of maintenance, modernization, construction cost differences among metropolitan areas, and PHA management are all factors that determine the current modernization needs of PHAs. Thus any real assessment of "appropriateness" must await an evaluation of the CGP model.

Exhibit 4.1 also shows the per unit month (PUM) allocations under the base case. The per unit month payment is highest for the Western region in four of the five size categories. The South has the lowest PUM dollar allocation in all size categories except the very small, where the Midwest has the lowest amount. The allocations per unit month for the size categories follow the same order as size: they are highest for the extra-large PHAs and lowest for the very small PHAs. Even so, the PUM allocation for the very small PHAs in the West is almost as high as the allocations per unit month for large PHAs in the Northeast, and it is higher than the PUM allocation of large PHAs in the Midwest and in the South. Providing an explanation for these differences would require data on PHA characteristics not currently available for this analysis.

4.3 COMPARISONS OF CGP WITH HISTORICAL CIAP AND MROP

The CGP introduces a markedly different approach to funding the capital requirements of PHAs. For purposes of placing 1992 capital funding in a historical context, this section compares CGP with CIAP. As was true of CIAP, there is nothing inherent in CGP that determines the *level* of funding. CGP is solely a *distributional* system, but it determines shares at the PHA level. CIAP awards were competitive at the PHA level. In this regard, CGP can be purposively compared with CIAP. In summary:

- Beginning in 1990, funding for capital repairs and replacement has risen steadily, and appropriations have been significantly higher than during the mid-1980s;

- Under CIAP, both the *level* and *distribution* of funds to individual PHAs were determined within the system, through review of individual applications;

- Under CGP, this type of review ceases; the level of funding is not related to assessment from the "bottom up." In contrast, CGP provides each participating PHA with an *exact measure of its share* of total funding;

- Finally, although it cannot be documented, the recent increases in funding may be due to Congress' review of the estimates of modernization need (which are very sizable). In any event, the 1992 increase is not due to CGP *per se*.

In this comparison, data on CIAP and MROP funding from 1984 through 1991 for each PHA are used as a measure of historical modernization funding. A more complete set of figures on historical CIAP funding was provided in Chapter 1. Exhibit 4.3 presents comparisons between the CGP base case and the past allocation of CIAP and MROP. We have used the same variable[9] for historical funding that is in the HUD database and that was used for partial deductions in computation of the Comprehensive Grant shares. The annualized CIAP and MROP amount is a simple yearly average of the funding in the eight-year period.

On a year-by-year basis, we have adjusted the historical CIAP average to reflect 1992 dollars. Over the whole period, the adjustment would be 32 percent; it results in a 14 percent increase in the 8-year ***average***, from $1.49 billion to the adjusted annual average of $1.7 billion.[10] This inflation adjustment has a relatively small effect because the level of CIAP funding for the early years was relatively low (the average for 1984-1986 was approximately $790 million) compared with $1.98 billion in 1990 and $2.5 billion in 1991.

The FY 1992 allocation for CGP, some $2.6 billion, is 50.8 percent higher than the historical CIAP average. As we have discussed, the CGP does not determine the level of funding, but rather the ***distribution***. However, CGP does indeed change the distribution of funds to PHAS relative to CIAP. The data reveal two major findings with regard to the CGP distribution:

- The relative shares of total funding under the old and new systems differ markedly by size class, with extra-large PHAs gaining (under CGP), primarily at the expense of large and medium PHAs; and

- The relative shares of funding by region also shift rather substantially; the Northeast's share has fallen by 17 percent, while the other three regions share this gain rather evenly.

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[9]Total CIAP and MROP funding from 1984 through 1991, Comprehensive Grant Program Database.

[10]The implicit price deflator for gross domestic product was used to make this adjustment to 1992 dollars.

Exhibit 4.3

Comparison of the Comprehensive Grant Program to 1984–1991 Average Annual Comprehensive Improvement Assistance Program (CIAP) and Major Reconstruction of Obsolete Projects (MROP) Totals

PHA Size/ Region	(1) Total CGP Eligibility 1992 (in millions)	(2) Percent of Total CGP Eligibility	(3) Average Annual CIAP and MROP 1984–1991 (in millions)	(4) Percent of Total Average Annual CIAP and MROP 1984–1991	Percent Change in CGP relative to CIAP and MROP 1984–1991 [(1)–(3)]/(3)
Extra–Large	$1,119.9	43.7%	$604.5	35.6%	85.2%
Northeast	583.6	22.8	354.3	20.9	64.7
South	208.1	8.1	109.8	6.5	89.5
Midwest	274.9	10.7	114.2	6.7	140.6
West	53.3	2.1	26.2	1.5	103.9
Large	565.9	22.1	492.5	29.0	14.9
Northeast	180.6	7.1	211.3	12.4	(14.5)
South	128.0	5.0	103.1	6.1	24.2
Midwest	170.0	6.6	133.6	7.9	27.2
West	87.3	3.4	44.5	2.6	96.3
Medium	336.2	13.1	253.9	14.9	32.4
Northeast	84.9	3.3	90.0	5.3	(5.7)
South	78.6	3.1	44.8	2.6	75.5
Midwest	91.4	3.6	70.8	4.2	29.1
West	81.4	3.2	48.4	2.8	68.2
Small	431.2	16.8	278.0	16.4	55.1
Northeast	91.1	3.6	87.4	5.1	4.1
South	127.3	5.0	76.7	4.5	66.0
Midwest	148.7	5.8	89.6	5.3	66.0
West	64.2	2.5	24.3	1.4	164.4
Very Small	108.4	4.2	70.0	4.1	54.9
Northeast	11.4	0.4	10.6	0.6	7.8
South	24.1	0.9	15.2	0.9	58.7
Midwest	60.4	2.4	38.7	2.3	56.2
West	12.4	0.5	5.5	0.3	126.7
ALL	2,561.6	100.0	1,698.9	100.0	50.8
Northeast	951.5	37.1	753.6	44.4	26.3
South	566.2	22.1	349.7	20.6	61.9
Midwest	745.3	29.1	446.9	26.3	66.8
West	$298.6	11.7%	$148.8	8.8%	100.7%

Data Base: Simulations from the Comp Grant Base Case, N=3,224 PHAs.
Notes: 1. Columns may not add to totals nor to 100 percent due to rounding.
2. Parentheses indicate a negative percent.

As Exhibit 4.3 shows, the impact of the substantial increase over the historical modernization funding under CIAP and MROP will be felt most by extra-large PHAs, whose share of total funding under the base case is considerably higher than what it was between 1984-91: 43.7 percent as against 35.6 percent. The relative shares of funding for large and medium PHAs are reduced under the CGP base case compared to historical funding, while the shares for small and very small PHAs remain about the same.

The share of total funding for the Northeast has fallen from 44.4 percent to 37.1 percent. In contrast, the South's share has risen from 20.6 percent to 22.1 percent, the Midwest's from 26.3 to 29.1 percent and the West's from 8.8 to 11.7 percent.

All regions gain overall from the increased level of funding for FY 1992, but the gain in the Northeast is relatively small. In fact, large and medium PHAs in the Northeast will now actually receive less funding than their historical average.

In sum, under the FY 1992 allocations, extra-large PHAs will continue to get the largest share among the size categories and a greater share than before. This is the only size category whose share of allocations is greater than its share of total units. The shares of funding to large and medium PHAs will be reduced under the CGP compared to their historical shares. Also, under CGP the Northeast will continue to get the highest total allocation among region categories; however, its share of the total allocation is substantially reduced compared to its historical share. The shares of the West, South and Midwest will increase compared to their historical shares.

Exhibit 4.4 presents the PUM amounts from CGP and CIAP/MROP. The percent differences are of course the same as in Exhibit 4.3, but are repeated for the reader's convenience. The PUM comparisons serve to highlight the distributional shifts noted above. Thus, note in Exhibit 4.4 that the spread in PUM allocations from the extra large to the very small PHAs has increased under CGP. Also, there is a steady decline in PUM allocation by size category; under CIAP, in contrast, the large PHAs actually received more per unit month than the extra-large group. Finally, because of the regional redistribution occurring under CGP relative to CIAP, the West (rather than the Northeast) now has the highest PUM allocation in every size group.

Exhibit 4.4

Comparison of the Comprehensive Grant Program to 1984–1991 Average Annual Comprehensive Improvement Assistance Program (CIAP) and Major Reconstruction of Obsolete Projects (MROP) Per Unit Month

PHA Size/ Region	(1) CGP PUM 1992	(2) Average Annual CIAP and MROP 1984–1991 PUM	(3) Difference in CGP and CIAP and MROP 1984–1991 PUM	Percent Change in CGP relative to CIAP and MROP 1984–1991 PUM [(1)–(3)]/(3)
Extra–Large	$199.99	$107.96	$92.03	85.2%
Northeast	200.72	121.86	78.86	64.7
South	177.14	93.48	83.66	89.5
Midwest	220.00	91.44	128.56	140.6
West	198.93	97.56	101.37	103.9
Large	142.64	124.13	18.51	14.9
Northeast	148.56	173.79	(25.23)	(14.5)
South	124.54	100.30	24.24	24.2
Midwest	139.68	109.78	29.90	27.2
West	172.29	87.77	84.52	96.3
Medium	135.11	102.05	33.06	32.4
Northeast	128.24	135.96	(7.72)	(5.7)
South	121.93	69.49	52.44	75.5
Midwest	129.49	100.32	29.17	29.1
West	170.78	101.55	69.23	68.2
Small	128.65	82.94	45.71	55.1
Northeast	128.29	123.21	5.08	4.1
South	119.80	72.19	47.61	66.0
Midwest	123.03	74.12	48.91	66.0
West	173.03	65.45	107.58	164.4
Very Small	121.82	78.64	43.18	54.9
Northeast	138.64	128.64	10.00	7.8
South	130.72	82.39	48.33	58.7
Midwest	112.20	71.85	40.35	56.2
West	147.25	64.96	82.29	126.7
ALL	157.18	104.25	52.93	50.8
Northeast	170.62	135.13	35.49	26.3
South	138.27	85.39	52.88	61.9
Midwest	151.52	90.85	60.67	66.8
West	$174.97	$87.18	$87.79	100.7%

Data Base: Simulations from the Comp Grant Base Case, N=3,224 PHAs.

Notes: 1. Columns may not add to totals nor to 100 percent due to rounding.
2. Parentheses indicate a negative difference or percent.
3. PUM = Per Unit Month.

4.4 IMPLICATIONS OF CAPITAL FUNDING UNDER CGP

The CGP represents a departure from HUD's historical approach to modernization funding. Funds are now to be allocated to each PHA by formula, rather than through the process of competitive application and review under CIAP. The CGP does not determine the level of funding for modernization, nor did CIAP. But under CIAP, housing agencies could not lay claim to any specific share of appropriations; an agency might receive several million dollars one year and none the next. Now, to the extent that the formula shares remain relatively consistent under the administration of the CGP, ***and*** to the extent that Congress continues to fund modernization at steady amounts, PHAs will receive a predictable level of funds, which should greatly enhance planning for future needs.

But are PHAs' capital needs being adequately met? There are at least three aspects to this question:

- Are the distributional changes noted above "appropriate?"
- How does the current level of funding compare with the estimates of backlog and accrual derived from the modernization needs study?
- Are the CGP funds sufficient both to reduce the backlog, which was substantial for many PHAs, *and* to fund accrual? If not, what are the implications for accrual of a "new" backlog?

These questions cannot be fully addressed in this report, but Chapter 5 presents a detailed comparison of CGP with the modernization needs estimates. That analysis pertains both to issues of distribution (how the CGP formula "mixes" backlog and accrual requirements) and issues of funding level, by comparing CGP and the independent estimates of need.

At least two more aspects of capital funding need study, however. First, a thorough evaluation of the CGP should be undertaken to assess whether the distributional properties of the formula seem appropriate. This involves a complex analysis of the statistical underpinnings of the system and, as we have noted, is beyond the scope of this report. However, the statute does require an evaluation of the CGP three years after funding is initially made available.[11]

Second, the modernization needs estimates were prepared in 1984-85. As discussed in the next chapter, these estimates have been updated for CIAP spending to date and for inflation. On a PHA level, however, it is no longer clear what the remaining backlog is, how CIAP funds

[11]National Affordable Housing Act, Section 509.

were spent, or whether a "new" backlog has arisen. It would be desirable to carry out a new assessment of a subset of the original 1,000 projects, including physical inspections, in order to address such questions. These and other studies suggested by this research are described in Chapter 9.

CHAPTER 5

COMPARISON CASES OF MODERNIZATION FUNDING USING ALTERNATIVE DEFINITIONS OF SHARES AND NEED FOR CAPITAL REPAIRS

This chapter extends the analysis of capital funding systems by drawing upon the findings of the Modernization Needs Study. It builds upon the Comprehensive Grant Program base case analyzed in Chapter 4. Section 5.1 discusses the funding needed for capital repairs and replacements. In Section 5.2, we present an analysis of backlog and accrual shares. Then, Section 5.3 presents simulations of funding backlog over different time horizons.

5.1 FUNDING CAPITAL NEEDS

5.1.1 Policy Issues in the Level and Distribution of Need

The levels of modernization funding allocated by Congress for Fiscal Years 1991 and 1992, $2.5 billion and $2.75 billion respectively, represent a major increase over previous funding under CIAP, especially as compared with the early and mid-1980s. However, when the current funding is compared with the estimates of modernization need developed by HUD's Modernization Needs Study, a major nation-wide effort, the allocations are quite modest relative to total estimated need. As discussed below, updated estimates of physical need now range from about $22 billion to over $32 billion. A number of unique categories of capital need were developed in the Modernization Needs Study; thus, estimates of both backlog and accrual need vary depending on which categories are included in the total.

Chapter 4 described the development of the Comprehensive Grant Program and presented an analysis of the distribution of subsidy based on the CGP formula shares for backlog and accrual. As has been noted, these shares are weighted equally in the present formula. This chapter presents a more detailed analysis of both of these aspects of funding under CGP: (1) how current funding compares with various categories of modernization need; and (2) how alternative combinations of formula shares affect the distribution of funds. The analysis seeks to answer the following policy questions with regard to level of modernization funding and construction of the CGP formula:

The Level of Modernization Need as Compared with Levels of Funding

- How does the current level of CGP funding compare with updated estimates of modernization need, including those elements of capital repair not considered under CGP?

- At current levels of funding, how many years would be required to completely fund the backlog?

- To what extent has historical funding under CIAP/MROP served to reduce the backlog and fund annual accrual?

- If the backlog is not fully funded for a long period (fifteen to twenty years, for example), what dynamic impact might this have on the estimates of needed funding?

The Distribution of CGP Funds: Formula Shares for Backlog and Accrual

- How do the backlog and accrual shares differ with regard to the funds allocated to different types of PHAs?

- How would different combinations of these shares -- other than the equal weighting now used in CGP -- affect the distribution of subsidies?

- What need categories are included in the CGP formula shares and which have been excluded? What impact might this have on the distribution of subsidies?

5.1.2 Updated Estimates of Modernization Need

Exhibit 5.1 presents a complete summary of the needs categories and estimates developed by the 1985 Modernization Needs Study.[1] The figures in Exhibit 5.1 are derived from the updated estimates in HUD's 1990 ***Report to Congress***. That Report, which presented the updated estimates in 1990 dollars, accounted for CIAP funding allocated between 1984 and 1990.

In order to compare the needs estimates with CGP for FY 1992, we have further updated the information, using the same "rules" for updating as HUD employed in the 1990 *Report to*

[1] The estimates include those developed under the accrual study, conducted subsequently but using the same data.

Exhibit 5.1

FEDERAL FUNDS REQUIRED TO FULLY FUND MODERNIZATION NEED (1992 Dollars)

Included In CGP?	NEED CATEGORY	Estimate in 1992 dollars (billions)
Backlog of Modernization Needs (1992)		
Yes	FIX: Repairs and replacements to existing systems	$13.49
Yes	MANDATORY ADDS: Items that must be added to meet local codes or HUD modernization standards	0.28
Yes	PROJECT SPECIFIC ADDS (1-2): Capital improvements that are not required by all public housing projects but are necessary or highly desirable for long-term viability	5.66
Yes	LEAD-BASED PAINT: Testing and abatement. (This is likely to be an underestimate, since Federal standards have broadened considerably since 1985.)	0.32
Yes	HANDICAPPED ACCESSIBILITY: Renovation and redesign for wheelchair access. (This is also likely to be an underestimated, since Federal standards have broadened considerably since 1985.)	0.31
	CGP Backlog Subtotal:	$20.06
No	PROJECT REDESIGN: Substantial structural changes that are necessary for long-term viability	2.42
No	ENERGY CONSERVATION: Conservation measures with a payback of 15 years or less	0.38
No	RESIDUAL ADDS: Additions requested by housing authorities but not considered necessary under HUD modernization standards	6.77
	Full Backlog Subtotal	$29.63
Accrual of Modernization Need (1992)		
Yes	AGE-RELATED ACCRUAL (CGP Categories): Annual cost of repairs and replacements, assuming backlog is entirely funded	1.96
No	PROJECT REDESIGN and ENERGY CONSERVATION ACCRUAL	0.02
No	EXTRAORDINARY ACCRUAL: Additional accrual from natural disasters, accidents, vandalism, or abandonment	0.65
	Accrual Subtotal	$2.62
TOTAL		$32.25

NOTE: These updated estimates are derived by the approach to updating used in the 1990 *Report to Congress on Alternative Methods for Funding Public Housing Modernization.*

Congress. As seen in Exhibit 5.1, the backlog is made up of eight types of capital repairs, replacements, and additions. Those categories considered by HUD in the design of CGP are indicated. The so-called FIX estimate is the largest and most basic of the categories; after correcting for FY91 and FY92 funding and annual accrual of new needs, FIX now stands at $13.49 billion.

HUD's estimate of FIX, in 1990 dollars, was $12.15 billion.[2] Our figure of $13.49 billion results from subtracting two more years of CIAP and MROP appropriations, adding two more years of age-related FIX accruals, adding a cost of delay for the unfunded accrual, and updating for price changes since 1990.

The remaining backlog categories included under CGP are project-specific ADDs (additions and improvements to the structures and facilities of PHAs, which were rated "appropriate" by inspector second opinion[3]), and funds for the testing and abatement of lead-based paint and the provision of handicapped accessibility. The ADDs components (mandatory and Project-Specific) are substantial, together totalling $5.94 billion. The estimates for lead-based paint and handicapped accessibility were based on standards in effect in 1984; because Federal standards have been greatly expanded since then, both of these categories are likely to be under-estimated.

Three other categories of backlog are ***not addressed*** by the CGP: Redesign, Energy Conservation, and another category of ADDS (so-called Residual ADDS). Residual ADDS is a subset of the overall ADDS category of backlog, along with Mandatory and Project Specific ADDS, noted above, which are included in the backlog used by HUD to develop CGP. Residual ADDS includes ADDS requests noted by the PHAs during the inspections under the Mod Needs Study. Based on a protocol developed by HUD, however, inspectors were asked to note how "necessary" they considered the item to be with regard to operation or viability. Ratings of 1 or 2 signify inspector concurrence with the request; a rating of 3 was essentially neutral; and ratings of 4 or 5 denoted some doubt as to the necessity. Residual ADDs is composed of all those items in all categories having inspection ratings 3, 4, and 5.

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[2]See HUD, *Report to Congress on Alternative Methods for Funding Public Housing Modernization*, 1990, page ES-3 and Table 2-1.

[3]That is, the ADD item received an Inspector Second Opinion (ISO) rating of 1 or 2.

The remaining excluded categories, Redesign and Energy Conservation, are special categories of modernization. The Energy Conservation estimate given in Exhibit 5.1 includes only measures with a payback of 15 years or less. It is a "net" amount in that many of the capital improvements undertaken within FIX have an energy impact; these FIX expenditures were deducted from the Energy category. Finally, Redesign applies to a fairly small subset of PHAs that were deemed to benefit from substantial restructuring of some of their projects in order to enhance long-term viability and prevent further decline. Expenditures on any given project might be substantial, but, again, few projects were involved.

Similarly, with regard to accrual, only age-related accrual was included in the development of the accrual shares under CGP. Extraordinary accrual (from things like fires and other calamities) is difficult to predict and therefore not very amenable to treatment under a formula. Some unknown portion of the cost of extraordinary accrual will be covered by insurance. A detailed discussion of the calculations used to update the figures from HUD's 1990 report is found in Appendix C.

Exhibit 5.2 presents a series of alternative groupings of backlog and accrual components and indicates the Federal funds that would be required to fund fully in a single year (Column 1 under "Funding Horizon") that particular definition of modernization need. Again, those components considered by HUD in the design of the Comprehensive Grant Program are indicated. For the backlog, this includes all "mandatory" items (FIX, Mandatory ADDS, lead-based paint, handicapped accessibility), which together total $14.4 billion (updated, adjusted for CIAP, and presented in 1992 dollars) plus Project Specific Adds, at $5.66 billion. The sum of these backlog components is $20.06 billion. With regard to accrual, the age-related component ($1.96 billion for 1992) was used to develop CGP. Thus, the grand total for the backlog and accrual components considered in CGP is $22.03 billion. Alternatively, the grand total including *all* components of backlog and accrual in $32.25 billion.

Exhibit 5.2 also indicates the level of appropriations that would be required to fund these components over 5, 10, or 20 years. If we focus only on those elements used in CGP, the relevant "row" in the exhibit is III.A (Backlog plus Accrual: Mandatory plus Project-Specific Adds plus Age-Related Accrual). Essentially, these figures in Exhibit 5.2 assume that, in the future, accrual — which is an *annual* concept of modernization need — is "fully funded" each year. The backlog, in contrast, is funded over 1,5,10, or 20 years.

Exhibit 5.2

FEDERAL FUNDS REQUIRED ANNUALLY TO FULLY FUND MODERNIZATION UNDER DIFFERENT DEFINITIONS OF NEED AND DIFFERENT TIME HORIZONS (1992 Dollars, Billions)

Included in CGP?	NEED CATEGORY	Funding Horizon			
		1 Year	5 Years	10 Years	20 Years
	I. BACKLOG				
Part of CGP	A. MANDATORY (Fix, Mandatory Adds, Lead-Based Paint, Handicapped Access)	$14.40	$2.88	$1.44	$0.72
CGP	B. MANDATORY + PROJECT-SPECIFIC ADDS (1-2)[1]	20.06	4.01	2.01	1.00
Additional to CGP	C. MANDATORY + PROJECT-SPECIFIC ADDS (1-2) + REDESIGN + ENERGY	22.86	4.57	2.29	1.14
Additional to CGP	D. MANDATORY + PROJECT-SPECIFIC ADDS (1-2) + REDESIGN + ENERGY + RESIDUAL ADDS	29.63	5.93	2.96	1.48
	II. ACCRUAL				
CGP	A. AGE-RELATED (CGP Items only)	1.96	1.96	2.06	2.06
Additional to CGP	B. AGE-RELATED (Including Redesign and Energy)	1.97	1.97	2.13	2.13
Additional to CGP	C. AGE-RELATED + EXTRAORDINARY	2.62	2.62	2.78	2.78
	III. BACKLOG + ACCRUAL				
CGP	A. MANDATORY + PROJECT-SPECIFIC ADDS (1-2) + AGE-RELATED	22.03	5.97	4.06	3.06
Additional to CGP	B. MANDATORY + PROJECT-SPECIFIC ADDS (1-2) + REDESIGN + ENERGY + AGE-RELATED + ACCRUAL	24.83	6.55	4.42	3.27
Additional to CGP	C. MANDATORY + PROJECT-SPECIFIC ADDS (1-2) + REDESIGN + ENERGY + RESIDUAL ADDS + AGE-RELATED + EXTRAORDINARY ACCRUAL	32.25	8.55	5.74	4.26

NOTE: Figures are derived from Table 2-2, p. II-12, *Report to Congress on Alternative Methods for Funding Public Housing Modernization*. Identified elements of backlog and accrual used to develop the CGP. Long-term accrual estimates are from the ICF Report, *Future Accrual of Capital Repair and Replacement Needs of Public Housing*, Exhibit 3.7 adjusted upward for administrative "soft" costs of 11 percent and for inflation since 1988.

[1]Project-Specific ADDS (1-2) indicates items with an Inspector Second Opinion (ISO) rating of 1 or 2, meaning "appropriate to add."

If backlog is funded over a 5-year period, the required level of annual CGP funding for partially funded backlog plus fully-funded annual accrual would be $5.97 billion ***every year for five years***, after which $1.96 billion would be required for accrual only. If backlog is funded over a 10-year period, the total CGP ***annual*** requirement is $4.06 billion. The corresponding CGP requirement for 20 years is $3.06 billion ***annually***. In theory, once these funding cycles were completed, public housing would arrive at a "steady state" position, and only accrual would need to be funded annually. This presumes, of course, that there is no cost of delay in funding the backlog.

The computations account only for a cost of delay attached to *unfunded accrual*. As the 1990 HUD ***Report to Congress*** notes, costs of delay in funding the backlog itself were not modeled by ICF and are not incorporated in the 1990 estimates (or in the current ones). It is arguable that such a cost of delay does exist for unfunded backlog. For any particular item requiring attention, failing to address it may postpone an expenditure but necessitate a more costly type of repair or replacement in the future. Furthermore, a particular system not addressed as part of the backlog (for example, loose tile and caulking failure in a bathtub area) may lead not only to needing a more costly treatment for that system in the future but also to added costs in addressing other systems that may have been affected (for example, plaster damage and ceiling failure due to tub leaks from the apartment above).

These levels of funding should be compared with the current FY 1992 CGP allocation of $2.75 billion. ***At the current rate, the backlog will not be fully funded for 29 years.*** Eliminating the backlog in 5 years would require more than doubling the current annual funding level (annual funding of CGP Backlog plus Accrual of $5.97 billion is 2.17 times the FY92 funding of $2.75 billion), while eliminating the backlog in 10 years would require nearly a 50 percent increase in annual modernization funding (the required annual funding of $4.04 billion is 1.47 times the current annual funding). In addition, if all the components of backlog were to be included in this calculation (see rows III.B and III.C of Exhibit 5.2), then the current level of funding might never touch the backlog, because estimated long-term annual accrual alone is of the same magnitude as current funding.

What are the consequences of funding the Comprehensive Grant Program at a level that will not fully fund the backlog plus annual accrual for such a lengthy period? What are the consequences of excluding two or three of the backlog categories from the development of CGP?

Sections 5.2 and 5.3 address in more detail the implications of the current funding level and the CGP formula. Section 5.2 examines the distributional differences that would result from funding with only the backlog formula share portion of the CGP formula, or with only the accrual formula share of CGP. Section 5.3 examines the implications of funding the modernization totals from row III.A in either one or five years, in order to better understand the contrast with our CGP Base Case.

5.2 ANALYSIS OF BACKLOG SHARES AND ACCRUAL SHARES

One of the findings of the 1990 *Report to Congress on Alternative Methods of Funding Public Housing Modernization* was that the relative weights given to accrual or backlog can make a great difference in the distribution of funds among PHAs[4]. It was reported that these weights made a greater difference to the distribution of funds among PHAs of different sizes than the particular definition of backlog. It is therefore important to analyze the impact of different weights for accrual and backlog on the distribution of funds among PHAs of different sizes and in different regions.

The two alternative cases simulated in this section are the case with backlog shares only, and the case with accrual shares only. The allocations of backlog and accrual shares used in this section are based on the 1985 modernization needs data. Clearly, in the interim, additional capital needs have accrued so that the actual current distributions of need have no doubt moved in the direction of the accrual distributions, which is the rationale for the 50/50 allocation in the CGP formula. This section explores the extremes. The Backlog Shares Only Case is equivalent to a 100 percent weight for backlog shares and a 0 percent weight for accrual shares. Similarly, the Accrual Shares Only Case is equivalent to a 100 percent weight for accrual shares and a 0 percent weight for backlog shares. Changing the weights amounts to distributing the funding differently between backlog and accrual. In these two cases, *all* funding is distributed to the backlog distribution (Backlog Only) or the accrual distribution (Accrual Only).

[4]HUD, *Report to Congress*, Page II-49.

Both these simulations of alternative shares are applied, as in the CGP base case, to the FY 1992 modernization allocation of $2.6 billion under CGP and CIAP.[5] Thus, the *total level of funding* is held constant in these comparisons. However, the shift in backlog and accrual share weights, from the 50/50 configuration of CGP, produces marked changes in ***distribution*** of subsidy by stratum of PHA.

Sections 5.2.1 and 5.2.2 provide descriptions of the Backlog Shares Only and Accrual Shares Only Cases, respectively. These two alternative cases and the CGP base case are then compared in Section 5.2.3.

5.2.1 Backlog Shares Only

A system of allocation of modernization funds based on unfunded backlog shares only emphasizes the distribution of resources needed to address the unmet modernization needs of the nation's public housing stock, in order to establish decent and sanitary living conditions throughout public housing. The Backlog Shares Only Case consists of applying 1985 backlog shares to the entire FY 1992 (CGP/CIAP) allocation of $2.6 billion. Exhibits 5.3 and 5.4 summarize the impacts of the disbursement of the FY 1992 modernization allocation of $2.6 billion based on backlog shares only.

As in the CGP base case, extra-large PHAs receive the highest allocation, followed by large, small, medium, and very small PHAs, in size order. The key point, however, is that the distribution of shares of subsidy differs substantially from that under the CGP Base Case. Extra-large PHAs garner 48.3 percent of the total relative to 43.7 percent under CGP. In contrast, the shares for medium, small, and very small PHAs fall compared to the distribution seen under CGP.

For several reasons, this distributional shift may not be surprising. Backlog, an accumulation of need over time, is expected to be higher in older and undermaintained housing developments. Such developments tend to belong to very large PHAs.[6] The accumulation of backlog for some of these agencies has resulted in partial abandonment of projects by tenants

[5]Note that the CGP/CIAP allocation of $2.5616 billion reflects the exclusion of $0.1912 billion in Major Reconstruction of Obsolete Projects funds from the total funding of $2.7528 used in the calculation of updated backlog and accrual.

[6]HUD, *Report to Congress*, p. II-16.

Exhibit 5.3

Comparison of Backlog Shares Only and the CGP Base Case
(1992 dollars, in millions)

PHA Size/ Region	Total CGP Eligibility 1992	Percent of Total CGP Eligibility	Total Backlog Shares Only	Percent of Total Backlog Shares	Difference of Backlog Shares and Total CGP	Percent Difference of Backlog to Total CGP	Percent of Total Units
Extra-Large	$1,119.9	43.7%	$1,237.7	48.3%	$117.7	10.5%	34.4%
Northeast	583.6	22.8	594.8	23.2	11.3	1.9	17.8
South	208.1	8.1	237.3	9.3	29.2	14.0	7.2
Midwest	274.9	10.7	345.1	13.5	70.2	25.4	7.7
West	53.3	2.1	60.4	2.4	7.1	13.2	1.6
Large	565.9	22.1	533.4	20.8	(32.6)	(5.8)	24.3
Northeast	180.6	7.1	180.3	7.0	(0.3)	(0.2)	7.5
South	128.0	5.0	107.3	4.2	(20.7)	(16.1)	6.3
Midwest	170.0	6.6	155.5	6.1	(14.4)	(8.5)	7.5
West	87.3	3.4	90.3	3.5	2.9	3.4	3.1
Medium	336.2	13.1	302.8	11.8	(33.4)	(9.9)	15.3
Northeast	84.9	3.3	80.1	3.1	(4.8)	(5.6)	4.1
South	78.6	3.1	64.4	2.5	(14.2)	(18.0)	4.0
Midwest	91.4	3.6	80.0	3.1	(11.4)	(12.5)	4.3
West	81.4	3.2	78.4	3.1	(3.0)	(3.6)	2.9
Small	431.2	16.8	394.1	15.4	(37.1)	(8.6)	20.6
Northeast	91.1	3.6	85.6	3.3	(5.5)	(6.0)	4.4
South	127.3	5.0	107.6	4.2	(19.7)	(15.4)	6.5
Midwest	148.7	5.8	132.8	5.2	(15.9)	(10.6)	7.4
West	64.2	2.5	68.1	2.7	4.0	6.2	2.3
Very Small	108.4	4.2	93.6	3.7	(14.8)	(13.6)	5.5
Northeast	11.4	0.4	11.4	0.4	(0.0)	(0.4)	0.5
South	24.1	0.9	20.4	0.8	(3.7)	(15.2)	1.1
Midwest	60.4	2.4	49.3	1.9	(11.1)	(18.3)	3.3
West	12.4	0.5	12.5	0.5	0.0	0.3	0.5
ALL	2,561.6	100.0	2,561.6	100.0	0.0	0.0	100.0
Northeast	951.5	37.1	952.2	37.2	0.6	0.1	34.2
South	566.2	22.1	537.0	21.0	(29.2)	(5.1)	25.1
Midwest	745.3	29.1	762.6	29.8	17.4	2.3	30.2
West	$298.6	11.7%	$309.7	12.1%	$11.1	3.7%	10.5%

Data Base: Simulations from Comp Grant Base Case, N=3,224 PHAs.

Notes: 1. Columns may not add to totals nor to 100 percent due to rounding.
2. Parentheses indicate a negative difference or percent.

Exhibit 5.4

Comparison of Backlog Shares Only and CGP Base Case: Per Unit Month (PUM)

PHA Size/ Region	CGP PUM 1992	Backlog Only PUM	Difference of Backlog and CGP PUM	Percent Difference of Backlog from CGP PUM
Extra-Large	$199.99	$221.02	$21.03	10.5%
Northeast	200.72	204.60	3.88	1.9
South	177.14	201.99	24.85	14.0
Midwest	220.00	276.19	56.19	25.4
West	198.93	225.27	26.34	13.2
Large	142.64	134.44	(8.20)	(5.8)
Northeast	148.56	148.30	(0.26)	(0.2)
South	124.54	104.36	(20.18)	(16.1)
Midwest	139.68	127.82	(11.86)	(8.5)
West	172.29	178.11	5.82	3.4
Medium	135.11	121.70	(13.41)	(9.9)
Northeast	128.24	121.01	(7.23)	(5.6)
South	121.93	99.90	(22.03)	(18.0)
Midwest	129.49	113.31	(16.18)	(12.5)
West	170.78	164.56	(6.22)	(3.6)
Small	128.65	117.58	(11.07)	(8.6)
Northeast	128.29	120.55	(7.74)	(6.0)
South	119.80	101.25	(18.55)	(15.4)
Midwest	123.03	109.90	(13.13)	(10.6)
West	173.03	183.71	10.68	6.2
Very Small	121.82	105.16	(16.66)	(13.6)
Northeast	138.64	138.15	(0.49)	(0.4)
South	130.72	110.75	(19.97)	(15.2)
Midwest	112.20	91.51	(20.69)	(18.3)
West	147.25	147.74	0.49	0.3
ALL	157.18	157.18	0.00	0.0
Northeast	170.62	170.73	0.11	0.1
South	138.27	131.15	(7.12)	(5.1)
Midwest	151.52	155.05	3.53	2.3
West	$174.97	$181.45	$6.48	3.7%

Data Base: Simulations from Comp Grant Base Case, N=3,224 PHAs.
Notes: 1. Columns may not add to 100 percent due to rounding.
2. Parentheses indicate a negative difference or percent.

Looking at the Backlog Shares Only Case by region, we find that the Northeast and West receive shares of modernization funding greater than their shares of the public housing units. The South and the Midwest receive smaller shares of the allocation compared to their shares of housing units. The shares of Western PHAs in all size categories except very small are greater than their shares of the total number of housing units. (The share of very small PHAs in the West is almost the same as its share in the total number of housing units.)

The 1985 backlog needs were highly concentrated in extra-large PHAs in all regions, and in PHAs of all sizes in the Western region. Distributing the modernization funds based on 1985 backlog only would provide priority to funding already existing unmet modernization needs of PHAs, relative to funding modernization needs that have occurred since 1985 or that might arise in the future (the accrual needs). To the extent that funding levels have been insufficient to keep up with annual accrual between 1984 and 1992, unfunded physical needs have grown, with the distribution of current backlog affected by the unfunded accrual needs that have accumulated since 1985.

Per Unit Month (PUM) Allocations Under Backlog Shares Only

Exhibit 5.4 shows the per unit month allocation under the Backlog Shares Only. The percentage differences from the Base Case are, of course, identical to those for the totals, but it is revealing to analyze the impact of the PUM dollar differences. The per unit month allocation for extra-large PHAs is \$221.02 compared with the PUM allocation for the nation of \$157.18, if allocations are made on the basis of backlog shares only. The extra-large share PUM is \$21.03 larger than the CGP Base Case. The remaining size categories lose amounts ranging from \$8.20 to \$16.66 PUM.

The main characteristics of the distribution of modernization funding based on only backlog shares are summarized below:

- The funding share for extra-large PHAs under 1985 Backlog Shares Only is larger than the CGP Base Case and much larger than the share they have received historically. *By the standard of shares based on backlog need*, it appears that extra-large PHAs have been underfunded historically, in terms of their relative allocation.

- Compared to their share of the public housing stock, extra-large PHAs in each of the four regions receive an even higher share of modernization funding under and management, thereby intensifying their backlog needs.[7] These problems are reflected in the greater concentration of unfunded backlog needs in the housing stock held by extra-large PHAs.

The share of modernization funding under Backlog Shares Only is also much larger than the share extra-large PHAs have received historically. As reported in Chapter 4, extra-large PHAs received less than 35 percent of the total CIAP funding between FY 1984 and FY 1991, although their 1985 share of the backlog was 45.6 percent. Hence, by the standard of actual backlog need, it appears that extra-large PHAs have been under-funded historically, in terms of their relative share of allocations. Between FY 1984 and FY 1988, extra-large PHAs (excluding New York City) received only about 20 percent of all CIAP funds.[8]

One of the reasons for the relatively low historical funding share for extra-large PHAs is that some of the extra-large PHAs (deemed troubled) have had difficulties in obligating and spending their CIAP allocations. An allocation based on backlog shares only does address the substantial backlog needs of extra-large PHAs. However, if some of the extra-large PHAs have limited capacity to spend modernization funds effectively, they would be overfunded *relative to capacity* in a system of funding based on backlog shares only.

As indicated in Exhibit 5.3, there is little difference by region between CGP eligibility shares and backlog-only shares. The West would receive a slightly greater proportion under the latter system, while the southern PHAs as a group would receive less.

Comparison of Funding Shares with Shares of the Public Housing Stock

Comparing the relative shares of modernization funding to the distribution of public housing units (see Exhibit 5.3), we find that PHAs in all size categories except extra-large receive an allocation of funds less than their share of units, under the 1985 Backlog Shares Only Case. This is, of course, also true for the Base Case; the Backlog Only case simply increases the differentials. For example, the share of funding of extra-large PHAs is 13.9 percentage points higher than their share of the number of housing units, rather than 7.3 percent points under the Comprehensive Grant Program base case.

[7]Ibid, p. II-16.

[8]Ibid, p. III-4.

the Backlog Shares Only Case relative to the CGP Base. PHAs in all other size categories receive a lesser allocation of modernization funding relative to their share of the total number of housing units.

- The shares of Western PHAs are greater than their shares of the total number of housing units, in all size categories except the very small (where the two shares are almost equal). The PUM allocations under Backlog Shares Only in each size category are the highest for PHAs in the West, just as under CGP; but the "gap" widens with the shift to Backlog Only.

5.2.2 Accrual Shares Only

A system of capital funds allocation based only on accrual shares emphasizes the age-related modernization needs of the public housing stock that are expected to accumulate over time beyond the systems addressed in funding the backlog needs. Addressing these needs of maintenance and modernization is essential in order to continue to provide decent housing for residents of public housing and to prevent incremental additions to the backlog of modernization needs. The Accrual Shares Only Case consists of applying 1985 accrual shares to the entire FY 1992 CGP/CIAP allocation of $2.6 billion. Exhibit 5.5 contains a summary of the distributive effects of disbursing this FY 1992 modernization allocation based on accrual shares only.

As in the Backlog Shares Only Case and the CGP base case, extra-large PHAs again receive the highest allocation, followed by large, small, medium, and very small PHAs, in order. However, relative to the Base Case (which is based on a 50/50 weighting of shares), the shifts are exactly symmetrical with and in the opposite direction from those shown above for Backlog Only. *Extra-large PHAs receive less than under the CGP base case, and the remaining size categories receive more.*

Incremental accumulations of modernization needs arise as systems age; thus, accrual amounts are expected to be higher for public housing developments of medium age. Many medium and small PHAs have developments in this age range[9].

Comparing Exhibit 5.5 with Exhibit 4.3, we find that small and very small PHAs also receive higher shares of funding in a system based on 1985 accrual shares only than their shares under historical CIAP. Similarly, medium PHAs in the South and West receive higher shares based on accrual than their shares under the past modernization program.

[9]Ibid, p. II-16.

Exhibit 5.5

Comparison of Accrual Shares Only and the CGP Base Case
(1992 dollars, in millions)

PHA Size/ Region	Total CGP Eligibility 1992	Percent of Total CGP Eligibility	Total Accrual Shares Only	Percent of Total Accrual Shares	Difference of Accrual Shares and Total CGP	Percent Difference of Accrual from Total CGP	Percent of Total Units
Extra-Large	$1,119.9	43.7%	$1,003.4	39.2%	($116.5)	(10.5%)	34.4%
Northeast	583.6	22.8	572.4	22.3	(11.2)	(1.9)	17.8
South	208.1	8.1	179.2	7.0	(28.9)	(14.0)	7.2
Midwest	274.9	10.7	205.4	8.0	(69.5)	(25.4)	7.7
West	53.3	2.1	46.4	1.8	(7.0)	(13.2)	1.6
Large	565.9	22.1	598.1	23.3	32.2	5.8	24.3
Northeast	180.6	7.1	180.9	7.1	0.3	0.2	7.5
South	128.0	5.0	148.6	5.8	20.5	16.1	6.3
Midwest	170.0	6.6	184.2	7.2	14.3	8.5	7.5
West	87.3	3.4	84.4	3.3	(2.9)	(3.4)	3.1
Medium	336.2	13.1	369.2	14.4	33.0	9.9	15.3
Northeast	84.9	3.3	89.6	3.5	4.7	5.6	4.1
South	78.6	3.1	92.6	3.6	14.0	18.0	4.0
Midwest	91.4	3.6	102.7	4.0	11.3	12.5	4.3
West	81.4	3.2	84.3	3.3	2.9	3.6	2.9
Small	431.2	16.8	467.9	18.3	36.7	8.6	20.6
Northeast	91.1	3.6	96.5	3.8	5.4	6.0	4.4
South	127.3	5.0	146.8	5.7	19.5	15.4	6.5
Midwest	148.7	5.8	164.4	6.4	15.7	10.6	7.4
West	64.2	2.5	60.2	2.4	(3.9)	(6.2)	2.3
Very Small	108.4	4.2	123.0	4.8	14.7	13.6	5.5
Northeast	11.4	0.4	11.5	0.4	0.0	0.4	0.5
South	24.1	0.9	27.8	1.1	3.6	15.2	1.1
Midwest	60.4	2.4	71.4	2.8	11.0	18.3	3.3
West	12.4	0.5	12.4	0.5	(0.0)	(0.3)	0.5
ALL	2,561.6	100.0	2,561.6	100.0	0.0	0.0	100.0
Northeast	951.5	37.1	950.8	37.1	(0.7)	(0.1)	34.2
South	566.2	22.1	595.0	23.2	28.8	5.1	25.1
Midwest	745.3	29.1	728.1	28.4	(17.2)	(2.3)	30.2
West	$298.6	11.7%	$287.7	11.2%	($10.9)	(3.7%)	10.5%

Data Base: Simulations from Comp Grant Base Case, N=3,224 PHAs.

Notes: 1. Columns may not add to totals nor to 100 percent due to rounding.

2. Parentheses indicate a negative difference or percent.

The share for extra-large PHAs is 39.2 percent under Accrual only, as compared with 35.6 percent of CIAP funding between FY 1984 and FY 1991. Thus, based on our findings in the earlier section, it appears that extra-large PHAs have historically received a smaller share of the funding relative to their share under both systems, whether based only on backlog shares or only on accrual shares. Finally, comparing Exhibit 5.5 and Exhibit 4.3, we find that large and medium PHAs had higher shares historically under the CIAP, compared to their allocations in the Accrual Only case.

Comparison of Allocation Shares with Shares of Total Number of Housing Units

Comparing the relative shares of allocation in the Accrual Shares Only Case to the relative share of total number of housing units in Exhibit 5.5, we find that, once again, PHAs in all size categories except extra-large receive a share of the allocation of modernization funding that is less than their share of the total number of housing units. The share of funding of extra-large PHAs is 4.8 percentage points higher than their share of the total number of housing units. Note, however, that this is only about one-half the differential under CGP, and roughly one-third of that under Backlog Only. Similarly, because the Accrual Only case favors all the other size categories--large through very small--relative to CGP or Backlog Only, these PHAs tend to receive a share of funding only slightly less than their share of units.

The Accrual Only case also presents regional differences in distribution relative to CGP. The South shows gains under Accrual Only compared to CGP, while the Northeast, Midwest, and especially the West show losses.

Per Unit Month Allocations Under 1985 Accrual Shares Only

Exhibit 5.6 displays the per unit month allocation under the 1985 Accrual Shares Only Case. Again, relative to the comparison of Backlog Only with the Base Case, the comparison with Accrual Only yields percent and dollar changes of equal magnitude but opposite direction. Thus, under the Accrual Only approach, the PUM allocation of extra-large PHAs, $179.18, is $20.81 (10.5 percent) ***lower*** than under the CGP Base Case. In contrast, all the other size categories ***gain*** relative to CGP, the gains ranging from $16.47 PUM for the very small agencies to $8.11 for large PHAs.

Exhibit 5.6

Comparison of Accrual Shares Only and CGP Base Case: Per Unit Month (PUM)

PHA Size/ Region	CGP PUM 1992	Accrual Only PUM	Difference of Accrual and CGP PUM	Percent Difference of Accrual from CGP PUM
Extra-Large	$199.99	$179.18	($20.81)	(10.5%)
Northeast	200.72	196.88	(3.84)	(1.9)
South	177.14	152.56	(24.58)	(14.0)
Midwest	220.00	164.40	(55.60)	(25.4)
West	198.93	172.87	(26.06)	(13.2)
Large	142.64	150.75	8.11	5.8
Northeast	148.56	148.81	0.25	0.2
South	124.54	144.48	19.94	16.1
Midwest	139.68	151.41	11.73	8.5
West	172.29	166.53	(5.76)	(3.4)
Medium	135.11	148.36	13.25	9.9
Northeast	128.24	135.38	7.14	5.6
South	121.93	143.72	21.79	18.0
Midwest	129.49	145.50	16.01	12.5
West	170.78	176.92	6.14	3.6
Small	128.65	139.59	10.94	8.6
Northeast	128.29	135.94	7.65	6.0
South	119.80	138.13	18.33	15.4
Midwest	123.03	136.01	12.98	10.6
West	173.03	162.44	(10.59)	(6.2)
Very Small	121.82	138.29	16.47	13.6
Northeast	138.64	139.11	0.47	0.4
South	130.72	150.46	19.74	15.2
Midwest	112.20	132.65	20.45	18.3
West	147.25	146.76	(0.49)	(0.3)
ALL	157.18	157.18	0.00	0.0
Northeast	170.62	170.49	(0.13)	(0.1)
South	138.27	145.30	7.03	5.1
Midwest	151.52	148.03	(3.49)	(2.3)
West	$174.97	$168.56	($6.41)	(3.7%)

Data Base: Simulations from Comp Grant Base Case, N=3,224 PHAs.
Notes: 1. Columns may not add to 100 percent due to rounding.
2. Parentheses indicate a negative difference or percent.

Under the Accrual Only system, per unit month allocations among extra-large PHAs would be the highest for the Northeast; the PUM allocation for extra-large PHAs in the Northeast is nearly $20 higher than that for all extra-large PHAs, a difference of almost 10 percent. For large, medium, and small PHAs, however, the PUM allocation remains highest for the West. For example, the PUM allocations for the Western medium and small PHAs are over 16 percent higher than the overall PUM allocations for their respective size categories. Finally, the South has the highest PUM allocation among the very small PHAs.

In summary, in the Accrual Shares Only Case, funds are allocated based on the distribution of the *ongoing* needs for modernization.[10] The efficacy of accrual shares as a basis for allocation of modernization funds depends on the degree to which such allocations match actual modernization needs. HUD raised this concern in its 1990 *Report to Congress.*[11] The Accrual distribution is more "even" among PHA groups but would severely underfund the 1985 backlog need as measured in the Modernization Needs Study. The implications of the now-statutory 50/50 weighting of accrual and backlog under CGP are discussed below.

The main characteristics of the distribution of modernization funding based on only accrual shares are summarized below:

- The funding share for extra-large PHAs under Accrual Shares Only is smaller than under the CGP but still larger than the share they have received historically.
- Under the Accrual Shares Only Case, extra-large PHAs receive a high share of modernization funding compared to their share of housing units, but the gap is less than under CGP. PHAs in all other size categories receive an allocation of modernization funding less than their share of total units, but the shortfall is less than for CGP.
- The allocations under Accrual Shares Only remain the highest in the West for large, medium and small PHAs, but the relative differences have declined for extra-large PHAs. The Northeast's allocation is highest. Thus, the West's dominance is diminished relative to CGP.

[10]The estimates of accrual shares are based on the age-related Accrual Forecasting Model used by ICF in its study, *Future Accrual of Capital Repair and Replacement Needs of Public Housing*, 1989.

[11]*Report to Congress on Alternative Methods for Funding Public Housing Modernization*, p. III-5.

5.2.3 Comparisons Among the CGP Base Case, Backlog Shares Only, and Accrual Shares Only

The CGP Base Case is designed with a 50 percent weight for backlog shares and a 50 percent weight for accrual shares. The Backlog Shares Only Case has a 100 percent weight for backlog shares, and the Accrual Shares Only Case has a 100 percent weight for accrual shares. It is clear from the arithmetic of the simulations that PHAs whose backlog shares are greater than their accrual shares will get higher levels of modernization funding in the Backlog Only Case compared to the CGP Base Case. Similarly, PHAs whose accrual shares are greater than their backlog shares will get higher levels of modernization funding in the Accrual Only Case compared to the Base Case. Accrual shares are greater than backlog shares for PHAs operating almost 62 percent of the housing units in this analysis. Hence, almost 62 percent of the units will receive greater allocations under the Accrual Shares Only Case compared to the Backlog Shares Only Case ***or*** to the CGP base case.

Because the Comprehensive Grant Program and CGP Base Case give equal weight to backlog shares and accrual shares, the Backlog Shares Only and Accrual Shares Only Cases are symmetrically distributed around the CGP base case. As a result of this symmetry, percentage differences from the base case are of equal absolute magnitude; also, when differences from the base case are positive in the Backlog Shares Only Case, they are negative in the Accrual Shares Only Case, and vice versa.

Exhibits 5.3 and 5.4 compared the Backlog Shares Only Case to the CGP base case. As discussed in Section 5.2.1, backlog needs are higher in older, undermaintained, and underfunded projects. Such projects often belong to very large PHAs. Hence, backlog needs are concentrated among extra-large PHAs. Exhibits 5.5 and 5.6 compared the Accrual Shares Only Case to the CGP base case. As discussed in Section 5.2.2, accrual needs are more concentrated in the remaining size groups.

The main findings in the comparisons among the CGP base case, the Backlog Shares Only Case, and the Accrual Shares Only Case are summarized below:

- The share (and dollar allocation) of extra-large PHAs is higher under the Backlog Shares Only Case and lower under the Accrual Shares Only Case, compared to the CGP base case. In all other size categories, the shares (and dollar allocations) are lower under the Backlog Shares Only Case and higher under the Accrual Shares Only Case, than under the CGP base case.

- By both the standard of backlog needs and the standard of accrual needs, extra-large PHAs have received low shares of the modernization funding under the past CIAP.

- The shares of extra-large and large PHAs in the West show rather large shifts across the two extreme systems.

- The shares of medium and small PHAs in the South and most size categories in the Midwest also show large shifts.

- The shares of PHAs in the Northeast are approximately the same under each of the three cases compared.

- Of the three cases, the Accrual Shares Only Case has a size-distribution of funding allocations that most closely approximates the distribution of housing units.

5.3 FUNDING TOTAL MODERNIZATION NEED

The Comprehensive Grant Program is the result of major research and development efforts undertaken by HUD over the last eight years. Unlike the PFS, which some critics feel was never adequately linked to estimates of the "real need" for operating funds, the CGP has benefitted from a detailed specification of various concepts of modernization and very exacting measurement of these categories of need. The total amount of funds required to fully fund the modernization backlog and the annual accrual requirement are presented in Exhibits 5.1 and 5.2 above. This section simulates the impact of funding these totals over two different periods: first, funding a major portion of the backlog in a single year, and second, funding this same magnitude over a five-year period. We then compare the results with the CGP Base Case.

This analysis will address the policy issues introduced in Section 5.1 with regard to level of need and current funding. That is:

- What are the updated estimates of backlog and accrual needs, and how do they compare with funding under CGP?

- What types of modernization needs are PHAs really spending their funds on: reducing the backlog or keeping up with annual accrual needs?

- What might be the consequences, on both accrual and the remaining backlog, of continued "under-funding"?

5.3.1 Total Modernization Need: Updated Estimates

The modernization categories included in the simulation are the same as those utilized by HUD in the statistical models used to estimate the formula shares: all the mandatory elements of backlog, Project Specific ADDs, and Age-related Accrual. Thus, referring again to Exhibit 5.2, $22.03 billion would be required if the funding were fully allocated in one year and $5.97 billion *per year* if the funding were distributed over 5 years. Although it may not be realistic to fund the entire backlog in one year, it is instructive for better understanding the magnitude of the needs estimate and how its distribution changes with assumptions about time horizons.

Exhibit 5.7 presents, in summary form, the backlog and accrual totals and the requirements for funding over 10 or 20 years, as well as for the 1- and 5-year time periods used in our simulation. The table also indicates the "implicit" formula shares for funding over alternative time horizons. As we have discussed, the CGP formula utilizes a 50/50 apportionment between the backlog and accrual formula shares. If, however, the entire updated backlog and current accrual were funded in one year, the actual weighting would be 91 percent backlog and 9 percent accrual. These percentages are the portion of the total of $22.03 billion represented by the updated backlog of $20.07 billion and accrual of $1.96 billion. Similarly, implicit shares for the five-year funding option are 67 percent backlog and 33 percent accrual.

Exhibit 5.8 presents the distribution of funds for the one- and five-year funding options by PHA size and region categories and compares these totals with CGP. Under a one-year funding plan, one-time backlog funding of $20.07 billion would be made available in a single allocation, along with a continuing annual accrual funding of $1.96 billion (absent consideration of other modernization needs categories not considered in CGP, such as Energy Conservation or Redesign). Under the five-year funding plan, backlog funding of $4.01 billion must be made available every year for 5 years, as well as accrual funding of $1.96 billion for 5 years and every year thereafter.

The one-year full funding and five-year full funding options differ from the $2.7 billion funding for CGP in FY 1992 in three important ways:

- **The level of funding**: CGP for FY 1992 stands at $2.75 billion, as compared with $22.03 billion for the one-year funding option, and $5.97 billion for the five-year option;

Exhibit 5.7

Shares of Backlog and Accrual in Total Funding
(1992 dollars, in billions)

Component and Component Shares	Funding Horizon			
	1 year	5 years	10 years	20 years
Backlog	$20.07	$4.01	$2.01	$1.00
Accrual	1.96	1.96	2.06	2.06
TOTAL	22.03	5.97	4.07	3.06
Percent Share: Backlog	91.1%	67.2%	49.4%	32.7%
Percent Share: Accrual	8.9%	32.8%	50.6%	67.3%

Notes: These figures are taken from the CGP lines in Exhibit 5.2, rows IB, IIA, and IIIA.

Exhibit 5.8

Total Modernization Need: Funding Over One– and Five–Year Time Horizons
(1992 dollars, in millions)

PHA Size/ Region	Funding Total Needed in One Year			Funding Total Needed in Five Years			CGP
	Formula Allocation of Updated Backlog Need	Formula Allocation of Annual Accrual	Combined Total	Formula Allocation of Updated Backlog Need	Formula Allocation of Annual Accrual	Combined Total	
Extra–Large	$9,695.5	$766.0	$10,461.5	$1,939.1	$766.0	$2,705.1	$1,119.9
Northeast	4,659.9	437.0	5,096.9	932.0	437.0	1,369.0	583.6
South	1,859.0	136.8	1,995.9	371.8	136.8	508.6	208.1
Midwest	2,703.3	156.8	2,860.2	540.7	156.8	697.5	274.9
West	473.3	35.4	508.6	94.6	35.4	130.0	53.3
Large	4,178.5	456.6	4,635.1	835.7	456.6	1,292.3	565.9
Northeast	1,412.5	138.1	1,550.6	282.5	138.1	420.6	180.6
South	840.6	113.4	954.0	168.1	113.4	281.5	128.0
Midwest	1,218.4	140.7	1,359.0	243.7	140.7	384.3	170.0
West	707.0	64.4	771.4	141.4	64.4	205.8	87.3
Medium	2,372.1	281.8	2,653.9	474.4	281.8	756.2	336.2
Northeast	627.2	68.4	695.6	125.4	68.4	193.8	84.9
South	504.3	70.7	575.0	100.9	70.7	171.6	78.6
Midwest	626.4	78.4	704.7	125.3	78.4	203.7	91.4
West	614.2	64.4	678.5	122.8	64.4	187.2	81.4
Small	3,087.4	357.2	3,444.6	617.5	357.2	974.7	431.2
Northeast	670.3	73.7	743.9	134.1	73.7	207.7	91.1
South	843.0	112.1	955.1	168.6	112.1	280.7	127.3
Midwest	1,040.5	125.5	1,166.0	208.1	125.5	333.6	148.7
West	533.6	46.0	579.6	106.7	46.0	152.7	64.2
Very Small	733.0	93.9	826.9	146.6	93.9	240.5	108.4
Northeast	89.2	8.8	97.9	17.8	8.8	26.6	11.4
South	160.2	21.2	181.4	32.0	21.2	53.2	24.1
Midwest	385.8	54.5	440.3	77.2	54.5	131.7	60.4
West	97.8	9.5	107.2	19.6	9.5	29.0	12.4
ALL	20,066.4	1,955.7	22,022.1	4,013.2	1,955.7	5,968.9	2,561.6
Northeast	7,459.1	725.9	8,185.0	1,491.8	725.9	2,217.7	951.5
South	4,207.1	454.3	4,661.3	841.4	454.3	1,295.7	566.2
Midwest	5,974.4	555.9	6,530.3	1,194.9	555.9	1,750.7	745.3
West	$2,425.9	$219.6	$2,645.5	$485.2	$219.6	$704.8	$298.6

Data Base: Comp Grant Data Base.
Notes: All figures in 1992 dollars.

- **The categories of need that create the alternative funding totals:** the one- and five-year funding options are based on explicit treatment of specific estimates from the Modernization Needs Study (that is, Mandatory Backlog, Project-Specific Adds, and Age-Related Accrual). Other categories of need (Energy, Redesign) have not been included in the present simulation.

- **The weights allocated to the backlog and accrual shares:** as noted in Exhibit 5.6, as soon as specific modernization components and a specific time horizon are introduced, the relevant formula shares are the share of backlog and accrual in the total. In contrast, CGP *assumes* equal sharing.

The CGP funding for 1992 approximates a twenty-nine year time horizon for eliminating the backlog. Recall that from HUD's model, annual accrual approaches a long-term value once all the ADDs items are funded. Alternatively, total accrual costs rise by the cost of delay in funding. If all of the long-term accrual of $2.06 billion were subtracted from the funding of $2.75 billion, then $0.69 billion would remain for backlog. Thus, it will take twenty-nine years to fund the $20.07 billion in current backlog at a rate of $0.69 billion per year. Furthermore, under this scenario, it is difficult to have confidence in the estimates from the accrual model, because it neglects the interaction between unfunded backlog and newly accumulating needs.

It is not known how current funding decisions relate to the needs estimates. There is no evidence from the Final Rule describing the CGP that any specific components or funding time horizon was used. In this sense, then, the CGP is simply a distributional formula and does not dictate any particular funding level.

Exhibit 5.9 presents the PUM figures corresponding to the funding needs, which is another way to grasp the major difference between requirements and available funds. The PUM need for the one year option is $1351, which is composed of $1231 PUM of backlog and $120 PUM of accrual. For the five-year option, the comparable PUM total is $366 per year, which includes $246 of backlog and the same figure as the one-year option for annual accrual, $120. In contrast, the PUM funding under CGP is $157.

As noted above, this $157 essentially would pay for a PHA's current needs (accrual) and about 15 percent of the required backlog funding (on a five-year time horizon). Of course, this

Exhibit 5.9

Total Modernization Need Per Unit Month: Funding Over One– and Five–Year Time Horizons

PHA Size/ Region	Funding Total Needed in One Year			Funding Total Needed in Five Years			CGP PUM
	Total Backlog PUM	Annual Accrual PUM	Combined Total PUM	Total Backlog PUM	Annual Accrual PUM	Combined Total PUM	
Extra–Large	$1,731.40	$136.80	$1,868.20	$346.28	$136.80	$483.08	$199.99
Northeast	1,602.81	150.31	1,753.12	320.56	150.31	470.87	200.72
South	1,582.31	116.48	1,698.78	316.46	116.48	432.93	177.14
Midwest	2,163.64	125.51	2,289.15	432.72	125.51	558.24	220.00
West	1,764.70	131.98	1,896.68	352.94	131.98	484.92	198.93
Large	948.00	103.36	1,051.36	210.63	115.09	325.72	142.64
Northeast	1,161.72	113.61	1,275.33	232.34	113.61	345.96	148.56
South	817.54	110.31	927.85	163.51	110.31	273.81	124.54
Midwest	1,001.32	115.60	1,116.92	200.26	115.60	315.86	139.68
West	1,395.25	127.14	1,522.39	279.05	127.14	406.18	172.29
Medium	953.35	113.27	1,066.62	190.67	113.27	303.94	135.11
Northeast	948.00	103.36	1,051.36	189.60	103.36	292.96	128.24
South	782.58	109.72	892.30	156.52	109.72	266.24	121.93
Midwest	887.61	111.08	998.69	177.52	111.08	288.60	129.49
West	1,289.11	135.07	1,424.18	257.82	135.07	392.89	170.78
Small	921.08	106.57	1,027.65	184.22	106.57	290.79	128.65
Northeast	944.36	103.78	1,048.14	188.87	103.78	292.65	128.29
South	793.18	105.46	898.64	158.64	105.46	264.09	119.80
Midwest	860.93	103.84	964.77	172.19	103.84	276.02	123.03
West	1,439.17	124.02	1,563.19	287.83	124.02	411.85	173.03
Very Small	823.81	105.58	929.39	164.76	105.58	270.34	121.82
Northeast	1,082.25	106.21	1,188.46	216.45	106.21	322.66	138.64
South	867.57	114.87	982.44	173.51	114.87	288.39	130.72
Midwest	716.87	101.28	818.15	143.37	101.28	244.65	112.20
West	1,157.37	112.04	1,269.41	231.47	112.04	343.51	147.25
ALL	1,231.28	120.00	1,351.28	246.25	120.00	366.25	157.18
Northeast	1,337.47	130.16	1,467.63	267.49	130.16	397.66	170.62
South	1,027.40	110.93	1,138.33	205.48	110.93	316.41	138.27
Midwest	1,214.64	113.01	1,327.65	242.93	113.01	355.94	151.52
West	$1,421.44	$128.69	$1,550.13	$284.29	$128.69	$412.97	$174.97

Data Base: Simulations from Comp Grant Data Base, N=3,224 PHAs.
Notes: All figures in 1992 dollars.

is hypothetical. A PHA may be spending its funds in a completely different fashion.[12] Another alternative for spending $157 PUM is to cover 64 percent of the annual five-year backlog need of $4.01 billion (or PUM $246.25) and provide no funding at all for accrual; this would mean that unfunded accrual would accumulate a "new" backlog over the five years. Note also that these nation-wide averages do not reflect the major differences in backlog and accrual needs faced by individual PHAs.

Exhibit 5.10 indicates the percent of total funding going to the size and region groups under each option. As discussed in Section 5.2 above, the backlog and accrual formula shares imply quite different regional and size category allocations of funds. For example, the more the formula is weighted toward backlog, the greater the share of total funds allocated to extra-large PHAs and PHAs in the West. Exactly the opposite occurs as the formula increasingly represents accrual. The exhibit shows that under the one-year full funding option, extra-large PHAs receive 47.5 percent of total funds; this compares with 45.3 percent under the five-year option and 43.7 percent under CGP. Thus, the distribution for the five-year full funding option is midway between these extremes.

5.3.2 Alternative Estimates of the Backlog

Two final questions should be addressed as we conclude this analysis:

- How does the estimate of need change when categories of backlog, omitted from the present analysis, are included?

- If past funding has not been adequate to cover both backlog and accrual, has the backlog increased?

In Section 5.1, we noted that there are several categories of modernization needs not included in the simulation total, including Redesign, Energy, Residual ADDs, and Extraordinary Accrual. Also, the comments in the 1990 HUD Report about the adequacy of the needs estimates for lead-based paint abatement and handicapped access still apply. In both cases,

[12] The final rule on the Comprehensive Grants Program, published February 14, 1992, sets forth the conditions under which a PHA may establish a replacement reserve, and the statute itself makes it clear that amounts allocated may be used by a PHA for any eligible activity, without regard to the allocation formula. That is, the portion of the funds allocated based on backlog and the portion on accrual do not bind the PHAs to spend the funds that way.

Exhibit 5.10

Total Modernization Need Per Unit Month: Funding Shares Over One– and Five–Year Time Horizons

PHA Size/ Region	Funding Total Needed in One Year			Funding Total Needed in Five Years			CGP
	Share of Total Backlog	Share of Accrual	Combined Share	Share of Total Backlog	Share of Accrual	Combined Share	
Extra–Large	48.3%	39.2%	47.5%	48.3%	39.2%	45.3%	43.7%
Northeast	23.2	22.3	23.1	23.2	22.3	22.9	22.8
South	9.3	7.0	9.1	9.3	7.0	8.5	8.1
Midwest	13.5	8.0	13.0	13.5	8.0	11.7	10.7
West	2.4	1.8	2.3	2.4	1.8	2.2	2.1
Large	20.8	23.3	21.0	20.8	23.3	21.7	22.1
Northeast	7.0	7.1	7.0	7.0	7.1	7.0	7.1
South	4.2	5.8	4.3	4.2	5.8	4.7	5.0
Midwest	6.1	7.2	6.2	6.1	7.2	6.4	6.6
West	3.5	3.3	3.5	3.5	3.3	3.4	3.4
Medium	11.8	14.4	12.1	11.8	14.4	12.7	13.1
Northeast	3.1	3.5	3.2	3.1	3.5	3.2	3.3
South	2.5	3.6	2.6	2.5	3.6	2.9	3.1
Midwest	3.1	4.0	3.2	3.1	4.0	3.4	3.6
West	3.1	3.3	3.1	3.1	3.3	3.1	3.2
Small	15.4	18.3	15.6	15.4	18.3	16.3	16.8
Northeast	3.3	3.8	3.4	3.3	3.8	3.5	3.6
South	4.2	5.7	4.3	4.2	5.7	4.7	5.0
Midwest	5.2	6.4	5.3	5.2	6.4	5.6	5.8
West	2.7	2.4	2.6	2.7	2.4	2.6	2.5
Very Small	3.7	4.8	3.8	3.7	4.8	4.0	4.2
Northeast	0.4	0.4	0.4	0.4	0.4	0.4	0.4
South	0.8	1.1	0.8	0.8	1.1	0.9	0.9
Midwest	1.9	2.8	2.0	1.9	2.8	2.2	2.4
West	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ALL	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Northeast	37.2	37.1	37.2	37.2	37.1	37.2	37.1
South	21.0	23.2	21.2	21.0	23.2	21.7	22.1
Midwest	29.8	28.4	29.7	29.8	28.4	29.3	29.1
West	12.1%	11.2%	12.0%	12.1%	11.2%	11.8%	11.7%

Data Base: Simulations from Comp Grant Data Base, N=3,224 PHAs.
Notes: Columns may not add to 100 percent due to rounding.

regulatory requirements have broadened (considerably so, in the case of lead paint) since the 1985 estimates were made. As a result, actual costs are likely to be much higher than these "placeholder" estimates. Thus, if some or all of these additions were made to our updated estimates of need, current funding levels would appear even more modest in relation to estimated need.

In terms of the *level* of funding, the updated costs of the omitted categories of potential need (excluded from consideration under CGP) total $9.56 billion, which is nearly half again the updated estimates we present of what is considered as backlog under CGP ($20.07 billion). If the $29.63 billion figure were to be considered the total backlog, then at current funding levels, over 40 years would be required to clear this larger total. Further, because these categories were not included in the statistical models used to develop CGP, their influence is not included in the percentage shares for backlog. This omission would be potentially important for Redesign and Energy, where need is likely to be distributed in a manner different from the universe of FIX and ADD needs.

According to the updated estimates in this report, it would appear that *funding levels since 1988 have just about kept up with annual accrual, in real terms, including the estimated costs of delay based on unfunded accrual.* The current backlog of the mandatory items plus project-specific ADDs is about the same as it was in 1988, when inflation is taken into account.

However, it is essential to reiterate that none of the estimates that have been made (ICF, HUD, or this report) make any attempt to adjust the rate of accrual to account for delay in funding the *backlog* itself. As mentioned above, it seems quite likely that some of the systems requiring action in the backlog will have degraded to a point where more expensive remedial action is necessary. Also, for some critical systems such as roofs and waterproofing, lack of attention to the backlog will have produced ***interactions*** with other systems, worsening capital repair and replacement needs or inducing needs that did not exist because of the condition or age of the system itself.

In view of the magnitude of modernization need, the necessity for funding this need over a period of years, and the fact that delays themselves end up adding to the eventual costs, an alternative would be to allow the backlog of needs to be met all at once, with the obligation financed over a period of years. That is, it would be possible to establish a system in which the funds to clear the backlog of modernization need would be loaned to housing agencies. Just as the capital costs of public housing originally were covered through bonds with amortization paid under Annual Contributions Contracts, the obligations on these loans would have to be covered through a contractual commitment to annual payments to retire this debt. From a financing point of view, the issue is whether the cost of interest payments is more or less than the true costs of delay, including lost revenues from unusable units. From the point of view of housing services, clearly the services of fully repaired housing would be superior to the current situation.

All of the estimates that have been made about modernization need have now ranged quite far from the original empirical estimates based on the 1985 inspections of the public housing sample. Many assumptions have been made in updating the needs and about the application of modernization funds to the estimated needs. Public policy about public housing modernization funding would be well served by some empirical updating of modernization needs. As discussed in Chapter 9, a pertinent area for future research would be a mini-study of capital needs, based on a subset of the original project sample for the 1985 study, with special attention to the effects of modernization spending in the intervening years.

CHAPTER 6

A COMBINED SUBSIDY SYSTEM:

THE PERFORMANCE FUNDING SYSTEM AND THE COMPREHENSIVE GRANT PROGRAM

This chapter presents an analysis of the combined funding for PHAs under the two current formula programs. We call this the combined base case: the combined subsidy as determined by the Performance Funding System and the Comprehensive Grant Program. The combined base case joins together the subsidy for operating costs with the subsidy for capital repairs and replacements; it represents the funding that is actually flowing to PHAs in FY 1992. The combined base case is used in the next chapter for comparison with an alternative "comprehensive" subsidy system derived from Fair Market Rents. A FMR System would provide a subsidy designed to fulfill the total requirements of PHAs, that is, operating funds plus capital funds. Thus, in order to provide an appropriate comparison, it is necessary to simulate the "joint distribution" of the current funding for these two types of requirements.

6.1 DERIVATION OF THE COMBINED BASE CASE

The combined base case simply joins the PFS base case, presented in Chapter 2, with the CGP base case described in Chapter 4. The universe is all PHAs eligible for subsidy under CGP; this universe includes all PHAs and IHAs receiving subsidy under the PFS, as well as those not receiving PFS subsidy or eligible only for audit costs. In addition, Puerto Rico, the Virgin Islands, and the other Territories are included here. The combined base therefore includes 3224 PHAs and IHAs, the same group utilized for the CGP analysis.[1]

It should be emphasized that the combined base case is a monetary union only, not a conceptual joining of subsidy determination through a single formula. In other words, the PFS formula is used to determine the operating subsidy and the CGP formula is used to determine

[1]As noted in Chapter 4, there are 67 PHAs, primarily very small, which were not included in HUD's CGP data, but which are theoretically eligible for the CGP. Fifty-five of these missing PHAs are in fact included in the PFS base case, presented in Chapter 2. Also as noted, the combined base includes the Territories, which receive operating subsidy through a system separate from the PFS. In order to build the combined base case, estimated subsidy eligibility was obtained from HUD for these non-PFS PHAs. The combined base case is presented in 1992 dollars, as was the PFS base case presented in Chapter 2.

the capital subsidy: the formulas have in no way been combined in either a programmatic or statistical sense. This point is worth noting because the combined base case differs in this regard from the FMR system to which it will be compared in Chapter 7.

An argument can be made for a "combined-cost" subsidy system derived from a single formula. It has been frequently noted that the distinction between operating and capital costs is far less precise than is suggested by HUD's having two separate systems of funding for PHAs. In particular, maintenance is an important component of operating costs, and maintenance of building systems and capital repairs are closely related in several important ways. First, many repair tasks have elements of both maintenance and capital repair and are thus difficult to assign to one category or the other. Second, the magnitude and scheduling of capital repairs and replacements is at least partially determined by the adequacy of ongoing "maintenance". Third, particular building, neighborhood, or tenant characteristics (such as building height and age, proportion of family units, construction materials, and so forth) may have similar impacts on both maintenance and capital repair. Finally, the quality of replacement systems can have profound impact on operating costs and efficiency.

The funding system based on FMRs discussed in Chapter 7 does not distinguish between allocations of funds for operation and capital spending, but simply assumes that, conceptually, an appropriate level of rent should cover the full range of requirements for rental housing. Thus, one approach to a combined base case would be to derive a *single* formula that would determine the subsidy for both operations and capital costs. Development of such a system would involve a major research effort and many policy determinations. That is not the approach taken in the current simulation of a combined base case; again, we have simply combined the PFS and the CGP as they now operate, because this is what now determines the total funding outlay for public and Indian housing. A true combined formula approach remains a topic for further research.

The CGP base case, presented in Chapter 4 is computed in 1992 dollars (the 1992 appropriation is used as the level of funding). The PFS base case discussed in Chapter 2 related to PFS for FY 1989, the latest year for which PHA-level data were available in computerized form.

In order to best approximate the combined level of spending for FY 1992, we have taken the following approach to simulating PFS for 1992:

- PFS subsidy requirements for FY 1992 total \$2.259 billion. Most of this amount is for PFS operating subsidy, including amounts for breakthroughs, waivers, and formal review;[2]

- Within the \$2.259 billion total is \$89 million in non-PFS operating subsidies. Some of these subsidies pertain to PHAs, such as Puerto Rico, which are included in the combined base case. Others pertain to Indian Mutual Help and Turnkey III, which are excluded from the operating subsidy base case. The proportion of this sum which we need to exclude was 16 percent for 1991 (the latest year the figures are broken out);

- The combined base case total for operating costs is thus \$2.244 billion. Of this amount \$4 million is attributable to PHAs missing CGP shares. Therefore, the operating subsidy portion of the combined base case totals \$2.240 billion.

- This total is allocated among PHAs based on the *same* shares for PFS as presented in Chapter 2. (We have added the non-PFS amount and recomputed the shares, which alter only slightly.)

The advantage of this approach is a combined base case generated consistently in 1992 dollars, so that it can be compared with a system based on FMRs in 1992 dollars. The disadvantage is that any *distributional* changes in the shares of operating funds that have taken place between 1989 and 1992 will not be reflected in the analysis. Because the requisite data are not available, this is a limitation that cannot now be corrected but must be kept in mind.

[2]Though the formal review funds are included, the operating subsidy shares are those from base case PFS, not from the formal review simulation in Chapter 2. However, per unit month (PUM) figures will not match those in Chapter 2 if the PHAs have a larger number of units in CGP than in PFS. All PUM figures for the combined base case are computed using CGP-eligible unit totals.

6.2 DISTRIBUTION OF SUBSIDY UNDER THE COMBINED BASE CASE

Exhibit 6.1 presents the summary information describing the combined base case. The total subsidy funding of over $4.8 billion for FY 1992 represents the sum of subsidy eligibility under PFS ($2.2 billion) and that under CGP ($2.6 billion). The distribution of the subsidy simply reflects the combined patterns of distribution under these two existing programs (with the problem noted above). As expected, the extra-large PHAs command a major share of the funds, well in excess of their share of total units. The large PHAs obtain a share roughly equal to their share of units, while the remaining size categories receive somewhat less than proportionate amounts. As noted elsewhere, this is because many factors in addition to number of units influence the funding allocations, and this combined measure is further influenced by income (rent paying) levels of tenants as well as other tenant characteristics that interact with operating expenses.

The allocations per unit month (PUM) are also presented in Exhibit 6.1. These PUM allocations are the sum of PUM funding for PFS and CGP. Note, however, that the PUM allocations are based on two different sets of numbers for eligible units: the number of eligible units for PFS and the number of eligible units for CGP. For many PHAs, these unit counts are identical or very similar. They differ for others. For example, some PHAs cover their operating costs from revenues and need no operating subsidy under PFS but do qualify for capital funding. In other cases, especially for many IHAs, the number of units eligible for subsidy under CGP exceeds that for PFS. For example, CGP must take into consideration the Indian Mutual Help Program, whose 51,000 units nationwide are eligible for CGP but not for PFS.[3]

Exhibit 6.1 shows that the national PUM funding for the combined base case is $299.49. This is the sum of the PUM allocations of $157.18 under CGP and $142.31 under PFS. The PUM allocations clearly reflect the patterns previously seen in the analyses of the PFS and CGP base cases. Since funding PUM falls as a function of size class under both PFS and CGP, it is to be expected that the differences between the largest and smallest agencies will be especially

[3] Certain units under the Section 23 Program are also eligible for CGP. These units are included in the analysis of CGP and in the Combined Base Case, but only for the PHAs actually receiving CGP funding in FY 1992 (those with 500 or more units). Finally, some inconsistencies remain in unit counts across different HUD data bases.

Exhibit 6.1

Combined Base Case: PFS + CGP (1992)

PHA Size/ Region	Mean Combined Base PUM	Number of PHAs	Total PFS Eligibility (in millions)	Total CGP Eligibility (in millions)	Sum of Total Combined Eligibility (in millions)	Percent of Total Eligibility	Percent of Total Units
Extra–Large	$403.47	21	$1,128.6	$1,119.9	$2,248.5	46.8%	34.4%
Northeast	418.84	7	629.9	583.6	1,213.5	25.3	17.8
South	302.09	5	145.1	208.1	353.2	7.4	7.2
Midwest	474.16	8	314.3	274.9	589.2	12.3	7.7
West	349.59	1	39.3	53.3	92.7	1.9	1.6
Large	298.52	129	588.7	565.9	1,154.6	24.0	24.3
Northeast	312.09	47	197.6	180.6	378.2	7.9	7.5
South	289.01	29	167.1	128.0	295.2	6.1	6.3
Midwest	282.71	37	157.2	170.0	327.2	6.8	7.5
West	319.66	16	66.8	87.3	154.1	3.2	3.1
Medium	234.33	262	227.5	336.2	563.7	11.7	15.3
Northeast	221.52	70	60.4	84.9	145.2	3.0	4.1
South	225.73	67	63.7	78.6	142.3	3.0	4.0
Midwest	226.63	73	63.2	91.4	154.6	3.2	4.3
West	276.28	52	40.2	81.4	121.6	2.5	2.9
Small	203.20	1,299	242.1	431.2	673.3	14.0	20.6
Northeast	198.38	250	49.6	91.1	140.7	2.9	4.4
South	196.94	406	81.7	127.3	209.0	4.4	6.5
Midwest	192.90	503	82.3	148.7	231.0	4.8	7.4
West	267.17	140	28.4	64.2	92.6	1.9	2.3
Very Small	182.59	1,513	53.4	108.4	161.8	3.4	5.5
Northeast	210.16	109	5.9	11.4	17.3	0.4	0.5
South	207.72	289	14.2	24.1	38.4	0.8	1.1
Midwest	162.50	973	26.8	60.4	87.2	1.8	3.3
West	229.74	142	6.5	12.4	18.9	0.4	0.5
ALL	299.49	3,224	2,240.4	2,561.6	4,802.0	100.0	100.0
Northeast	341.09	483	943.4	951.5	1,894.9	39.5	34.2
South	255.21	796	471.8	566.2	1,038.0	21.6	25.1
Midwest	288.56	1,594	643.9	745.3	1,389.2	28.9	30.2
West	$297.77	351	$181.2	$298.6	$479.8	10.0%	10.5%

Data Base: Simulations from Comp Grant Base Case, N=3,224 PHAs.
Notes: 1. Columns may not add to totals nor to 100 percent due to rounding.
2. PUM = Per unit month.

wide for the combined base case. Thus, the PUM funding for extra-large PHAs is $403.47, as compared with $182.59, on average, for the very small PHAs.

There is also substantial variation in the PUM funding across regions. The Northeast receives the highest allocation, with a PUM funding of $341.09. This is followed by the West, with $297.77; the Midwest with $288.56; and the South with $255.21.

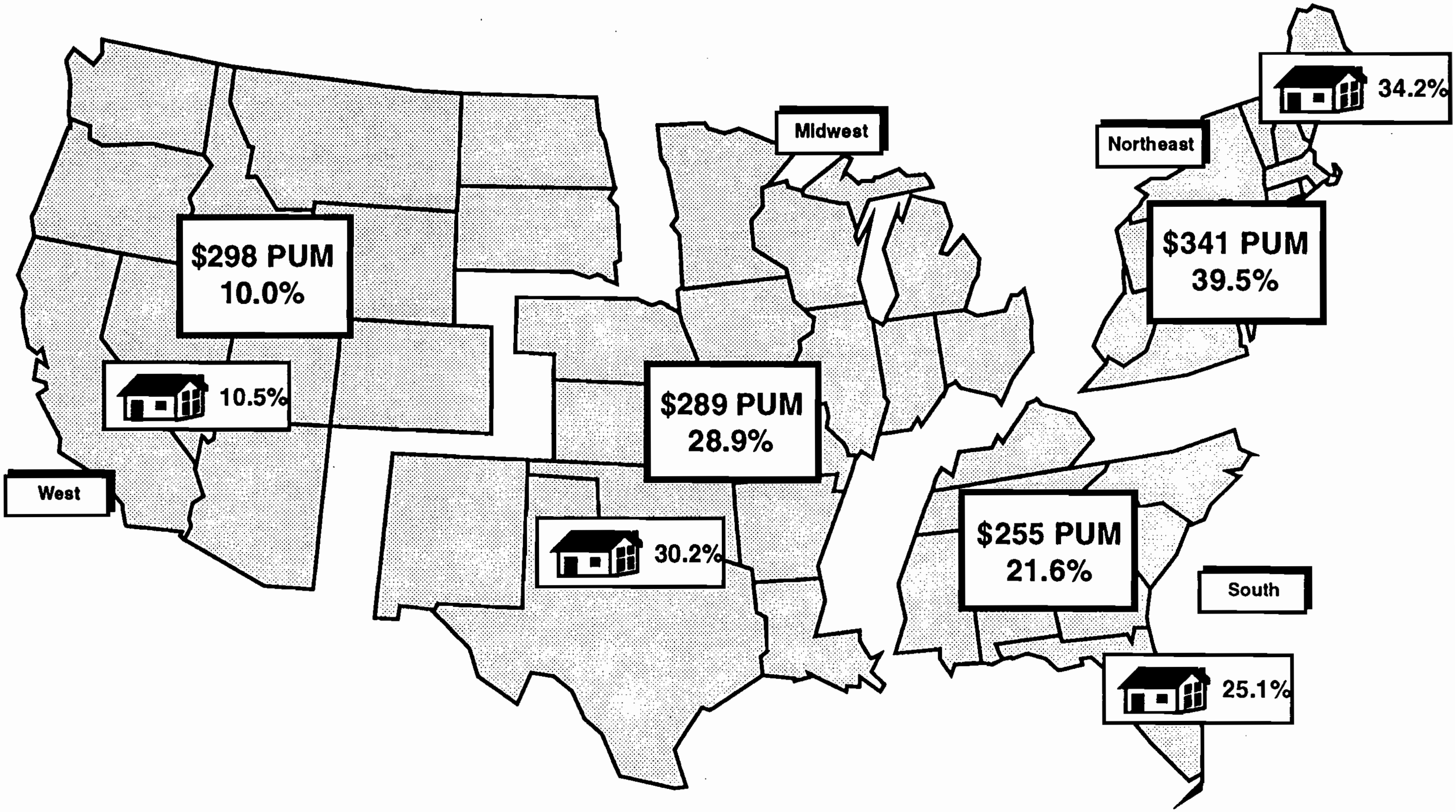
Regional allocations within size groups again reflect differences between the West and other regional groups. For extra-large PHAs, the PUM allocation in the Midwest is highest, at $474.16. In contrast, for all size categories except extra-large, subsidy per unit month is highest in the West. For the medium and small PHAs, the West stands out as something of an outlier, since the PUM figures are quite similar in the Northeast, Midwest, and South. For example, for medium PHAs, the PUM figures range only between $222 and $227, while the West stands at $276. For the small size category, PUM allocations under the combined base case range between $193 and $198 for all regions but the West, where the PUM funding is $267. The regional PUMs shown in Exhibit 6.2 range from $255 (South) to $341 (Northeast), with shares from 10 to 40 percent.

Exhibit 6.3 summarizes the "distribution of share" analyses presented in earlier chapters with regard to the PFS base case, the CGP base case, and the PFS/CGP combined subsidy; it also shows the level of historical funding under CIAP/MROP. It provides a convenient point of comparison, to place the combined base case in overall perspective. One type of comparison is with the distribution of units (although we have noted several times that this is only one aspect of the determinants of distribution of need). The extremes in the distribution of subsidy shares in comparison with unit shares are greatest for the PFS and least for historical CIAP. For example, extra-large PHAs (with 34.4 percent of all units) receive 48.4 percent of total funds under PFS but 35.6 percent of funds under historical CIAP. The CGP distribution falls between these extremes; for example, the extra-large PHAs receive 43.7 percent of the total. Similarly, the pattern is reversed for medium, small and very small PHAs, which receive a relatively greater share of CGP than of PFS funds and a share closer to their percent of total units.

The combined base case is obviously midway between the PFS and CGP distributions. Thus, the combined distribution shows somewhat less deviation in the comparison of shares of units and of subsidy eligibility than the PFS but somewhat more than CGP or CIAP.

Exhibit 6.2

Combined Base Case (PFS Plus CGP): Regional Subsidy Allocation Per Unit Month (PUM) and Percent of Total Eligibility



= indicates region's percent share of all public housing units included in the Combined Base Case.

Exhibit 6.3

Subsidy Shares: Combined Base Case and Components

PHA Size/ Region	Percent Share of: PFS	CGP	Combined Subsidy	Historical CIAP/MROP	Total Units
Extra-Large	48.4%	43.7%	46.8%	35.6%	34.4%
Northeast	29.0	22.8	25.3	20.9	17.8
South	4.3	8.1	7.4	6.5	7.2
Midwest	14.5	10.7	12.3	6.7	7.7
West	0.6	2.1	1.9	1.5	1.6
Large	26.4	22.1	24.0	29.0	24.3
Northeast	8.9	7.1	7.9	12.4	7.5
South	6.8	5.0	6.1	6.1	6.3
Midwest	7.0	6.6	6.8	7.9	7.5
West	3.7	3.4	3.2	2.6	3.1
Medium	10.6	13.1	11.7	14.9	15.3
Northeast	2.9	3.3	3.0	5.3	4.1
South	3.0	3.1	3.0	2.6	4.0
Midwest	3.0	3.6	3.2	4.2	4.3
West	1.6	3.2	2.5	2.8	2.9
Small	11.8	16.8	14.0	16.4	20.6
Northeast	2.4	3.6	2.9	5.1	4.4
South	3.9	5.0	4.4	4.5	6.5
Midwest	3.9	5.8	4.8	5.3	7.4
West	1.6	2.5	1.9	1.4	2.3
Very Small	2.8	4.2	3.4	4.1	5.5
Northeast	0.3	0.4	0.4	0.6	0.5
South	0.7	0.9	0.8	0.9	1.1
Midwest	1.3	2.4	1.8	2.3	3.3
West	0.5	0.5	0.4	0.3	0.5
ALL	100.0	100.0	100.0	100.0	100.0
Northeast	43.6	37.1	39.5	44.4	34.2
South	18.7	22.1	21.6	20.6	25.1
Midwest	29.7	29.1	28.9	26.3	30.2
West	8.0%	11.7%	10.0%	8.8%	10.5%

Data Base: Simulations from Comp Grant Base Case, N=3,224 PHAs.
Notes: 1. Columns may not add to totals nor to 100 percent due to rounding.
2. PFS Shares from Exhibit 2.1.

One important feature of the combined base case is the very extensive *variation* in PUM allocations which takes place within size groups and within regions. These figures are presented in Exhibit 6.4, which provides the PUM data for the average subsidy, and, in addition, the minimum and maximum values. The figures are presented for PFS, CGP, and the combined base case. The degree of variation is particularly notable in PFS eligibility; examples include the large agencies (maximums ranging from 7 to 53 times the minimum) and extra-large PHAs in the South (maximum 3 times the minimum). Of course, there are public housing agencies in the medium, small, and very small categories that receive no operating subsidy at all.

The variation in PUM figures is less striking for CGP eligibility (second panel of Exhibit 6.4).[4] However, there are still some very wide ranges: maximums nearly 11 times the minimum for small agencies in the Midwest and 9 times the minimum for small agencies in the South. When the PFS and CGP funding are combined, they produce the pattern of PUM ranges and means shown in the third panel of Exhibit 6.4. The ranges are very wide for small and medium size PHAs in the South; indeed, they are wide whenever some PHAs receive no operating subsidy.

Exhibit 6.4 also displays (in the last panel) the **ratio** of the CGP subsidy PUM to the PFS subsidy PUM, so that we may better understand how the two components contribute to the total. Note again the origin of these PUM figures: those for PFS are for eligible units under the PFS, plus the additional PHAs added to create the combined base case; and those for CGP are from the base case presented in Chapter 4.0.

The key conclusions from this analysis of the ratio of PUM funding include the following:

- Nationwide, the PFS subsidy PUM is less than the CGP subsidy PUM;
- The contribution of the CGP to the total becomes more and more pronounced as the size of PHA decreases. The PFS subsidy falls more rapidly by size class than the CGP. Thus, for the extra-large PHAs, the PFS and CGP allocations PUM are nearly equal, while for the very small PHAs, the PFS is less than half of the CGP;

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[4]Note that for extra-small PHAs the maximum values are extremely high. This is because the Section 23 units of these agencies are not considered in our CGP analysis, but the CGP share values, determined by HUD, included them. The number of PHAs for which the discrepancy in what counts as extreme is small and thus has little impact on the group means for extra-small PHAs.

Exhibit 6.4

Per Unit Month (PUM) Subsidies and the Combined Base Case: PFS + CGP

PHA Size/ Region	PFS Eligibility PUM			CGP Eligibility PUM			Combined Base Case Eligibility PUM			Ratio of CGP/PFS (PUM)
	Mean	Min.	Max	Mean	Min.	Max.	Mean	Min.	Max.	Mean
Extra-Large	$203.48	$75.08	$377.55	$199.99	$101.79	$278.39	$403.47	$258.11	$655.94	0.98
Northeast	218.12	178.32	377.55	200.72	164.07	278.39	418.84	375.33	655.94	0.92
South	124.94	75.08	224.30	177.14	101.79	209.26	302.09	264.14	367.47	1.42
Midwest	254.16	144.51	312.17	220.00	139.26	259.04	474.16	303.00	565.22	0.87
West	150.66	104.82	214.05	198.93	153.30	227.24	349.59	258.11	420.58	1.32
Large	155.88	3.71	327.78	142.64	83.76	245.97	298.52	137.09	508.02	0.92
Northeast	163.52	42.87	283.45	148.56	92.26	245.97	312.09	172.46	469.46	0.91
South	164.47	25.17	266.89	124.54	83.76	183.28	289.01	137.09	388.22	0.76
Midwest	143.03	3.71	195.86	139.68	86.57	193.32	282.71	172.62	389.19	0.98
West	147.37	34.04	327.78	172.29	93.17	236.72	319.66	223.36	508.02	1.17
Medium	99.22	0.00	259.97	135.11	71.30	274.44	234.33	94.92	433.43	1.36
Northeast	93.28	0.28	259.97	128.24	75.45	200.01	221.53	94.92	433.43	1.37
South	103.80	0.00	225.32	121.93	71.96	190.44	225.73	99.21	366.42	1.17
Midwest	97.14	0.00	224.99	129.49	71.30	221.72	226.63	105.41	358.33	1.33
West	105.50	0.00	219.75	170.78	83.16	274.44	276.28	97.61	418.55	1.62
Small	74.55	0.00	416.17	128.65	41.25	464.66	203.19	53.46	590.22	1.73
Northeast	70.09	0.00	210.25	128.29	62.81	253.16	198.38	78.59	349.81	1.83
South	77.14	0.00	227.56	119.80	50.77	464.66	196.94	80.13	590.22	1.55
Midwest	69.86	0.00	214.74	123.03	41.25	445.75	192.90	53.46	485.11	1.76
West	94.15	0.00	416.17	173.03	68.86	319.04	267.17	100.80	588.35	1.84
Very Small	60.77	0.00	372.08	121.82	43.02	2,720.74	182.59	46.65	2,753.81	2.00
Northeast	71.52	0.00	235.83	138.64	65.72	680.03	210.16	95.38	725.63	1.94
South	77.00	0.00	217.28	130.72	43.02	2,720.74	207.72	46.65	2,753.81	1.70
Midwest	50.30	0:00	298.02	112.20	45.71	1,084.24	162.50	48.92	1,251.82	2.23
West	82.48	0.00	372.08	147.25	56.46	494.54	229.74	66.18	659.46	1.79
ALL	142.31	0.00	416.17	157.18	41.25	2,720.74	299.49	46.65	2,753.81	1.10
Northeast	170.48	0.00	377.55	170.62	62.81	680.03	341.09	78.59	725.63	1.00
South	116.94	0.00	266.89	138.27	43.02	2,720.74	255.21	46.65	2,753.81	1.18
Midwest	137.04	0.00	312.17	151.52	41.25	1,084.24	288.56	48.92	1,251.82	1.11
West	$122.80	$0.00	$416.17	$174.97	$56.46	$494.54	$297.77	$66.18	659.46	1.42

Data Base: Simulations from Comp Grant Base Case, N=3,224 PHAs.

Notes: 1. PUM = Per unit month.

2. The high maximum CGP eligibility figures for very small PHAs reflect data limitations. A few of these agencies have large numbers of Section 23 CGP-eligible units. The unit counts provided by HUD for PHAs with fewer than 500 units do not include the Section 23 units. The number of agencies affected by this discrepancy is small, so that there is minimal impact on the group means.

3. PFS PUM figures are calculated on the same unit count as CGP and thus do not match the PUM figures in Chapter 2.

- Despite these very clear patterns, however, the range of differences (and exceptions to the rule) are very large, even within size and region categories.

The nation-wide weighted average allocation under PFS is $142.31, as compared with $157.18 for CGP. On average, for extra-large and large PHAs, however, PFS is slightly larger than CGP (that is, the value of the ratio is just under one). The remaining size groups show a pronounced shift: the CGP allocation PUM exceeds that for PFS by 36 percent for medium PHAs, by 73 percent for small, and by 100 percent for very small PHAs.

Yet there are outstanding exceptions to these patterns. For example, a number of PHAs have combined base case allocations exceeding $500 PUM, far greater than the national (weighted) average of $299. No one group has a monopoly on the high-end extremes; the highly funded PHAs are drawn from all regions, and fall into both the extra-large and large size categories. In contrast, many medium, small, and very small PHAs receive a Combined Case allocation PUM of less than $100.

Similarly, the shares of CGP and PFS in the total allocations show great variation. Especially for the larger PHAs, the PFS allocation greatly exceeds that for CGP in a number of cases. This is true of both the PUM funding and the total subsidy eligibility.

Distinct regional patterns are also seen in the PUM shares of PFS and CGP in the combined base case. On average, PFS is highest in the Northeast, at $170. Values for the other regions are clustered closely between $117 and $137 PUM; with the South lowest. In contrast, CGP is ***highest*** in the West, at $175, but the Northeast is a close second at $171. Thus, the ratio of CGP to PFS shows very wide swings by region: CGP shares exceed PFS shares by an average of 42 percent in the West, while in the Northeast there is virtually no difference in allocations.

6.3 IMPLICATIONS OF THE COMBINED BASE CASE

The patterns of size and regional distribution discussed above were noted earlier in our discussions of the separate base cases for PFS and the CGP. It would be useful to explore whether the distributions resulting from the two formula allocations appear reasonable in terms of the characteristics of PHA developments and their tenants. Data for such an exploration should include ***at least*** the variables utilized in the formula derivation for CGP. As noted in

Chapter 4, the PHA characteristics used to create the formula shares for backlog and accrual included a variety of indicators describing a PHA's buildings, tenants, and neighborhood (including unit size distributions, proportion of family units, proportion of high-rise family units, building age, local costs, and proxy variables for neighborhood problems). The CGP backlog formula share will be higher in older PHAs, PHAs with more family units, PHAs with more high-rise buildings, PHAs in neighborhoods experiencing population decline, PHAs with greater unfunded modernization backlog, and PHAs in high cost areas.

The PFS was also derived from a statistical model using a variety of PHA descriptors. The model was first estimated in the 1970's and thereafter re-estimated annually (primarily to calculate the delta addition to the Allowable Expense Level (AEL)). Thus, historically, it was seen that operating costs were higher in larger PHAs, PHAs with older buildings, and PHAs with greater shares of family tenants, for example. However, as noted in Chapter 1, delta is infrequently used (as physical characteristics of the stock have changed little in recent years); an automatic increase for aging is used instead. The PFS system has also been altered over time through the PUM insurance increase and the formal review process. Thus, an analysis of which PHA characteristics account for larger or smaller PUM subsidy shares under the combined base case should logically begin with an assessment of the variables used to derive both the PFS and the CGP. As noted, the data to conduct such an assessment are not now available, but this is an important topic for future research.

At least three other issues should also be addressed in future work, in order to better understand the components of the combined base case:

- A thorough assessment of modernization needs was undertaken by HUD in the mid-1980s; this has been used in the design of CGP. A new survey and analysis of needs *could* be conducted, at some expense. There should also be a review of the procedures for deriving the CGP, since many "statistical" as well as practical decisions were taken in its formulation.[5] This analysis will assist in the assessment of distribution patterns discussed above.

- The PFS, in contrast, has been in operation for seventeen years, and no analysis has ever been conducted into actual needs with regard to operating costs. The statistical underpinnings of the PFS, in theory,

[5]An early evaluation of CGP is mandated in Section 509 of the National Affordable Housing Act.

represent costs for well-managed PHAs, but some question whether this was originally accurate or is currently relevant;

- The discussion in Section 6.1 noted that the combined base case utilized in this study was not the result of *deriving* a single formula. We have merely "added" the two systems. If a combined system is to be seriously considered, an assessment of a combined statistical approach must join with the separate assessments of PFS and CGP noted above.

Chapter 7

ALTERNATIVE FUNDING SYSTEMS BASED ON FAIR MARKET RENTS

This chapter introduces an alternative funding system combining operating and modernization funds based not on public housing costs but rather on rents from a segment of the private rental market. This system—really a family of systems—is based on the Fair Market Rents that serve as payment standards in the Section 8 Existing rental assistance program. It is designed to forge a direct link between public and private housing in a local market. Beyond use of the same payment standard, the link would be strengthened under a variant making the FMR subsidies portable for the public housing tenants receiving them. This would essentially convert public housing to a tenant-based subsidy program.

As Chapter 1 discussed, the PFS has a number of weaknesses that have led to a long succession of studies and arguments about its design. Compared to modernization funding, it lacks external validation as to the reasonableness or adequacy of the allowable expenditures. This is why we examined the relationship between private market operating cost data and public housing expenditure data in Chapter 3. A Fair Market Rent system also looks to the private market, but in a different way: by referencing the total set of activities required to operate private rental housing and the market-specific rents charged to cover these activities. The alternative approach suggested here for determining public housing funding uses the cost of providing these services in the private market. Since HUD has already estimated the rent of adequate housing in every MSA as part of the operation of the Section 8 Existing Housing program, these rents—the Fair Market Rents—could be used with a simple payment formula to calculate subsidy levels.

Because the FMRs are used to determine subsidies in the lowest cost alternative housing assistance program, an FMR system could ensure that the subsidies for public housing represent the lowest possible cost to the taxpayer, although it is also possible that some PHAs could operate--or are now operating--for a monthly cost per unit below the FMR. Still, the FMR systems do not necessarily show that it would be possible for the PHA to operate the developments it currently owns for that amount. Nor is it clear that PHAs could modernize their developments to eliminate the current backlog of capital needs under an FMR system, as the funds available might not even go as far as the Comprehensive Grant Program's partial funding of backlog and accrual.

The remainder of this chapter describes the FMR systems in considerable detail. The first section describes the funding formulas, advantages and disadvantages, and transition issues. The second section outlines how various types of PHAs would fare and what the systems would cost. The third section discusses the implications of adding tenant mobility as a feature of an FMR system.

7.1 GENERAL DESCRIPTION OF AN FMR SYSTEM

7.1.1 The Funding Mechanism

The heart of the family of systems analyzed in this chapter is the replacement of the present methods of allocating operating and modernization subsidies (the PFS and the Comprehensive Grant Program) with a single payment that is based on the household income, size of tenant families, and the cost of providing housing services in existing private housing in the area, the Fair Market Rent (FMR). The most important feature is the use of the FMR as the payment standard. This is the type of formula used to calculate the maximum allowable subsidies in the Section 8 Voucher program. In this program, the subsidy paid to the landlord by the local agency (ultimately using federal funds) is computed by deducting 30 percent of adjusted household income from the payment standard (the Fair Market Rent) for the appropriately sized dwelling unit in the particular geographic area. Because of the way Section 8 is administered, including both a "rent reasonableness" test and a system of exceptions to the maximum FMR, subsidies vary around FMR minus 30 percent of income, but on average reflect that formula. (The voucher program differs from certificates in that subsidy is *always* equal to the payment standard minus 30 percent of income.)

Under a FMR system for funding public housing, tenant income would be adjusted for rent calculation in the same way as that used currently in both the public housing and Section 8 programs. The tenant rent would be subtracted from the FMR for the tenant's appropriate unit size (number of bedrooms).[1] If there were tenant-paid utilities for the unit, the FMR calculation would use gross tenant rent (before deduction of utility allowances) to calculate the subsidy.[2]

The PHA would be allocated the sum of the payments applicable to the occupied units it manages. It would also receive an increment to the FMR for program administration. However, funds representing debt service and amortization payments on the PHA's development and modernization activities would be subtracted from the aggregate subsidy payments. (The debt service payments are currently made by HUD or the Treasury directly to the bondholders.) This has a significant impact on the subsidy amount, since some PHAs have more outstanding debt for development and modernization activity than others.[3]

Because the FMR is the *estimated price* of renting adequate existing housing in the market place, it offers an independent but imperfect measure of the appropriate *cost* of providing public housing. Section 8(c) of the United States Housing Act of 1937 requires the Secretary of HUD to publish Fair Market Rents (FMRs) periodically, but at least annually. The FMRs are defined as the cost of renting a privately owned, decent, safe, and sanitary unit of a modest nature with suitable amenities. This has been interpreted as the 45th percentile gross rent for recent movers in privately owned units in the FMR area. Public housing, units less than two years old, and inadequate units are excluded.

An FMR area consists of either a nonmetropolitan county or a metropolitan area. Metropolitan areas are defined by OMB and Bureau of the Census and, except in New England, consist of one or more counties. FMR estimates are based either on 1980 Census data updated with CPI data, or on post-1980 Census American Housing Survey (AHS) metropolitan surveys updated with CPI data. In both instances, the rent paid by recent movers for two-bedroom units is used as the basic program standard. Rents for other size units are set by applying a percentage relationship to the standard.

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[1] The FMR is matched to the household's certificate size, although participants can rent larger units with qualifying rents.

[2] This would make the FMR subsidies independent of the configuration of utility payments, which can vary among PHAs and even among developments of the same PHA.

[3] The nature of debt service is discussed in detail in Section 7.2.3 below.

The setting of FMRs at the 45th percentile rent was a HUD policy decision subject to considerable debate and criticism. In the context of devising a payment standard for public housing, we cannot say whether the part of the local rent distribution thus referenced is appropriate or sufficient.

The PHA would use the FMR-based subsidy payments for two purposes: operating and maintaining the housing, and funding necessary modernization activities, either by accumulating reserves or making expenditures out of current budget accounts. Under one scenario, the separate Comprehensive Grant Program would cease to exist, at least after a transition period during which the current backlog of modernization needs was cleared. (The dual elements in CGP—backlog and accrual—will therefore be factored separately into the FMR simulations.) Overall, agencies would be given more latitude for the management of the funds available to them.

Exact rules for determining funds received by each PHA are described in Section 7.2 below. One version of these rules caps the total subsidy received by any agency under the FMR system at 120 percent of that under the PFS plus the Comprehensive Grant Program. This rule for a "constrained FMR system" limits the extent to which PHAs obtain windfalls under the FMR system, in order to avoid unnecessary federal expenditures, although for some PHAs with high backlog relative to their CGP funds, this would not be a windfall but a means of addressing more backlog needs. A companion rule cushions the effect on agencies that would receive reduced subsidy, by setting a floor at 80 percent of the PFS plus comp grant payments and providing for a transition period to the lower subsidy level.

Conceptually, an FMR system represents quite a different basis for funding public housing than the current operating and capital funding systems. In order to see the differences in the overall coverage represented by a FMR system, Exhibit 7.1 compares the Performance Funding System and Comprehensive Grant Program in their coverage of the elements of PHA costs to a system of FMR-based funding. We will refer to this exhibit as we discuss comparability issues and the advantages and disadvantages of an FMR system.

Exhibit 7.1

COVERAGE OF COST ELEMENTS UNDER ALTERNATIVE FUNDING SYSTEMS

Housing Cost Elements	Performance Funding System (Public Housing)	Comprehensive Grant Program (Public Housing)	Fair Market Rents (Private Market)
Operating Costs			
Administration	Yes	No	Yes
Utilities	Yes	No	Yes
Maintenance	Yes	No	Yes
Insurance	Yes	No	Yes
Taxes (PILOT)	Yes	No	Yes
Tenant Services	?	No	No
Security	?	No	Yes
Audit Costs	Yes	No	Yes
Vacancy Loss	Partial	No	Partial***
Betterments & Additions	Partial	Partial	Yes
Capital Costs			
Modernization Backlog*	No	Partial	No****
Accrual Needs (Replacement Reserve)	No	Partial	Partial
Debt Service**			
On development or acquisition of housing	No	No	Yes
On modernization of existing units	No	No	Yes

? Included in PFS to the extent they were present in the base year, 1975.

* Accumulated repair and replacement needs.

** On previously incurred debt.

*** 60 days coverage in Certificate program, none in Vouchers.

**** Could be covered, if private owner was making payments from rent on a loan to finance backlog repairs.

7.1.2 Issues in Comparing PHA Costs and FMRs[4]

There are a number of fundamental questions to be addressed about creating a funding system for public housing based on Fair Market Rents. Some of these questions concern the comparability of the conditions facing private and public housing operators. Others involve the differences in administering public and private housing. Still other questions concern the long-run consequences of an FMR system.

Private-Public Comparability of Operating Conditions

A number of the issues concerning the operations of public and private rental housing were raised and discussed in Chapter 3, where we examined the applicability to the public housing program of existing data on private housing operating costs. In that context, data gaps limited our ability to compare the characteristics of the housing stock, the residents, and the neighborhoods of public housing with those of properties in the private market sample. (The data on HUD-Insured Multifamily properties were especially rich compared to the public housing data.) However, the question remains pertinent.

Do the types of tenants served and services provided by public housing differ significantly from private housing, with consequences for costs? Here the comparative frame of reference is properly the physical, tenant, and neighborhood characteristics of the housing occupied by very low income households subsidized by the Section 8 program. Of course, the FMRs are determined based on market-wide private rental data, but their successful use nation-wide in the Section 8 Existing program suggests that their levels are at least adequate to sustain operations by Section 8 landlords. Because the program rules on eligibility for Section 8 are largely the same as the admissions regulations for public housing,[5] there is likely to be great

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[4] This Section and Sections 7.1.3 and 7.1.4 draw upon and extend the discussions found in the 1982 *Report*, Chapter VIII.

[5] The rules governing income eligibility and participation in the Section 8 and public housing programs bear strong similarities. The income limits, the types of eligible households, the assignment of appropriate unit or certificate sizes based on household composition are all very close. There *are* some exceptions to the Very Low Income requirement for public housing admissions; 25 percent of the admissions to older develop-ments can be made up of Lower Income families (with incomes between 50 and 80 percent of median). However, the existing data on public housing admissions suggest this makes little difference.

similarity between the applicants qualifying for Section 8 and those gaining admission to public housing.

A recently released study of the characteristics of renters assisted by various HUD programs sheds some light on the question of comparability between public housing residents and Section 8 tenants.[6] Although based on the very small samples of these populations in the American Housing Survey, the study indicates that:

- the population served by public housing is older than that served by certificates and vouchers, with 38 percent of public housing tenants over age 65 compared to 23 percent of Section 8 participants;

- the proportion of female-headed, single-parent families with children is similar among certificate/voucher households (64 percent) and among public housing residents (55 percent);[7]

- the programs serve large households at similar rates;

- median incomes are slightly lower in the public housing population ($6,571) than in the certificate/voucher population ($7,060); and

- both programs show a higher proportion of households receiving income from welfare and food stamps than the proportion receiving wage and salary income.[8]

Thus, within the limits posed by the small samples from AHS, it appears that the programs' populations are quite similar, particularly with respect to the families they serve.

Is it reasonable to assume that the geography of private market rents is applicable to the geography of public housing? We know that most PHAs operate both conventional public housing and Section 8 Certificate and Voucher programs, so that they are found in many of the same jurisdictions. We are less sure of the degree to which they occupy similar local submarkets. There may be significant differences in the local geographical distribution of Section 8 units and public housing developments; on the other hand, the FMR system (by limiting the rents affordable under the program to the 45th percentile of the area rents and

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[6] Connie H. Casey, *Characteristics of HUD-Assisted Renters and Their Units in 1989* (Office of Policy Development and Research, U.S. Department of Housing And Urban Development, March 1992).

[7] The difference is not statistically significant.

[8] *Characteristics of HUD-Assisted Renters*, summary tables pages 5-12.

excluding new units) may constrain participants to similar parts of the local market.[9] The cost consequences here would relate to neighborhood conditions (especially crime and vandalism) and perhaps to the level of public service provision.

Differences in the Management of Public and Private Housing

Chapter 1 discussed the regulatory environment for operating public housing, with its requirements for paperwork and approvals and its strictures concerning waiting list management, admissions, income recertifications, rent redeterminations, and eviction proceedings. If PHAs are expected to operate under private market rents, will they also gain the flexibility and freedom from regulation enjoyed by private landlords in regard to tenant selection and eviction? Under the Section 8 program, it is the housing agency and not the landlord that handles income changes, rent adjustments, annual unit inspections, and the like. The Section 8 administrative fee paid to PHAs (set at around 7 percent of the 2BR FMR) provides a useable adjustment for the costs of these functions. Therefore, the FMR systems simulated here incorporate the administrative fee, on the assumption that PHAs would continue to be subject to these regulations and that a fair comparison requires inclusion of administrative funding.

Effects of Market Features

A number of features of private housing markets may give rise to significant variations in rent levels, variations which would carry over to public housing funding under an FMR system. For example, if the profitability of private rental housing or the strength of rental demand differ among markets as reflected in FMRs, should these differences affect the flow of subsidy for operating public housing? While in the longer run FMRs "should be" close to costs under competitive market conditions, what will be the effect of having public housing funding reflect short-run fluctuations?

The reasonableness of basing payment levels on FMRs should be judged in part on how agencies actually would fare under this system (discussed below), but it can also be analyzed conceptually. Two questions in particular arise. One stems from the fact that the FMRs are

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[9] Research currently being conducted for HUD by Abt Associates on Section 8 Voucher and Certificate Utilization (H-5864), will shed light on this question.

market-determined; that is, they depend on both the cost of providing services and the demand for them. Over the long run, under competitive market conditions, these rents should be close to costs. In the short run, however, considerable deviations can exist—with the market setting either excessive or insufficient profit rates. Extra-market factors, such as rent controls, can yield situations in which rents are sustained at a level below that necessary to make housing a profitable investment. Other market characteristics, such as the degree of ownership concentration, may also make rents depart from the competitive ideal for sustained periods of time.

There are also local factors that affect the costs of providing housing services in the private sector but have less bearing on public housing; examples include land acquisition costs and the degree of local dependence on the property tax. Further, because FMRs are set for metropolitan areas, their levels are influenced by the relative shares of central city and suburban housing and by variation across neighborhoods. For example, high suburban rents in the Boston FMR area (where the central city only accounts for a third of the rental housing) create a relatively high FMR for the City of Boston itself. In the New York area, there are separate FMRs for the Westchester and Long Island suburbs; the City FMR is based entirely on rents in the five boroughs (and is quite low in comparison). All these sources of FMR variation have little relation to the cost of providing public housing services and suggest significant problems in the proposed standard as it would apply to housing agencies.

However, an argument could be made that public housing should not be insulated from the rest of the housing market nor treated differently from tenant-based subsidy programs. If households can be assisted more cheaply by leasing units in the private market rather than leasing public housing units, the argument runs that this is the avenue that should be followed. If some public housing developments are the marginal housing in an excess supply situation, they should be withdrawn from the stock. Under the FMR system, agencies would have greater incentive to remove vacant, marginal units, as no funds would be received to maintain them. Such a policy would mean that private owners of rental housing would not have to bear the entire burden of adjusting to excess supply or rent control. At the same time, where FMRs are set on a metropolitan-wide basis, the FMR levels would not be as restrictive as controlled rents in local jurisdictions with rent controls.

Note that the FMR standard does not assume that public housing units are similar in age and structure type to private rental units in any particular housing market. What *is* assumed is that the private rental alternative represented by the FMR should provide a partial test for whether or not public housing costs are reasonable. But differences in age and structure type should be kept in mind while evaluating the FMR as an alternative basis for public housing funding.[10]

A second issue concerning the use of FMRs as a standard for subsidizing public housing costs stems from differences in the cost of capital and property taxes confronted by private owners and PHAs. On the one hand, PHAs at one time received favorable treatment under the income tax system because they were able to finance their capital cost through bonds whose return is exempt from federal income taxes. (The Tax Reform Act of 1983 removed the tax-exempt status of public housing units.) Further, PHAs pay no federal or local income taxes or local property taxes; instead, they make a payment in lieu of local property taxes (PILOT), which may be substantially less than the rates applicable to private owners of rental property. On the other hand, private owners enjoy significant breaks in the federal tax code. These have traditionally included deduction of allowable depreciation, the expensing of construction period expenditures, and the deduction of operating expenses—including mortgage interest and property taxes—from income in computing their tax liability. At one time, private for-profit owners of rental housing often had after-tax returns higher than their cash returns due to favorable tax treatment. However, federal income tax income benefits for private owners were markedly curtailed by the Tax Reform Act of 1986. This Act limited the extent to which owners could use paper losses (such as accelerated depreciation allowances) to offset tax liability on income from other sources, but still allows depreciation allowances to shelter other taxable income from the property itself. The upshot is that federal income tax treatment is probably not a material factor, except as it affected PHA bond financing.

Another issue is whether it is reasonable to assume that the FMR should cover debt payments on annual contribution contracts (ACCs) as well as operating and replacement costs,

[10] Put another way, a more precise match with private market costs and conditions would attempt to place public housing units at the appropriate part of the rent distribution *given their location, size, structure type, and condition,* and not automatically assume they should match the 45th percentile.

given the wide variation in ACC amounts among PHAs.[11] The logic is that private owners of rental housing must use the rent levels in their locality to cover debt service on past capital expenditures as well as current operating costs and future replacements. Public housing developments that have high debt service because they are new or have recently been extensively modernized should have lower operating costs and small replacement needs during the period in which their debt for past capital expenditures remains high. However, if new or rehabilitated public housing projects must, in effect, charge rents higher than existing housing FMRs to cover costs, and an adequate supply of private units is available for rents within the FMRs, subsidizing households in these projects may not be the most efficient use of federal housing subsidy funds.[12]

A full analysis of the comparative tax advantage of PHAs and private owners would require an analysis of the cumulative effect of those advantages over time. Also, to isolate the effect of those tax factors requires strong assumptions about the similarity of other conditions faced by members of the two groups. The results of an analysis conducted for HUD's 1982 Report (based on features of the federal tax system in 1980) showed public housing on net to be in an advantageous position compared to private owners, even under assumptions somewhat unfavorable to the PHA about the spread in interest rates and the share of applicable property taxes made in PILOT payments.[13] There appeared to be no justification for increasing the payments in the FMR system because PHAs have been disadvantaged in their cost of capital compared to private owners. At the same time, it would be extremely difficult to accurately compute any appropriate decrease. Overall, simply using the FMR unadjusted for capital cost differences (but reflecting imputed debt service) seems the most reasonable course.

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[11] Exhibit 7.4 below shows the wide range of debt service among PHAs.

[12] Note, however, that the so-called preservation legislation affecting HUD-insured private housing imposes a rent limit after conversion (including purchase and financing of capital needs) set at 1.2 times the FMR for existing housing.

[13] *Alternative Operating Subsidies for the Public Housing Program,* pp. 264-65.

Effects of the Backlog of Modernization Needs

Perhaps the most important theoretical issue raised in comparing an FMR system to the combination of PFS and CGP is the coverage of the unfunded backlog of modernization needs. As Exhibit 7.1 showed, for private landlords, the FMRs cover capital costs differently than do the public housing funding mechanisms now in place. On the one hand, private owners must pay from current tenants' rents the debt service payments they owe on the initial capital investment in the property (through development or acquisition) and on any additional borrowing for capital replacements or upgrading. On the other hand, market rents do not typically reach to significant capital outlays in a lump sum or to the accumulation of reserves that would equal such outlays in the future. While private owners may accumulate a partial capital reserve from rents collected, it is common to refinance a property when major capital work needs to be done.

By contrast, the implementation of the Comprehensive Grant Program means that now the public housing finance system explicitly makes payments to reduce the modernization backlog and to deal with the accumulation of new capital needs. Of course, these payments are very partial; the analysis presented in Chapter 5 made clear the size of the gap between CGP funding in FY 1992 and the amounts needed to eliminate fully the backlog.

In considering the concept of an FMR system for funding public housing, the proper treatment of the modernization backlog is thus not clear. Should housing agencies receive funding based on FMRs with no adjustment for the historical accumulation of unmet capital needs? Or should there be an increment to the FMR-based payments to address the backlog for a transition period? The simulations of FMR systems presented later in this chapter incorporate both approaches, in order to examine the possible consequences of each choice.

It would also be possible, under certain circumstances, to add to FMR-based payments an amount representing debt service on the full backlog, thus allowing the PHA to borrow and complete repairs and replacements now with assured income to pay the debt service in the future. There are at least two program models that have made payments or adjustments of this type. In the past, the Section 8 Moderate Rehabilitation program used FMRs above the Existing Housing FMRs to give landlords borrowing to rehabilitate units the additional income needed to make the monthly rehab loan payments. The Mod Rehab FMRs could be as much as 20 percent above the Section 8 Existing FMR levels. At the present time, under the legislation aimed at preserving the affordability of the HUD-insured private stock, there is a rent limit pegged at 20 percent above the FMR for existing housing, inclusive of all capital financing.

However, the notion of financing the PHAs in an FMR-based system to borrow on their own a lump sum to clear the modernization backlog leads back to the question of minimizing federal subsidy. Were Congress to decide that the backlog should be addressed on a short time horizon (as discussed in Chapter 5), the Treasury could undoubtedly finance the borrowing of the funds more efficiently than hundreds of separate public housing agencies. Then a modernization program would presumably continue separate from FMR-based payments until the backlog was liquidated.

7.1.3 Advantages of an FMR System

Setting an Alternative Cost Standard

For some critics of the PFS, perhaps the most important advantage of an FMR system would be the creation of an alternative, credible cost standard for public housing. The Fair Market Rent systems examined in this chapter may have the potential to overcome two major perceived weaknesses of the Performance Funding System. The first weakness is the way in which PFS relates the subsidy received by a PHA to its actual operating environment and to a standard of efficient operation. The PFS attempts to do this on a statistical basis, by limiting allowable expenditures to the actual expenditures of agencies classified as "high performing" and by its "prototype cost equation." Because of problems in the methodology and data base, this classification was imperfect at the outset. In seventeen years, the way in which the PFS has been administered has gradually eroded the distinction between agencies initially classified as high- or low-performing. An FMR system, by contrast, assumes that the development of realistic and comprehensive standards against which to measure each PHA's performance would require a very large expenditure of research resources (as did the creation and application of a measurement system for modernization needs) and may not in the end produce realistic results. Hence, the FMR system takes as its payment standard the rents charged for decent housing in the local private market.

Another consideration key to the development of the FMR system is the lack of reliable information on the actual expenditures of agencies in providing housing services. One problem is "partial" bookkeeping. Some sources of assistance, such as CDBG modernization funds or state social service funds, are outside the scope of budgets submitted to HUD. Moreover, the amount of in-kind services provided by cities to their agencies varies dramatically, and the value of these services is not reflected in any budgets. Finally, the PFS has been a kind of self-fulfilling prophecy. If subsidies at some agencies have declined in real terms because of problems with the inflation adjustment or other factors, it is possible that some of the expenditures for operating public housing, used as the base for PFS calculations, today are less than that needed even for a well-managed agency. Alternatively, it is possible that base funding levels established for the PFS using historical spending levels in 1975 were too high and that, as a result, PFS funding continues to be too high for some agencies.

An FMR system for determining public housing subsidies would be externally anchored rather than self-referencing; that is, the funding levels and distribution would not be based on information about past or current spending by PHAs. Given the cost containment features of the PFS and its possible effects in seventeen years of operation, it is not clear that a credible cost standard could now be built using public housing data.

Management Incentives

The FMR funding systems contain several incentives for the PHA to conduct its operations efficiently. Some stem from the joint funding of operating and modernization activities, and some from other features of the funding formula. The incentive for linking the funding of operations and replacements or modernization is clear: the somewhat artificial boundary between maintenance and modernization would be eliminated.[14] Furthermore, the value of keeping current with routine maintenance would rise sharply—and hence the amount of rehabilitation and replacements required would fall—because there would be no additional funding source available for this purpose.[15] If these principles were effectively applied directly to individual developments through a capital-and-operations project-based budgeting *and* cost accounting system, very careful strategic economic decisions could be made at this level.

[14] In theory, modernization funds cannot now be used to handle deferred maintenance, but in practice these are often the only funds available and they are used for this purpose.

[15] Of course, this says nothing about clearance of the current modernization backlog.

The incentive for conserving on utilities would also be strengthened under an FMR system, as the agency would pay for 100 percent of any increase in consumption, compared with 50 percent in the current PFS system. Of course, it would also retain all savings from reduced consumption.

Another incentive for good management concerns the speed with which vacancies are filled. The FMR system would not make any payments on vacant units, paralleling the situation in the private market.[16] Payments would be resumed when the unit was reoccupied. This treatment contrasts sharply with that under the PFS, where subsidy *is* paid on vacant units.[17]

Administrative Simplicity

While the development of an FMR system would not require adjustment to the specific circumstances of each PHA, there would undoubtedly be complexities to the transition (discussed below). However, in a steady-state operation, an FMR system would be comparatively simple to operate. A good deal of the simplification would stem from the fact that the FMR system would not require the complex updating procedures now used to calculate the allowable utilities expense level of the PFS. Rather, one would start "fresh" each period. The computation of the aggregate subsidy requirement for use by HUD in proposing forward-year budgets would require projections only of the FMRs and of public housing tenant incomes. The FMR projection is already done for the Section 8 program as part of the budget process.[18]

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[16] This treatment is less generous than that under Section 8. If a certificate family leaves without notice and the unit is not rerented, the landlord can claim 80 percent of the following month's rent. However, landlords with voucher tenants cannot claim any of the following month's rent. These payments are contingent upon the unit not being vacant because the owner has violated the lease; also, the owner must be taking "all feasible action" to fill the vacancy. For details, see 24 C.F.R. S.882.105.

[17] The effect of vacancies is described more fully below. Also, paralleling the treatment in the PFS, the tenant's contribution to rent used in the formula is calculated assuming full collection efficiency; if the authority has poor collection performance, it has correspondingly fewer resources at its disposal.

[18] One minor complication in both predicting and allocating subsidies is that the approximate FMRs to be used would be lower at the beginning of the fiscal year, as the FMRs are published in March for comment and in the following October for effect. Thus, some adjustment (almost always upward) in the subsidies received by those PHAs that began their fiscal years in January and March would occur in the second half of their fiscal years. Those beginning their fiscal years in July and September could use the proposed FMRs in computing their budgets, although changes are sometimes made based on public comments.

The projection of incomes would be more difficult. First, for the aggregate budget request, HUD Central would have to make an informed assumption about the increase in tenant incomes over the next two years. Second, the individual PHA would have to forecast ahead one year. The FMR system would reconcile any differences between the projected and actual values in the subsequent funding year. In order to avoid unexpected shifts in subsidies, there is an incentive to the agencies to make these predictions as accurately as possible; on the other hand, there may be an incentive to estimate low to create a float.

To the extent that the projections of the FMRs or tenant incomes caused the subsidy requirements to be understated, a supplemental appropriation might be required, or it might be possible to incorporate the reconciliation into the next year's appropriation at PHA funding. This, of course, applies to the current system and to any other system, because of the advanced planning required in the federal budget process.

The role of the HUD Area Offices in this system could be reduced to monitoring the agencies' projected occupancy and income data; the need to check the AEL and AUEL and the subsidy calculations would be eliminated. Switching to an FMR system would mean that the field staff would be able to spend a somewhat greater share of time on quality control. More attention could be paid to monitoring PHA performance, to concerns with *outputs* rather than *inputs*. Field staff could also concentrate more on identifying management problems and working with agencies to develop solutions to them.

The overall burden on the PHA in obtaining funding would be reduced under an FMR system. The amount of work in applying for the operating subsidies would be reduced, as the paperwork required of the PHAs fell.[19] Although the Comprehensive Grant Program is expected to reduce modernization paperwork, the FMR system would be simpler still. On the other hand, PHAs would be likely to spend more time appealing the FMRs for their market areas.

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[19] As an example, Comprehensive Occupancy Plans (which set vacancy reduction goals) might well be eliminated.

7.1.4 Disadvantages of an FMR System

If we suspend judgment on questions about the basic comparability of operating conditions between public housing and Section 8, then the main potential disadvantages of adopting an FMR system as the funding mechanism for the public housing program lie in three areas:

- the system's inability to treat the substantial remaining backlog of PHA modernization needs;
- the implications of the system for continued operation of the public housing stock; and
- the magnitude of funding changes that would be faced by some PHAs.

Implications of the Modernization Backlog

The first of these problems can be viewed in two ways. Given the magnitude of the current modernization backlog despite several years of greatly increased CIAP funding (see Chapter 5), it can be argued that a sizeable annual increment beyond FMR funding would need to be appropriated by Congress to bring conditions in the public housing program up to the standard underlying the Section 8 Program (HUD's Housing Quality Standards). One version of the FMR systems simulated in this chapter adds a backlog increment equal to the CGP-funded backlog share. However, the exploration in Chapter 5 of different time horizons for funding the backlog suggested that appropriations on the order of $4.06 billion (58 percent above the FY 1992 Comprehensive Grant Program allocation) would be required annually to address the backlog in a 10-year period while also funding annual accrual.

The alternative view sees the backlog as dynamically affecting the operating conditions of PHAs and the accrual of new modernization needs in their housing stock. While the backlog exists, it has effects on management and maintenance, security, leasing, and occupancy, making all these ordinary functions harder to carry out and raising their costs. The implication of these facts for an FMR system is that they may reduce the similarities between public and private housing management and make it less appropriate to use the FMRs as a payment standard for PHAs' operations, particularly in the near future.

Long-Run Implications of an FMR System

What are the implications of an FMR system for the long-run operation of the public housing stock? While we will revisit this question in discussing the impacts of particular FMR system simulations, it is important to raise the general question early. One of the most significant differences between the FMR system concept and the current funding system for public housing lies in the payment of subsidy for occupied units only. In contrast to the PFS, which still gives base subsidy for all available units (although not making up for rental losses on vacancies above 3 percent),[20] the FMR system would provide no funding for vacant units. Housing agencies consider that the base subsidy payment for vacant apartments is necessary to cover the costs of repair, painting, heating, and otherwise maintaining them between tenants. Clearly, private landlords cover these expenses through ordinary rents; that is, apartment preparation and vacancy loss are normal operating expenses. For PHAs, there are also the costs of processing applicants off the waiting list to ascertain their eligibility and suitability for admission, under an extensive body of federal regulations. These costs are covered by the Section 8 administrative fee in an FMR-based system.

In later parts of this chapter, we will examine the funding consequences of putting an FMR system in place under current vacancy conditions in public housing. Given what we already know about the concentrations of vacancies related to troubled development conditions and environments and PHA management problems, substantial pressure on the PHAs to reduce the unoccupied stock can be anticipated. If this is combined with the notion of an FMR system with tenant mobility (akin to Section 8 portability), a dynamic process of interchange between affordable housing in the public and private markets could result, putting intense pressure on the public housing stock. A reconsideration of the statutory 1-for-1 required replacement of units would be necessary. More fundamentally, policy makers must consider whether the forces of the local market are the appropriate mechanism for making significant changes in the size and

[20] See the discussion of changes in vacancy policy and use of Comprehensive Occupancy Plans in Chapter 1 (Section 1.3) of this Report.

location of the public housing stock, given recent emphasis on long-term preservation of affordable housing.[21]

Magnitude of Funding Changes

The third potential disadvantage of adopting an FMR system as the funding mechanism for the public housing program is that it might mean changes of such magnitude in the funds available to some public housing agencies that they could no longer be able to operate. Some advocates of the FMR approach argue that the "shock treatment" the change would bring is healthy in the long run; if some PHAs are forced out of business, they must have been non-competitive to begin with, and other entities will acquire their housing and manage it better.

PHAs claim that a different set of standards has always been applied to public housing agencies, in comparison with private owners. They say examples abound: lead-paint abatement requirements, handicapped accessibility requirements, fair housing compliance, tenant grievance procedures—all currently require PHAs to meet stricter standards than private landlords, premised on a greater responsibility of public agencies. The costs of doing so are not well-covered by PFS or CGP, nor are the added costs stemming from security and tenant services needs. In recognition of these differences, an FMR system could be adjusted to compensate for these extra costs, or the additional requirements on PHAs could be reduced to match those of private owners. Indeed, unless recognized explicitly, the higher standards could contribute to forcing the financial collapse of some public housing developments, or even of some entire PHAs.

Other Disadvantages

A further problem area under an FMR system concerns the treatment of PHA utility costs. Under PFS, the calculation of the AUEL takes into account the agency's history of consumption, local rate changes, and actual costs. It is designed to cover the costs generated

[21] The recent legislation covering the federally assisted private properties with expiring use restrictions (the Preservation properties) has the objective of extending the operation of these properties for at least 50 years. Also, the emphasis in the HOME program on non-profit, community based development organizations also has the objective of long-term provision of affordable housing.

by older, inefficient systems as well as to partially recover (for HUD) the savings generated by investment in newer energy-efficient equipment.

A Fair Market Rent system, with the FMR level set relative to the private market, might not do as well as PFS in covering PHAs' actual utilities costs, particularly where costs were high. It would also prevent the federal government from realizing savings that are now accruing as a result of the substantial expenditures on utility conservation over the past fifteen years.

7.2 COSTS OF FMR SYSTEMS

In this section, we introduce the simulations of the three FMR systems we are examining. After describing the different simulations in Section 7.2.1 and examining the patterns of vacancies in PHAs (which play an important role in FMR systems) in Section 7.2.2, we turn to the costs of FMR systems. In Section 7.2.3, we describe the levels and distribution of funds that would be available to PHAs if an FMR system were put in place. These are compared to the funds available under PFS and CGP. We then examine subsidy payments under the three alternatives and compare them to the combined base case of operating and capital subsidy presented in Chapter 6.

The data set available for the Fair Market Rent analysis is a subset of the combined base case data set used in Chapter 6. To conduct the FMR analysis requires all of the following categories of data:

- data on PFS and CGP eligibility;
- Fair Market Rents;
- actual vacancy data at the PHA level; and
- imputed debt service data.

Of the 3,224 agencies in the combined base case analysis, 172 agencies lacked FMR data; these included all 169 Indian Housing Agencies and 3 territories (Puerto Rico, Guam, and the Virgin Islands). Many of them also lacked vacancy data. There remained 3,052 useable cases; of these, none lacked debt service information. The final FMR data set therefore contains 3,052 public housing agencies.

7.2.1 Description of the FMR Simulations

Alternative Models of FMR Systems

In order to assess the behavior of an FMR system for public housing subsidies, it is important to model alternative systems using a range of likely policy parameters. For this analysis, there appear to be three policy parameters of major interest:[22]

- whether the payments to PHAs should be understood to cover fully both operating and capital expenditures;
- the level of occupancy determining the total payment to the PHA; and
- whether there should be constraints on the degree to which PHAs would gain or lose from the switch to an FMR funding system.

With respect to the coverage of FMR payments, it is assumed that, *at the least,* operating subsidy, debt service, and accruing capital needs (repair, replacement, and improvement of the physical stock) would be covered. Housing agencies would have to run their operations and maintain their facilities, including future capital replacements and improvements, with funding from the combination of FMR payments, rents, and other income. The FMR payments would be net of the debt service payments HUD now makes on past development and modernization. The policy choice we have modeled is ***whether these FMR payments should also be assumed to address the current backlog of modernization needs.*** One variant among the FMR simulations is the addition of a backlog payment based on the Comprehensive Grant Program's backlog share examined in Chapter 4.

A second policy parameter involves the ***occupancy rate*** to be used in the determination of FMR payments. As Chapter 1 discussed, HUD has focused considerable attention in recent years on making modifications to the PFS that increase the incentives for PHAs to keep all their dwelling units occupied. At present, HUD considers 3 percent to be the "normal" vacancy rate and requires PHAs with higher vacancies to accept loss of rental income (uncompensated through adjustment of subsidy payment) on excess vacancies and receive only the base subsidy for these units, unless the agency is operating under an approved Comprehensive Occupancy Plan (COP). PHAs may prepare COPs detailing how excess vacancies will be eliminated within a 5-year

[22] The issue of tenant mobility is treated separately, in Section 7.3 below. Given the available data, no modeling can be done to reflect differences in the stock's physical or neighborhood characteristics.

period; if HUD approves, the agencies may then use the vacancy projections for PFS calculations during the 5-year period instead of the 3 percent standard. HUD has further proposed to reduce the level of "normal" vacancy from 3 to 2 percent, although Congress has prevented regulatory action.

The concept of an FMR system, by contrast, is that payments should be made only for occupied units; this is analogous to the way landlords receive rents in the private market and roughly analogous to the procedure in the Section 8 Voucher program.[23] Therefore, the two policy options we have modeled are basing FMR payments on 97 percent occupancy (equivalent to assuming that PHAs have dealt with excess vacancies during a period of transition to the FMR system) and basing the payments on actual occupancy rates (assuming no improvement).

The third policy parameter varied in the FMR simulations is the level of gain or loss in total subsidy to a PHA. Here, the question is whether the PHA should receive the full amount of FMR payments based on local private market rents or whether—for reasons both of limiting aggregate federal budget impact and preventing windfalls—there should be a cap on the increase in subsidy under an FMR system. If so, agencies standing to lose subsidy under this change in system would also have the amount of their loss limited, at least for some transition period.

For purposes of examining the behavior of an FMR system under likely combinations of these policy parameters, we have modeled the following three systems:

- an unconstrained FMR system (no limit to gains or losses of individual PHAs) covering all operating and capital needs;
- a constrained FMR system (limiting the individual agency gains or losses to 20 percent and phasing in the losses) covering all operating and capital needs; and
- a constrained FMR system combined with a payment to address the backlog of modernization needs.

[23] In contrast to certificate landlords, voucher landlords cannot claim any rent for the month after a tenant has vacated, even if no notice was given. However, they *can* retain the subsidy for the month the tenant left, as in the Certificate program.

Under each system, we have simulated the effects at maximum 3 percent vacancy[24] and at current actual vacancy rates for all PHAs. The derivation of the FMR payment amounts is detailed in Appendix D.

The first of these systems is closest in concept to private market operation. All current operating expenditures and all payments for past or present modernization (including debt service and direct outlays) would have to be made from the FMR-based funding and rents. No adjustment for the capital need backlog would be made. If the combination of rents and subsidy were insufficient to cover these, further accumulation of repair needs could be anticipated. Indeed, in the long run, abandonment or demolition of some public housing would likely occur. This is analogous to private market operators who (whether through market forces, causing a mismatch of rents and operating costs, or through business strategy) do not return cash to their buildings and end up abandoning or torching them. If the combination of rents and subsidy were larger than needed for current costs, an operating cash margin would exist which could be applied to debt service on loans to finance capital repairs and replacements.

The second system, through constraints on the degree of gain or loss to the PHAs, partially cushions the short-run consequences for the physical condition and operation of the public housing stock. It does so by limiting the loss of funding to a PHA in any one year to 5 percent and the total gain or loss to 20 percent.[25]

The third system combines an FMR-based payment with a capital funding increment. By adding an annual amount to address accumulated repair and replacement needs, the third system recognizes the desirability of preserving the stock and, therefore, the need to eliminate the backlog before PHA operating circumstances and costs can be reasonably compared to those of private market owners.

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[24] The simulation allows up to 3 percent vacancy for a PHA, but uses actual occupancy rates if they are greater than 97 percent.

[25] The selection of ± 20 percent as the constraint follows the example of HUD's 1982 Report.

7.2.2 The Role of Vacancies

As we have just discussed, occupancy rates play an important role in the concept and the simulation of FMR payment systems for PHAs. Occupancy rates measure the units in use; vacancy rates measure the remaining unused available units. It is useful to examine the distribution of current vacancies in the public housing stock as background to the FMR simulation results.

Exhibit 7.2 presents a comparison of the numbers of dwelling units that would be subsidized under an FMR system at full occupancy, at 97 percent occupancy, and at the rates of occupancy current in the public housing stock. These figures are shown for the same groupings of PHAs by size and region as we have used to display the simulation results in other chapters and as will be used for the FMR systems. While full occupancy for all the PHAs in this analysis amounts to 1.2 million housing units, actual occupancy stands at 1.1 million units, or 91.9 percent across the entire stock. Among size categories of PHAs, the highest vacancy rate is found among the extra-large agencies (particularly in the Midwest), and the lowest vacancy rates are seen among the small and very small PHAs. The small and the very small agencies in the Northeast are the only strata to have actual occupancy rates reaching 97 percent.

One might conclude from the data in Exhibit 7.2 that excess vacancies are found throughout the public housing stock, which might make the notion of an FMR system carrying the "discipline of the private market" more attractive.[26] But if the same occupancy data are measured at a lower level of aggregation—at the *development level* instead of the PHA level—an interesting pattern emerges. Exhibit 7.3 measures vacancy rates at 12,481 developments in 3,166 PHAs nationwide and shows that over half the developments have occupancy levels of 98 percent and better, with another 16 percent in the 3 to 5 percent vacant range. At the other extreme, 2 percent of all developments have vacancies in half or more of their units. Altogether, 17 percent of the developments show vacancy rates of 10 percent or more.

Our point is not to belittle the problem of vacant public housing units, which represent a waste of potential resources to house the many on PHA waiting lists who are in severe need

[26] Note that the vacancy loss in unassisted properties studied for the Evaluation of HUD-Insured Multifamily Housing was 8.2 percent. This is the combined effect of vacancies and uncollected rents, and we cannot separate them. But the figure suggests that in the private market, there may be "normal" vacancy rates above the 3 percent standard. In the assisted portion of the HUD-insured multifamily stock, which is more directly comparable to public housing, the vacancy loss rate was 2.9 percent.

Exhibit 7.2

PHA Unit Counts at Different Vacancy Thresholds

PHA Size/ Region	Number of Units Assuming: Full Occupancy	97 Percent Occupancy	Actual Occupancy	Overall Percent Actual Occupancy
Extra–Large	408,851	396,585	366,369	89.6%
Northeast	242,276	235,008	225,817	93.2
South	40,107	38,904	35,917	89.6
Midwest	104,120	100,996	83,092	79.8
West	22,348	21,678	21,543	96.4
Large	309,673	300,383	281,822	91.0
Northeast	101,320	98,280	93,264	92.0
South	81,193	78,757	75,741	93.3
Midwest	92,957	90,168	80,164	86.2
West	34,203	33,177	32,653	95.5
Medium	185,129	179,575	173,287	93.6
Northeast	55,138	53,484	51,774	93.9
South	53,701	52,090	50,352	93.8
Midwest	53,545	51,939	49,539	92.5
West	22,745	22,063	21,622	95.1
Small	257,770	250,037	244,589	94.9
Northeast	59,148	57,374	57,365	97.0
South	88,565	85,908	83,577	94.4
Midwest	93,637	90,828	87,796	93.8
West	16,420	15,927	15,851	96.5
Very Small	71,663	69,513	67,391	94.0
Northeast	6,813	6,609	6,628	97.3
South	15,384	14,922	14,615	95.0
Midwest	43,748	42,436	40,722	93.1
West	5,718	5,546	5,426	94.9
ALL	1,233,086	1,196,093	1,133,458	91.9
Northeast	464,695	450,754	434,848	93.6
South	278,950	270,582	260,202	93.3
Midwest	388,007	376,367	341,313	88.0
West	101,434	98,391	97,095	95.7%

Data Base: FMR Data Base.

Notes: 1. Overall percent occupancy calculated for all PHAs in each stratum, pooled.
2. Vacancy data current as of summer 1991.

Exhibit 7.3

Incidence of Public Housing Vacancies at the Development Level

Frequency and Percent by PHA Size and Region

PHA Size/ Region	Development Vacancy Rate: 0–2.9%		3–5.9%		6–9.9%		10–49.9%		50%+		Total	
Extra–Large	616	(54.1%)	126	(11.1%)	118	(10.4%)	215	(18.9%)	63	(5.5%)	1,138	(100.0%)
Northeast	351	(65.5)	36	(6.7)	39	(7.3)	89	(16.6)	21	(3.9)	536	(100.0)
South	77	(42.1)	38	(20.8)	33	(18.0)	25	(13.7)	10	(5.5)	183	(100.0)
Midwest	135	(37.4)	50	(13.9)	44	(12.2)	100	(27.7)	32	(8.9)	361	(100.0)
West	53	(91.4)	2	(3.4)	2	(3.4)	1	(1.7)	0	(0.0)	58	(100.0)
Large	1,263	(55.4)	420	(18.4)	243	(10.7)	293	(12.9)	61	(2.7)	2,280	(100.0)
Northeast	369	(57.3)	115	(17.9)	68	(10.6)	75	(11.6)	17	(2.6)	644	(100.0)
South	291	(58.0)	101	(20.1)	45	(9.0)	50	(10.0)	15	(3.0)	502	(100.0)
Midwest	271	(41.3)	131	(20.0)	93	(14.2)	136	(20.7)	25	(3.8)	656	(100.0)
West	332	(69.5)	73	(15.3)	37	(7.7)	32	(6.7)	4	(0.8)	478	(100.0)
Medium	1,216	(58.0)	340	(16.2)	243	(11.6)	272	(13.0)	25	(1.2)	2,096	(100.0)
Northeast	327	(58.5)	94	(16.8)	59	(10.6)	73	(13.1)	6	(1.1)	559	(100.0)
South	315	(57.4)	108	(19.7)	48	(8.7)	71	(12.9)	7	(1.3)	549	(100.0)
Midwest	295	(49.0)	97	(16.1)	99	(16.4)	103	(17.1)	8	(1.3)	602	(100.0)
West	279	(72.3)	41	(10.6)	37	(9.6)	25	(6.5)	4	(1.0)	386	(100.0)
Small	2,718	(58.5)	789	(17.0)	448	(9.6)	629	(13.5)	61	(1.3)	4,645	(100.0)
Northeast	621	(73.8)	109	(13.0)	47	(5.6)	61	(7.3)	3	(0.4)	841	(100.0)
South	973	(54.9)	323	(18.2)	181	(10.2)	264	(14.9)	31	(1.7)	1,772	(100.0)
Midwest	813	(50.5)	305	(18.9)	187	(11.6)	284	(17.6)	21	(1.3)	1,610	(100.0)
West	311	(73.7)	52	(12.3)	33	(7.8)	20	(4.7)	6	(1.4)	422	(100.0)
Very Small	1,245	(53.6)	306	(13.2)	286	(12.3)	461	(19.9)	24	(1.0)	2,322	(100.0)
Northeast	124	(76.5)	20	(12.3)	9	(5.6)	8	(4.9)	1	(0.6)	162	(100.0)
South	330	(61.0)	75	(13.9)	59	(10.9)	69	(12.8)	8	(1.5)	541	(100.0)
Midwest	674	(47.2)	189	(13.2)	201	(14.1)	349	(24.4)	15	(1.1)	1,428	(100.0)
West	117	(61.3)	22	(11.5)	17	(8.9)	35	(18.3)	0	(0.0)	191	(100.0)
ALL	7,058	(56.5%)	1,981	(15.9%)	1,338	(10.7%)	1,870	(15.0%)	234	(1.9%)	12,481	(100.0%)

Data Base: FORMS; 12,955 developments in 3,166 PHAs.

Notes: 1. Data set includes no IHAs.
2. Parentheses indicate percent of developments in that PHA Size/Region strata.
3. Cross–checking the number of units in PHAs against the fiscal data survey indicates not all projects are covered in FORMS.
4. No PHA match could be made for 322 developments; they are excluded from this table. Vacancy data were missing for an additional 152 developments.

of housing. But it cannot be assumed that these vacancies could be readily filled if PHAs were better managed. The pattern of concentration of vacancies in a relatively small proportion of all developments points to ***the likelihood that many of these vacancies are related to modernization need in one of two ways***:

- either the units are empty in the context of comprehensive modernization projects under CIAP (which may well be of such scope and/or involve such hazards as to necessitate moving the occupants out of units undergoing rehabilitation), or

- they are units in buildings or developments with an accumulation (backlog) of capital needs so severe as to make them uninhabitable until modernization is accomplished or a demolition/disposition decision is made.

In either of these cases, there would be policy issues to resolve concerning de-funding these vacancies in an FMR system. Just as there is a strong argument for providing additional resources to PHAs to address backlog modernization needs under FMR funding, so too is there an argument for maintaining the coverage by the subsidy system of units in need of modernization, until the backlog is cleared. Among other things, the units must be heated and the buildings and grounds maintained and secured until the modernization work is complete. Under PFS, the PHAs do receive the basic subsidy payment for these units; if the units are covered under a Comprehensive Occupancy Plan because they are part of an on-schedule CIAP project, the agency also receives extra subsidy to make up the loss of rental income. The transition to an FMR system would undoubtedly need to address this argument. Thus, even though the simulation of FMR funding at actual occupancy rates in the next section excludes all vacant units from subsidy payments, it must be remembered that a real FMR system may or may not do so.[27]

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[27] A treatment of the backlog and vacancy question which is more theoretically consistent with the private market FMRs would be to calculate the cost of amortizing the capital investment needed to bring the housing up to decent, safe, and sanitary condition. If adding to operating costs and existing debt service this new debt service (required to fund the backlog repairs and replacements) would make the total exceed the FMR, then a more fundamental question would be posed: whether there was sufficient need for returning these units to the low-income stock to justify the extra investment, or whether the lower FMR level signalled that there was already sufficient supply in this part of the market. The analysis is beyond the scope of our study, in that it must be conducted with data for specific PHAs and specific local housing markets.

7.2.3 Cost Comparisons Among FMR Systems

In this section are presented the results of simulating the three different FMR systems described above:

- an unconstrained FMR system (no limit to gains or losses of individual PHAs) covering all operating and capital needs;
- a constrained FMR system (limiting the individual gains or losses to 20 percent) covering all operating and capital needs; and
- a constrained FMR system combined with a payment to address the backlog of modernization needs.

Recall that the primary elements of the FMR calculations are the Fair Market Rents for the local area of the PHA, the agency's rent roll (reflecting the mix of tenant incomes, but not reflecting differences in utility configuration or ability to collect the rents charged), and the debt service owed on bond-financed construction and modernization.[28] Note, too, that the debt service amounts do not now figure in the PFS calculation; they are paid directly by HUD or the Treasury on the bonds held by private entities.

Exhibit 7.4 provides information on the three main elements in the FMR simulations—the Fair Market Rents, the rent rolls, and debt service costs. It shows that average FMRs for a two bedroom apartment range from $751 a month for the extra-large housing agencies in the West down to $370 for the very small PHAs in the South. The average FMRs follow in magnitude the PHA size categories, with the highest at $589 for the extra-large agencies and the lowest at $405 for the very small ones.

The center column of Exhibit 7.4 displays average per unit rent roll figures for the PHA groups by size and region. These are the rents calculated on the basis of tenant incomes and charged to the residents of the PHAs' developments. (Some percentage of these rents will go uncollected.) Nationwide, the average public housing rent was $129. The average rents are highest in the Northeast and lowest in the South. They are also highest for extra-large PHAs and lowest for very small agencies.

The rent figures shown in Exhibit 7.4, in some cases, reflect reductions to allow for tenant-paid utilities. In a unit where the PHA pays all utilities, tenant rent is simply 30 percent

[28] The calculations use data on *imputed* debt service, as discussed further below.

Exhibit 7.4

Levels of Fair Market Rents, Tenant Rents, and Debt Service by PHA Strata

PHA Size/ Region	Average Two Bedroom Fair Market Rent 1992	Average Per Unit Tenant Rent 1992	Debt Service Per Unit Month 1989
Extra–Large	$589	$143.64	$133.78
Northeast	646	179.19	141.31
South	507	96.43	118.12
Midwest	518	119.39	123.01
West	751	188.28	130.19
Large	517	134.87	165.90
Northeast	579	171.33	199.15
South	429	105.14	123.46
Midwest	478	100.15	166.92
West	603	161.53	163.45
Medium	505	140.59	158.42
Northeast	598	191.93	184.19
South	429	107.66	121.08
Midwest	450	105.25	165.85
West	596	179.27	164.46
Small	441	136.15	156.36
Northeast	569	205.13	199.45
South	384	113.26	127.53
Midwest	407	115.34	155.11
West	538	158.18	165.17
Very Small	405	121.54	164.92
Northeast	602	203.03	243.22
South	370	101.41	146.04
Midwest	383	116.79	156.37
West	477	134.32	186.28
ALL	433	129.47	152.08
Northeast	583	198.97	168.05
South	385	108.03	124.82
Midwest	396	115.47	150.86
West	$521	$149.71	$157.97

Data Base: FMR Data Base.

Notes:
1. Average FMRs in this exhibit are not weighted by size of PHA. FMRs were adjusted from 1990 to 1992 levels using the national GNP inflator. Therefore, they may not match actual 1992 FMRs, for which no data set was available.
2. Debt service data represent imputed debt service. See text for discussion.
3. Debt Service PUM figures are calculated using a special count of debt service units, supplied by HUD.
4. Debt service does not include interest on any capital bonds for modernization issued after 1989, due to lack of data. Totals are kept in 1989 dollars, consistent with fixed rate loan payments.

of adjusted tenant income. However, across the country there are numerous other configurations of utility payments: the tenant may pay all utilities or only certain ones (e.g., electricity and gas for cooking but not heat).

Thus, the rent roll data used in this simulation reflect a mix of utility configurations. It would be preferable to use gross tenant rent, before any utility allowances, in calculating the FMR subsidy.[29] However, there are not data available at this time to identify PHAs with tenant-paid utilities or to adjust for them.[30]

Wide variations in (imputed) debt service are suggested by the debt service per unit month figures in the last column of Exhibit 7.4. Some of the lowest amounts are for the largest PHAs; extra-large PHAs as a group, and particularly those in the South and Midwest, show the lowest per-unit figures. By contrast, there are relatively high debt service amounts PUM for the very small agencies in the Northeast and West, as well as the large and small PHAs in the Northeast. The main underlying source of variation is likely to be the age of housing stock: older stock carries older and lower debt service, in contrast to the newer stock owned by the smaller agencies. Debt service for modernization would alter this pattern somewhat, but we have seen that the flow of CIAP funding over time was not particularly to the largest agencies with the oldest stock.

Overall, some $2.2 billion dollars in debt service was attributable to public housing nationwide. The debt service data were adjusted by HUD to include both actual and *imputed* debt service up to 1989.[31] Imputation was necessary because of the variety of ways that public housing debt has been handled. Following the passage of the Tax Reform Act of 1983, which removed the tax-exempt status of public housing notes, the Federal government paid off the outstanding notes issued to cover the costs of development or modernization of public housing

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[29] If net rather than gross tenant rents were used, PHAs where tenants shared utility costs would receive a greater subsidy than agencies where all utilities were paid by the PHA. In the Section 8 program, this situation is avoided by varying the negotiated rent in relation to what services the landlord provides. Since an FMR system for public housing would not vary the payment standard, the equivalent result would be obtained by using gross rather than net tenant rent figures in the calculation of subsidy.

[30] A HUD analysis of 1989 American Housing Survey (AHS) data suggests that between 12 and 20 percent of all public housing tenants pay directly for some or all utilities, and that the aggregate total amount of these payments was about $300 million in 1989. This translates to roughly $333 million in 1992 dollars.

[31] No data are available on debt service incurred after 1989.

projects and subsequently forgave PHA debts covered by these notes. Excluding financing from 1980 through 1984 (when notes were sold to the Federal Financing Bank), project financing from 1974 onward has been paid off by the Federal Government and the debt of the PHA forgiven. Beginning in FY 1987, development and modernization have been financed by up-front capital grants, rather than through long-term financing.

Thus, the amount of debt at a given PHA is dependent upon the timing of its permanent financing arrangements for specific projects. For example, if a development project was completed in 1973, there would be unforgiven outstanding long-term bonds associated with the project; if completed in 1975, the debt would have been forgiven; and if completed in 1981, there would be notes held by the Federal Financing Bank associated with the project. The variation in remaining debt service from PHA to PHA is large: Seattle's unforgiven debt service is 1 percent of what it would otherwise be, while Chicago's is 47 percent. Modernization is paid for in the same way as development, that is through bonds or notes, or direct grants, depending upon when the work was undertaken and completed.

Finally, it should be remembered that, when the Federal government paid off the notes in 1984, it was not done with surplus cash. In essence, Treasury debt was exchanged for the outstanding notes, and so the government continues to pay on the debt incurred to develop or modernize public housing projects. In order to remove the effects of this difference in treatment between old and new debt *from the simulations*, it is appropriate to add back the amounts actually forgiven by HUD or being paid by the Treasury and use a debt service figure that is comparable in coverage from agency to agency.

An Unconstrained FMR System

Let us first examine the elements of the financial picture for two hypothetical housing agencies, in order to have some sense of how an unconstrained FMR funding system might be put together. In these examples, which are loosely based on real PHAs, we will look at the elements relevant to FMR calculations and the resulting total amount of funds available to the PHAs. We will also compare the subsidy under an unconstrained FMR system with the current system (combined base case).

EXAMPLE 1: SMALL TOWN HOUSING AGENCY

Total Units:	150 (Size: Small)
Percent Occupancy:	100%
Two Bedroom FMR:	$ 673.00
Gross FMR Amount PUM:	$ 635.88
Estimated Debt Service PUM:	$ 118.52
Funds Available PUM:	$ 517.36
Average Tenant Rent:	$ 212.80
FMR Subsidy PUM:	$ 304.56
Current Subsidy PUM:	$ 139.59[32]

Example 1 is a small public housing agency. It has 150 units, all occupied. The average rent charged its residents is about $213, and the 1992 Fair Market Rent for a two-bedroom apartment is $673. Combining FMR levels with this PHA's unit size distribution and adding the administrative fee gives a gross annual FMR amount of $1.1 million dollars, or $636 per unit month. From this would be subtracted estimated debt service PUM of about $119. The PHA would thus have about $517 per unit per month to carry out its operations. After subtracting the portion that would be provided by the collection of tenant rents, the FMR-based subsidy would be $305, in contrast to a current subsidy amount (PFS plus CGP) of $140.

[32] Combined base case (PFS + CGP).

	EXAMPLE 2: BIG CITY HOUSING AGENCY	
	Total Units:	10,000 (Size: Extra-Large)
	Percent Occupancy:	82.9%
	Average Tenant Rent:	$165.17
	Two Bedroom FMR	$421.00
(Full Occupancy)	Gross FMR Amount PUM:	$458.13
	Estimated Debt Service PUM:	$168.77
	Funds Available PUM:	$289.36
	Average Tenant Rent:	$165.17
	FMR Subsidy PUM:	$124.19
(97% Occupancy)	Gross FMR Amount PUM:	$444.38
	Estimated Debt Service PUM:	$168.77
	Funds Available PUM:	$275.61
	Average Tenant Rent:	$165.17
	FMR Subsidy PUM:	$110.44
(Actual Occupancy)	Gross FMR Amount PUM:	$379.58
	Estimated Debt Service PUM:	$168.77
	Funds Available PUM:	$210.82
	Funds Available per *Occupied* Unit Month:	$254.29
	Average Tenant Rent:	$165.17
	FMR Subsidy PUM:	$ 45.65
	Current Subsidy PUM:	$372.71[33]

Example 2 is a hypothetical extra-large PHA. The agency operates 10,000 units, of which about 83 percent are currently occupied. The two-bedroom FMR is $421, the average tenant rent $165. This PHA's gross FMR amount (combining FMR levels with the distribution of unit sizes, and adding the administrative fee) per unit month would be over $458 if all its

[33] Combined base case (PFS + CGP).

units were occupied, $444 at 97 percent occupancy, and around $380 at the actual occupancy rate. Because the FMR funding must also cover debt service in the amount of $169 PUM, the total funds available per unit month to the PHA for operations and modernization would be $211 at the current occupancy level and about $276 at 97 percent occupancy (if vacancies were reduced to 3 percent).

These figures are calculated across all the PHA's units, for comparability. Based on *occupied* unit months, the PUM funds available are $254, in contrast to $211. This $43 difference is the effect of high vacancies. Because of the high actual vacancy rate, the relatively low FMR, and the relatively high debt service, this PHA would have $327 less subsidy per unit month to operate its housing than the current subsidy of $373 under the combination of PFS and CGP.

In the simulations we have conducted of various FMR systems, there are agencies like each of these examples, as well as many with different situations. But the elements of the calculation are the same: FMR levels, numbers and sizes of occupied units, the 7 percent administrative fee, tenant rents, and debt service. They can be used to develop a picture of total funds available to the PHAs and then of federal subsidy required for the public housing program as a whole.

The first simulation of an entire Fair Market Rent system is for *an unconstrained FMR system.* As in the two examples just examined, total funds available equals the gross FMR amount (the sum of FMRs by unit size plus the administrative fee) minus debt service.[34] Note that the gross FMR amount could vary with occupancy levels, but the debt service deduction is the same regardless of high or low vacancies.[35]

We now turn our attention to the total federal subsidy required by the unconstrained FMR system, and we will compare it to the federal budget requirements of the combined base case presented in Chapter 6. Exhibit 7.5 presents the unconstrained FMR system, showing the total dollar amounts of federal subsidy (net of PHA rents) by PHA size and region. At full occupancy, the FMR system without constraints (no limits to the extent of gain or loss for

[34] This is equivalent to the sum of federal subsidy payment plus rent roll, since federal subsidy equals the gross FMR amount including the administrative fee) minus the rent roll and minus the debt service.

[35] This fixed debt payment is typical of the private sector, too.

Exhibit 7.5

Federal Subsidy Under an Unconstrained FMR System at Different Vacancy Thresholds

PHA Size/ Region	Total Federal Subsidy, Unconstrained FMR at: Full Occupancy	97 Percent Occupancy	Actual Occupancy	Percent Difference (Full – Actual)
Extra–Large	$1,725,785,984	$1,675,933,150	$1,459,547,943	15.4%
Northeast	962,049,790	941,990,818	850,220,531	11.6
South	172,922,166	166,047,053	147,578,916	14.7
Midwest	457,485,238	439,259,354	334,959,688	26.8
West	133,328,791	128,635,925	126,788,808	4.9
Large	977,011,679	935,751,420	830,817,912	15.0
Northeast	296,385,105	282,801,449	254,019,928	14.3
South	252,516,019	242,971,897	226,385,825	10.3
Midwest	283,417,857	270,155,493	215,492,418	24.0
West	144,692,697	139,822,581	134,919,741	6.8
Medium	550,750,182	529,336,526	495,542,294	10.0
Northeast	156,298,341	149,835,057	140,859,634	9.9
South	161,974,773	156,462,128	147,107,207	9.2
Midwest	139,754,937	133,407,824	121,483,938	13.1
West	92,722,131	89,631,516	86,091,515	7.2
Small	558,046,849	537,383,312	507,922,669	9.0
Northeast	134,035,342	129,843,106	125,939,662	6.0
South	197,571,658	190,040,702	179,098,009	9.4
Midwest	178,252,623	170,479,267	157,270,021	11.8
West	48,187,225	47,020,237	45,614,978	5.3
Very Small	122,490,229	118,281,547	109,406,683	10.7
Northeast	14,503,066	14,123,596	13,622,269	6.1
South	31,014,816	30,083,146	28,543,123	8.0
Midwest	63,225,932	60,681,121	54,601,312	13.6
West	13,746,415	13,393,684	12,639,980	8.0
ALL	3,934,084,923	3,796,685,954	3,403,237,501	13.5
Northeast	1,563,271,644	1,518,594,026	1,384,662,022	11.4
South	815,999,432	785,604,926	728,713,079	10.7
Midwest	1,122,136,588	1,073,983,059	883,807,377	21.2
West	$432,677,260	$418,503,944	$406,055,022	6.2%

Data Base: FMR Data Base.
Notes: Total Federal subsidy equals the FMR amount (adjusted for vacancies) minus estimated debt service and minus tenant rents (adjusted for vacancies).

individual PHAs) would cost the federal government $3.9 billion in 1992 dollars. Of this, $1.7 billion would be allocated to extra-large PHAs, just under $1 billion to large PHAs, and smaller amounts to the other size categories.

To see the effect of vacancies on federal subsidy, the simulation is shown at full occupancy, at 97 percent occupancy, and at current actual occupancy rates. The total cost of this FMR system to the federal government, were it to cover only occupied units and were all PHAs with lower rates to bring their occupancy up to 97 percent, would be $3.8 billion.

The federal budget allocation required for an unconstrained FMR system at actual occupancy rates would be less still, at $3.4 billion. This is 86.5 percent of the full occupancy total. The extra-large and large agencies lose about 15 percent of their funding relative to full occupancy, because they have the greatest concentrations of vacancies; in general, the differences are least for Western PHAs and for small and very small agencies in the Northeast.

How do the levels of federal subsidy required under an unconstrained FMR system compare to the current levels of PFS and Comprehensive Grant Program monies? Recall that the combined base case, which was described in Chapter 6, adds together the results of the PFS formula and the CGP formula (at FY 1992's appropriation). Exhibit 7.6 indicates that the combined amount for the PHAs in the FMR analysis is $4.3 billion.[36] The unconstrained FMR system at 97 percent occupancy represents a reduction in aggregate subsidy funding of 12.6 percent; at actual occupancy rates, the FMR total subsidy is 21.6 percent less than the combined base case.

These would be substantial reductions in subsidy from the PFS plus Comprehensive Grant Program total.[37] However, there are variations relative to the combined base case for particular size and region groups. The largest subsidy loss would be taken by the Midwestern extra-large PHAs; if FMR payments were based on current vacancy rates, this group would lose nearly half of its total subsidy. At actual occupancy, the groups showing the next highest aggregate losses are the large PHAs in the Northeast and Midwest and the very small agencies in the Midwest.

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[36] The excluded Indian Housing Authorities and Territories account for the remaining portion of the $4.8 billion.

[37] Recall, too, that the FMR subsidy may be overstated by about $333 millon because data are not available to adjust for tenant utility payments.

Exhibit 7.6

Federal Subsidy Under an Unconstrained FMR System Compared to the Combined Base Case

PHA Size/ Region	Combined Base Case Subsidy	Total Federal Subsidy: Unconstrained FMR		Percent Difference from Base	
		97 Percent Occupancy	Actual Occupancy	FMR 97 Percent	FMR Actual
Extra-Large	$2,035,504,937	$1,675,933,150	$1,459,547,943	(17.7%)	(28.3%)
Northeast	1,204,242,581	941,990,818	850,220,531	(21.8)	(29.4)
South	154,603,105	166,047,053	147,578,916	7.4	(4.5)
Midwest	584,577,316	439,259,354	334,959,688	(24.9)	(42.7)
West	92,081,935	128,635,925	126,788,808	39.7	37.7
Large	1,069,497,038	935,751,420	830,817,912	(12.5)	(22.3)
Northeast	375,318,290	282,801,449	254,019,928	(24.7)	(32.3)
South	272,007,779	242,971,897	226,385,825	(10.7)	(16.8)
Midwest	305,767,005	270,155,493	215,492,418	(11.6)	(29.5)
West	116,403,964	139,822,581	134,919,741	20.1	15.9
Medium	488,490,062	529,336,526	495,542,294	8.4	1.4
Northeast	144,339,132	149,835,057	140,859,634	3.8	(2.4)
South	141,386,551	156,462,128	147,107,207	10.7	4.0
Midwest	141,517,990	133,407,824	121,483,938	(5.7)	(14.2)
West	61,246,389	89,631,516	86,091,515	46.3	40.6
Small	596,196,713	537,383,312	507,922,669	(9.9)	(14.8)
Northeast	139,966,062	129,843,106	125,939,662	(7.2)	(10.0)
South	207,812,976	190,040,702	179,098,009	(8.6)	(13.8)
Midwest	210,349,968	170,479,267	157,270,021	(19.0)	(25.2)
West	38,067,707	47,020,237	45,614,978	23.5	19.8
Very Small	152,974,534	118,281,547	109,406,683	(22.7)	(28.5)
Northeast	17,098,646	14,123,596	13,622,269	(17.4)	(20.3)
South	38,155,928	30,083,146	28,543,123	(21.2)	(25.2)
Midwest	83,797,615	60,681,121	54,601,312	(27.6)	(34.8)
West	13,922,345	13,393,684	12,639,980	(3.8)	(9.2)
ALL	4,342,663,284	3,796,685,954	3,403,237,501	(12.6)	(21.6)
Northeast	1,880,964,712	1,518,594,026	1,384,662,022	(19.3)	(26.4)
South	813,966,338	785,604,926	728,713,079	(3.5)	(10.5)
Midwest	1,326,009,893	1,073,983,059	883,807,377	(19.0)	(33.3)
West	$321,722,341	$418,503,944	$406,055,022	30.1%	26.2%

Data Base: FMR Data Base.

Notes:
1. As compared to Table 6.1, the combined base case figures differ because Indian HAs and Territories are excluded from the FMR analysis.
2. Combined Base Case equals PFS subsidy plus CGP subsidy.
3. FMR subsidy equals the FMR amount (adjusted for vacancies) minus estimated debt service and minus tenant rents (adjusted for vacancies).
4. FMR subsidy may be overstated by about $333 million because no data are available to adjust for tenant-paid payments.

Not visible in the grouped data is the fact that 187 PHAs show not just reduced but negative subsidy amounts *even at full occupancy*, as a result of a combination of relatively low Fair Market Rents and relatively high debt service. This group expands to 198 when the FMR payments cover 97 percent of the units and to 248 when payment is only for occupied units. (For simulation purposes, it was assumed that these agencies would receive no subsidy but that HUD or the Treasury would continue to fund any uncovered debt service amounts.)

In Exhibit 7.7, the degree of gain or loss in total subsidy payments at 97 percent occupancy is shown in terms both of the proportion of PHAs in each category and the proportion of public housing units. Under an FMR system at 97 percent occupancy, 50 percent of all PHAs would lose 20 percent or more of their subsidy relative to the combined PFS and CGP. These agencies operate 47.6 percent of the dwelling units in this analysis; they are spread over all size categories and regions, although the West is least affected by reductions. At the other end of the distribution, 22.8 percent of the PHAs would increase their total subsidy by more than 20 percent. The agencies with gains of 20 percent or more operate 18.4 percent of the public housing in this analysis.

The same information is shown for an FMR system at current actual occupancy in Exhibit 7.8. Consistent with the pattern of vacancies, the biggest changes from the 97 percent system occur in the extra-large and large size categories; now 55.2 percent of all the agencies (including 54.5 percent of the extra-large and 60.2 percent of the very small ones) would lose at least 20 percent of the combined PFS and CGP subsidy; they operate nearly 60 percent of all the public housing units in this analysis. Twenty percent of the PHAs (accounting for 16.8 percent of the dwellings) still would gain by 20 percent or more under an FMR system at actual occupancy rates.

Our primary findings about an unconstrained FMR system are as follows:

- The amounts of funds available under this system are affected by FMR levels, tenant rents, debt service payments, unit size distributions, and occupancy rates. The occupancy level is the only one of these factors under PHA control.

- Subsidy costs to the federal government for an unconstrained FMR system would total \$3.8 billion at 97 percent occupancy and \$3.4 billion at actual occupancy levels. These figures represent 12.6 percent and 21.6 percent less, respectively, than the combination of PFS and CGP payments in FY 1992.

Exhibit 7.7

Percent Change in Subsidy Under an Unconstrained FMR System at 97 Percent Occupancy

PHA Size/ Region	Loss > 20%		Loss 10–20%		Loss 0.1–9.9%		Gain 0–9.9%		Gain 10–20%		Gain > 20%		Total	
	PHAs	Units	PHAs	Units	PHAs	Units	PHAs	Units	PHAs	Units	PHAs	Units	PHAs	Units
Extra-Large	9	253,291	3	54,126	2	20,563	3	34,450	2	19,241	3	27,180	22	408,851
	(40.9)	(62.0)	(13.6)	(13.2)	(9.1)	(5.0)	(13.6)	(8.4)	(9.1)	(4.7)	(13.6)	(6.6)	(100.0)	(100.0)
Northeast	5	217,891	0	0	0	0	1	11,786	1	12,599	0	0	7	242,276
	(71.4)	(89.9)	(0.0)	(0.0)	(0.0)	(0.0)	(14.3)	(4.9)	(14.3)	(5.2)	(0.0)	(0.0)	(100.0)	(100.0)
South	0	0	2	14,007	0	0	1	14,626	0	0	1	11,474	4	40,107
	(0.0)	(0.0)	(50.0)	(34.9)	(0.0)	(0.0)	(25.0)	(36.5)	(0.0)	(0.0)	(25.0)	(28.6)	(100.0)	(100.0)
Midwest	4	35,400	1	40,119	2	20,563	1	8,038	0	0	0	0	8	104,120
	(50.0)	(34.0)	(12.5)	(38.5)	(25.0)	(19.7)	(12.5)	(7.7)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(100.0)
West	0	0	0	0	0	0	0	0	1	6,642	2	15,706	3	22,348
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(29.7)	(66.7)	(70.3)	(100.0)	(100.0)
Large	44	117,568	22	50,141	15	37,147	15	36,427	6	15,927	24	52,463	126	309,673
	(34.9)	(38.0)	(17.5)	(16.2)	(11.9)	(12.0)	(11.9)	(11.8)	(4.8)	(5.1)	(19.0)	(16.9)	(100.0)	(100.0)
Northeast	22	50,394	7	13,812	4	9,508	5	10,802	2	3,554	8	13,250	48	101,320
	(45.8)	(49.7)	(14.6)	(13.6)	(8.3)	(9.4)	(10.4)	(10.7)	(4.2)	(3.5)	(16.7)	(13.1)	(100.0)	(100.0)
South	7	21,114	9	24,902	5	12,517	4	7,872	1	1,326	6	13,462	32	81,193
	(21.9)	(26.0)	(28.1)	(30.7)	(15.6)	(15.4)	(12.5)	(9.7)	(3.1)	(1.6)	(18.8)	(16.6)	(100.0)	(100.0)
Midwest	14	44,810	4	7,276	4	9,534	5	15,129	2	9,182	4	7,026	33	92,957
	(42.4)	(48.2)	(12.1)	(7.8)	(12.1)	(10.3)	(15.2)	(16.3)	(6.1)	(9.9)	(12.1)	(7.6)	(100.0)	(100.0)
West	1	1,250	2	4,151	2	5,588	1	2,624	1	1,865	6	18,725	13	34,203
	(7.7)	(3.7)	(15.4)	(12.1)	(15.4)	(16.3)	(7.7)	(7.7)	(7.7)	(5.5)	(46.2)	(54.7)	(100.0)	(100.0)
Medium	74	58,841	22	16,674	27	20,431	20	14,519	13	9,636	88	65,028	244	185,129
	(30.3)	(31.8)	(9.0)	(9.0)	(11.1)	(11.0)	(8.2)	(7.8)	(5.3)	(5.2)	(36.1)	(35.1)	(100.0)	(100.0)
Northeast	24	18,788	9	7,141	6	4,572	2	1,561	5	4,227	25	18,849	71	55,138
	(33.8)	(34.1)	(12.7)	(13.0)	(8.5)	(8.3)	(2.8)	(2.8)	(7.0)	(7.7)	(35.2)	(34.2)	(100.0)	(100.0)
South	20	16,612	5	3,262	10	7,467	8	5,829	4	2,711	25	17,820	72	53,701
	(27.8)	(30.9)	(6.9)	(6.1)	(13.9)	(13.9)	(11.1)	(10.9)	(5.6)	(5.0)	(34.7)	(33.2)	(100.0)	(100.0)
Midwest	27	20,831	8	6,271	9	7,308	7	5,306	4	2,698	15	11,131	70	53,545
	(38.6)	(38.9)	(11.4)	(11.7)	(12.9)	(13.6)	(10.0)	(9.9)	(5.7)	(5.0)	(21.4)	(20.8)	(100.0)	(100.0)
West	3	2,610	0	0	2	1,084	3	1,823	0	0	23	17,228	31	22,745
	(9.7)	(11.5)	(0.0)	(0.0)	(6.5)	(4.8)	(9.7)	(8.0)	(0.0)	(0.0)	(74.2)	(75.7)	(100.0)	(100.0)
Small	592	119,078	85	18,397	85	20,371	66	15,507	77	17,278	286	67,139	1,191	257,770
	(49.7)	(46.2)	(7.1)	(7.1)	(7.1)	(7.9)	(5.5)	(6.0)	(6.5)	(6.7)	(24.0)	(26.0)	(100.0)	(100.0)
Northeast	134	29,041	4	1,333	11	3,344	6	1,587	18	4,299	75	19,544	248	59,148
	(54.0)	(49.1)	(1.6)	(2.3)	(4.4)	(5.7)	(2.4)	(2.7)	(7.3)	(7.3)	(30.2)	(33.0)	(100.0)	(100.0)
South	175	37,233	39	8,173	38	9,141	29	6,567	21	4,764	95	22,687	397	88,565
	(44.1)	(42.0)	(9.8)	(9.2)	(9.6)	(10.3)	(7.3)	(7.4)	(5.3)	(5.4)	(23.9)	(25.6)	(100.0)	(100.0)
Midwest	264	49,253	36	7,695	31	6,831	24	5,717	33	6,839	80	17,302	468	93,637
	(56.4)	(52.6)	(7.7)	(8.2)	(6.6)	(7.3)	(5.1)	(6.1)	(7.1)	(7.3)	(17.1)	(18.5)	(100.0)	(100.0)
West	19	3,551	6	1,196	5	1,055	7	1,636	5	1,376	36	7,606	78	16,420
	(24.4)	(21.6)	(7.7)	(7.3)	(6.4)	(6.4)	(9.0)	(10.0)	(6.4)	(8.4)	(46.2)	(46.3)	(100.0)	(100.0)
Very Small	808	38,106	113	6,032	102	5,174	83	4,048	67	3,292	296	15,011	1,469	71,663
	(55.0)	(53.2)	(7.7)	(8.4)	(6.9)	(7.2)	(5.7)	(5.6)	(4.6)	(4.6)	(20.1)	(20.9)	(100.0)	(100.0)
Northeast	56	3,266	8	571	3	195	7	392	1	70	33	2,319	108	6,813
	(51.9)	(47.9)	(7.4)	(8.4)	(2.8)	(2.9)	(6.5)	(5.8)	(0.9)	(1.0)	(30.6)	(34.0)	(100.0)	(100.0)
South	154	8,233	20	1,109	20	1,211	21	972	12	590	62	3,269	289	15,384
	(53.3)	(53.5)	(6.9)	(7.2)	(6.9)	(7.9)	(7.3)	(6.3)	(4.2)	(3.8)	(21.5)	(21.2)	(100.0)	(100.0)
Midwest	542	24,442	72	3,501	70	3,304	46	2,277	52	2,483	170	7,741	952	43,748
	(56.9)	(55.9)	(7.6)	(8.0)	(7.4)	(7.6)	(4.8)	(5.2)	(5.5)	(5.7)	(17.9)	(17.7)	(100.0)	(100.0)
West	56	2,165	13	851	9	464	9	407	2	149	31	1,682	120	5,718
	(46.7)	(37.9)	(10.8)	(14.9)	(7.5)	(8.1)	(7.5)	(7.1)	(1.7)	(2.6)	(25.8)	(29.4)	(100.0)	(100.0)
ALL	1,527	586,884	245	145,370	231	103,686	187	104,951	165	65,374	697	226,821	3,052	1,233,086
	(50.0)	(47.6)	(8.0)	(11.8)	(7.6)	(8.4)	(6.1)	(8.5)	(5.4)	(5.3)	(22.8)	(18.4)	(100.0)	(100.0)
Northeast	241	319,380	28	22,857	24	17,619	21	26,128	27	24,749	141	53,962	482	464,695
	(50.0)	(68.7)	(5.8)	(4.9)	(5.0)	(3.8)	(4.4)	(5.6)	(5.6)	(5.3)	(29.3)	(11.6)	(100.0)	(100.0)
South	356	83,192	75	51,453	73	30,336	63	35,866	38	9,391	189	68,712	794	278,950
	(44.8)	(29.8)	(9.4)	(18.4)	(9.2)	(10.9)	(7.9)	(12.9)	(4.8)	(3.4)	(23.8)	(24.6)	(100.0)	(100.0)
Midwest	851	174,736	121	64,862	116	47,540	83	36,467	91	21,202	269	43,200	1,531	388,007
	(55.6)	(45.0)	(7.9)	(16.7)	(7.6)	(12.3)	(5.4)	(9.4)	(5.9)	(5.5)	(17.6)	(11.1)	(100.0)	(100.0)
West	79	9,576	21	6,198	18	8,191	20	6,490	9	10,032	98	60,947	245	101,434
	(32.2)	(9.4)	(8.6)	(6.1)	(7.3)	(8.1)	(8.2)	(6.4)	(3.7)	(9.9)	(40.0)	(60.1)	(100.0)	(100.0)

Data Base: FMR Data Base.

Notes: 1. Changes are relative to the combined base case (PFS plus CGP).

2. Parentheses indicate the percent of Total PHAs or Total Units in that PHA Size/Region Strata.

3. Rows may not add to 100 percent due to rounding.

Exhibit 7.8

Percent Change in Subsidy Under an Unconstrained FMR System at Actual Occupancy

PHA Size/ Region	Loss > 20%		Loss 10-20%		Loss 0.1-9.9%		Gain 0-9.9%		Gain 10-20%		Gain > 20%		Total	
	PHAs	Units	PHAs	Units	PHAs	Units	PHAs	Units	PHAs	Units	PHAs	Units	PHAs	Units
Extra-Large	12	319,009	4	35,383	1	12,599	1	8,038	1	6,642	3	27,180	22	408,851
	(54.5)	(78.0)	(18.2)	(8.7)	(4.5)	(3.1)	(4.5)	(2.0)	(4.5)	(1.6)	(13.6)	(6.6)	(100.0)	(100.0)
Northeast	6	229,677	0	0	1	12,599	0	0	0	0	0	0	7	242,276
	(85.7)	(94.8)	(0.0)	(0.0)	(14.3)	(5.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(100.0)
South	0	0	3	28,633	0	0	0	0	0	0	1	11,474	4	40,107
	(0.0)	(0.0)	(75.0)	(71.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(25.0)	(28.6)	(100.0)	(100.0)
Midwest	6	89,332	1	6,750	0	0	1	8,038	0	0	0	0	8	104,120
	(75.0)	(85.8)	(12.5)	(6.5)	(0.0)	(0.0)	(12.5)	(7.7)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(100.0)
West	0	0	0	0	0	0	0	0	1	6,642	2	15,706	3	22,348
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(29.7)	(66.7)	(70.3)	(100.0)	(100.0)
Large	57	152,979	14	32,718	20	47,332	7	17,436	6	13,483	22	45,725	126	309,673
	(45.2)	(49.4)	(11.1)	(10.6)	(15.9)	(15.3)	(5.6)	(5.6)	(4.8)	(4.4)	(17.5)	(14.8)	(100.0)	(100.0)
Northeast	25	58,367	5	9,361	5	9,315	3	7,473	2	3,554	8	13,250	48	101,320
	(52.1)	(57.6)	(10.4)	(9.2)	(10.4)	(9.2)	(6.3)	(7.4)	(4.2)	(3.5)	(16.7)	(13.1)	(100.0)	(100.0)
South	13	35,688	5	16,286	5	11,421	2	3,010	3	8,064	4	6,724	32	81,193
	(40.6)	(44.0)	(15.6)	(20.1)	(15.6)	(14.1)	(6.3)	(3.7)	(9.4)	(9.9)	(12.5)	(8.3)	(100.0)	(100.0)
Midwest	18	57,674	2	2,920	7	18,384	2	6,953	0	0	4	7,026	33	92,957
	(54.5)	(62.0)	(6.1)	(3.1)	(21.2)	(19.8)	(6.1)	(7.5)	(0.0)	(0.0)	(12.1)	(7.6)	(100.0)	(100.0)
West	1	1,250	2	4,151	3	8,212	0	0	1	1,865	6	18,725	13	34,203
	(7.7)	(3.7)	(15.4)	(12.1)	(23.1)	(24.0)	(0.0)	(0.0)	(7.7)	(5.5)	(46.2)	(54.7)	(100.0)	(100.0)
Medium	92	71,929	22	16,472	21	16,334	14	10,131	14	9,972	81	60,291	244	185,129
	(37.7)	(38.9)	(9.0)	(8.9)	(8.6)	(8.8)	(5.7)	(5.5)	(5.7)	(5.4)	(33.2)	(32.6)	(100.0)	(100.0)
Northeast	30	23,521	6	4,108	4	3,898	3	2,179	4	3,373	24	18,059	71	55,138
	(42.3)	(42.7)	(8.5)	(7.5)	(5.6)	(7.1)	(4.2)	(4.0)	(5.6)	(6.1)	(33.8)	(32.8)	(100.0)	(100.0)
South	25	19,915	7	5,087	6	4,486	6	4,239	6	3,944	22	16,030	72	53,701
	(34.7)	(37.1)	(9.7)	(9.5)	(8.3)	(8.4)	(8.3)	(7.9)	(8.3)	(7.3)	(30.6)	(29.9)	(100.0)	(100.0)
Midwest	34	25,883	9	7,277	7	5,771	3	2,402	2	1,081	15	11,131	70	53,545
	(48.6)	(48.3)	(12.9)	(13.6)	(10.0)	(10.8)	(4.3)	(4.5)	(2.9)	(2.0)	(21.4)	(20.8)	(100.0)	(100.0)
West	3	2,610	0	0	4	2,179	2	1,311	2	1,574	20	15,071	31	22,745
	(9.7)	(11.5)	(0.0)	(0.0)	(12.9)	(9.6)	(6.5)	(5.8)	(6.5)	(6.9)	(64.5)	(66.3)	(100.0)	(100.0)
Small	639	131,204	81	17,172	69	16,034	70	15,777	69	16,024	263	61,559	1,191	257,770
	(53.7)	(50.9)	(6.8)	(6.7)	(5.8)	(6.2)	(5.9)	(6.1)	(5.8)	(6.2)	(22.1)	(23.9)	(100.0)	(100.0)
Northeast	137	30,214	7	1,985	6	1,895	8	1,915	18	4,426	72	18,713	248	59,148
	(55.2)	(51.1)	(2.8)	(3.4)	(2.4)	(3.2)	(3.2)	(3.2)	(7.3)	(7.5)	(29.0)	(31.6)	(100.0)	(100.0)
South	192	41,817	36	7,710	37	8,399	30	6,921	18	4,181	84	19,537	397	88,565
	(48.4)	(47.2)	(9.1)	(8.7)	(9.3)	(9.5)	(7.6)	(7.8)	(4.5)	(4.7)	(21.2)	(22.1)	(100.0)	(100.0)
Midwest	288	55,115	31	6,058	23	5,106	25	5,316	28	6,061	73	15,981	468	93,637
	(61.5)	(58.9)	(6.6)	(6.5)	(4.9)	(5.5)	(5.3)	(5.7)	(6.0)	(6.5)	(15.6)	(17.1)	(100.0)	(100.0)
West	22	4,058	7	1,419	3	634	7	1,625	5	1,356	34	7,328	78	16,420
	(28.2)	(24.7)	(9.0)	(8.6)	(3.8)	(3.9)	(9.0)	(9.9)	(6.4)	(8.3)	(43.6)	(44.6)	(100.0)	(100.0)
Very Small	885	41,534	106	5,570	100	5,137	69	3,426	67	3,369	242	12,627	1,469	71,663
	(60.2)	(58.0)	(7.2)	(7.8)	(6.8)	(7.2)	(4.7)	(4.8)	(4.6)	(4.7)	(16.5)	(17.6)	(100.0)	(100.0)
Northeast	57	3,365	8	516	3	195	7	428	1	70	32	2,239	108	6,813
	(52.8)	(49.4)	(7.4)	(7.6)	(2.8)	(2.9)	(6.5)	(6.3)	(0.9)	(1.0)	(29.6)	(32.9)	(100.0)	(100.0)
South	162	8,632	16	897	28	1,568	16	764	12	659	55	2,864	289	15,384
	(56.1)	(56.1)	(5.5)	(5.8)	(9.7)	(10.2)	(5.5)	(5.0)	(4.2)	(4.3)	(19.0)	(18.6)	(100.0)	(100.0)
Midwest	602	26,977	71	3,508	60	2,933	40	1,923	51	2,447	128	5,960	952	43,748
	(63.2)	(61.7)	(7.5)	(8.0)	(6.3)	(6.7)	(4.2)	(4.4)	(5.4)	(5.6)	(13.4)	(13.6)	(100.0)	(100.0)
West	64	2,560	11	649	9	441	6	311	3	193	27	1,564	120	5,718
	(53.3)	(44.8)	(9.2)	(11.4)	(7.5)	(7.7)	(5.0)	(5.4)	(2.5)	(3.4)	(22.5)	(27.4)	(100.0)	(100.0)
ALL	1,685	716,655	227	107,315	211	97,436	161	54,808	157	49,490	611	207,382	3,052	1,233,086
	(55.2)	(58.1)	(7.4)	(8.7)	(6.9)	(7.9)	(5.3)	(4.4)	(5.1)	(4.0)	(20.0)	(16.8)	(100.0)	(100.0)
Northeast	255	345,144	26	15,970	19	27,902	21	11,995	25	11,423	136	52,261	482	464,695
	(52.9)	(74.3)	(5.4)	(3.4)	(3.9)	(6.0)	(4.4)	(2.6)	(5.2)	(2.5)	(28.2)	(11.2)	(100.0)	(100.0)
South	392	106,052	67	58,613	76	25,874	54	14,934	39	16,848	166	56,629	794	278,950
	(49.4)	(38.0)	(8.4)	(21.0)	(9.6)	(9.3)	(6.8)	(5.4)	(4.9)	(6.0)	(20.9)	(20.3)	(100.0)	(100.0)
Midwest	948	254,981	114	26,513	97	32,194	71	24,632	81	9,589	220	40,098	1,531	388,007
	(61.9)	(65.7)	(7.4)	(6.8)	(6.3)	(8.3)	(4.6)	(6.3)	(5.3)	(2.5)	(14.4)	(10.3)	(100.0)	(100.0)
West	90	10,478	20	6,219	19	11,466	15	3,247	12	11,630	89	58,394	245	101,434
	(36.7)	(10.3)	(8.2)	(6.1)	(7.8)	(11.3)	(6.1)	(3.2)	(4.9)	(11.5)	(36.3)	(57.6)	(100.0)	(100.0)

Data Base: FMR Data Base.

Notes: 1. Changes are relative to the combined base case (PFS plus CGP).

2. Parentheses indicate the percent of Total PHAs or Total Units in that PHA Size/Region Strata.

3. Rows may not add to 100 percent due to rounding.

- A great number of PHAs would undergo extreme changes in funding if such an unconstrained FMR system were implemented. At current actual occupancy rates, almost 60 percent of the agencies would lose at least 20 percent of the combined PFS plus CGP subsidy, while 20 percent of the agencies would gain 20 percent or more in federal subsidy payments.

Constrained FMR Systems

The simulations we examined in Exhibits 7.5 to 7.8 showed the full effects of FMR-based funding, without limits on the gains or losses experienced by the PHAs relative to the PFS and CGP. These effects differed according to the vacancy assumptions made, but in both the 97 percent and the actual occupancy cases there were gains and losses of great magnitude.

The arguments for designing a constrained FMR system are two-fold: avoidance of unnecessary federal outlay by capping the extent of possible gain for a PHA as a result of switching to FMR funding, and cushioning of the downward shock by setting a floor and phasing losses over a transition period. On the upward side, we must note the irony of regarding the Fair Market Rents as enforcers of market discipline and yet disallowing the cases where it appears PHAs have managed more efficiently or have at least operated on much less. As noted previously, extra funding for PHAs under an unconstrained FMR system could be a source of funds for addressing backlog needs. On the downward side, the notion of a transition period to FMR funding would provide reasonable time for a) maximum increases in occupancy rates; b) any necessary demolition or disposition of uninhabitable stock, assuming HUD and local support for this choice; and c) the orderly dissolution of PHAs that could no longer operate once funded on an FMR standard. As we noted before (Section 7.1.4), the potential loss of stock and even loss of agencies can be seen as two significant disadvantages of the FMR systems.

The constrained systems simulated here have:

- increases in subsidy above 20 percent capped at 120 percent of the combined base case funding;
- increases under 20 percent set at the same level as the unconstrained system;
- subsidy reductions of 10 percent or less phased over 2 years (half the loss in Year 1, full loss in Year 2 and thereafter); and

- subsidy reductions greater than 10 percent phased over 4 years (25 percent of the loss in Year 1, 50 percent in Year 2, 75 percent in Year 3, and full loss in Year 4 and thereafter). No subsidy reduction greater than 20 percent.

The results are discussed for Years 1 and 4, because Year 1 would be the most expensive in total subsidy terms and Year 4 would represent an estimate of steady-state cost.[38] In the specification of caps and timing for the transition, we are following the path taken in the 1982 HUD Report.[39] Naturally, the results are sensitive to the cap level and the length of the transition, and these would be important policy parameters if an FMR system were to be designed for actual implementation.

Exhibit 7.9 shows the results of simulating the constrained FMR system. As in prior discussions of FMR, the subsidy requirements are displayed for 97 percent occupancy (*as if all the PHAs had already reached or were above the HUD standard*) and for actual occupancy. But the actual occupancy figures are in two versions: Year 1 of a transition to FMR and Year 4 of the transition. The Year 4 figures show what the costs and distribution would be *if no progress were made by PHAs in addressing vacancies during the transition and there were no reductions in total stock.*[40] These are "worst case" figures, since there would be strong incentives for PHAs to increase occupancy.

The overall subsidy required under the constrained FMR system would be $3.96 billion at 97 percent occupancy, $4.31 billion at actual occupancy rates in Year 1 of a transition, and $3.95 billion at the end of the transition (actual occupancy, Year 4). The Year 1 figure for the transition to actual occupancy rates is higher than the subsidy at 97 percent occupancy because of the transition rules; more PHAs are subject to phasing in of losses, and the phasing spreads over four years because the ultimate subsidy losses are larger, when actual occupancy rates are factored in. Compared to the combined base case representing current public housing program funding (PFS plus CGP), the first of these systems represents an 8.9 percent decrease in total subsidy, the second a 0.7 percent decrease, and the last an 11.6 percent decline. These

[38] All figures are in 1992 dollars.

[39] *Alternative Operating Subsidy Systems for the Public Housing Program,* pp.269-271 and 294-295.

[40] These figures are all still in 1992 dollars, without inflation adjustment for the four-year period. The adjustments are made in Chapter 8.

Exhibit 7.9

Federal Subsidy Under a Constrained FMR System Compared to the Combined Base Case

PHA Size/ Region	Combined Base Case	Total Federal Subsidy Under a Constrained FMR:			Percent Difference from Base		
		97 Percent Occupancy	Actual Occupancy Year 1	Actual Occupancy Year 4	FMR 97 Percent	FMR Actual Year 1	FMR Actual Year 4
Extra-Large	$2,035,504,937	$1,773,629,643	$1,972,149,586	$1,704,628,025	(12.9%)	(3.1%)	(16.3%)
Northeast	1,204,242,581	998,380,007	1,145,911,143	972,964,532	(17.1)	(4.8)	(19.2)
South	154,603,105	156,971,960	157,876,050	146,070,498	1.5	2.1	(5.5)
Midwest	584,577,316	507,828,710	557,920,622	475,151,225	(13.1)	(4.6)	(18.7)
West	92,081,935	110,448,966	110,441,771	110,441,771	19.9	19.9	19.9
Large	1,069,497,038	999,491,121	1,069,213,608	967,962,895	(6.5)	(0.0)	(9.5)
Northeast	375,318,290	338,981,243	372,788,697	333,976,249	(9.7)	(0.7)	(11.0)
South	272,007,779	251,836,502	269,230,065	242,725,266	(7.4)	(1.0)	(10.8)
Midwest	305,767,005	280,440,291	298,742,363	265,662,096	(8.3)	(2.3)	(13.1)
West	116,403,964	128,233,085	128,452,483	125,599,284	10.2	10.4	7.9
Medium	488,490,062	480,459,601	507,891,710	470,458,149	(1.6)	4.0	(3.7)
Northeast	144,339,132	139,437,057	149,326,876	137,473,080	(3.4)	3.5	(4.8)
South	141,386,551	139,155,254	146,818,319	136,279,849	(1.6)	3.8	(3.6)
Midwest	141,517,990	133,340,541	142,480,456	128,878,770	(5.8)	0.7	(8.9)
West	61,246,389	68,526,749	69,266,059	67,826,450	11.9	13.1	10.7
Small	596,196,713	564,289,258	610,022,843	556,685,639	(5.4)	2.3	(6.6)
Northeast	139,966,062	134,097,347	145,247,576	133,078,546	(4.2)	3.8	(4.9)
South	207,812,976	197,409,346	212,045,344	194,066,487	(5.0)	2.0	(6.6)
Midwest	210,349,968	193,286,951	211,731,786	190,493,521	(8.1)	0.7	(9.4)
West	38,067,707	39,495,614	40,998,137	39,047,085	3.8	7.7	2.6
Very Small	152,974,534	140,082,029	153,568,951	137,958,865	(8.4)	0.4	(9.8)
Northeast	17,098,646	15,973,498	17,500,666	15,875,938	(6.6)	2.4	(7.2)
South	38,155,928	34,939,083	38,425,401	34,667,333	(8.4)	0.7	(9.1)
Midwest	83,797,615	75,951,891	83,403,744	74,380,112	(9.4)	(0.5)	(11.2)
West	13,922,345	13,217,557	14,239,139	13,035,483	(5.1)	2.3	(6.4)
ALL	4,342,663,284	3,957,951,653	4,312,846,699	3,837,693,574	(8.9)	(0.7)	(11.6)
Northeast	1,880,964,712	1,626,869,153	1,830,774,959	1,593,368,345	(13.5)	(2.7)	(15.3)
South	813,966,338	780,312,145	824,395,179	753,809,434	(4.1)	1.3	(7.4)
Midwest	1,326,009,893	1,190,848,384	1,294,278,972	1,134,565,724	(10.2)	(2.4)	(14.4)
West	$321,722,341	$359,921,971	$363,397,589	$355,950,072	11.9%	13.0%	10.6%

Data Base: FMR Data Base.

Notes:
1. As compared to Table 6.1, the combined base case figures (PFS plus CGP) differ because Indian HAs and Territories are excluded from FMR analysis.
2. All figures in 1992 dollars.
3. FMR subsidy may be overstated by about $333 million because no data are available to adjust for tenant-paid payments.

differences are, of course, much smaller than the ones shown in Exhibit 7.6 for the unconstrained FMR funding; there, 12.6 percent less in subsidy was needed for FMRs at 97 percent occupancy and 21.6 percent less at actual occupancy rates.

The distribution of funds among groups of PHAs by size and region is also changed from the base case under constrained FMR systems. The last three columns of Exhibit 7.9 show these differences. Western PHAs, except the very small, and the extra-large Southern PHAs would gain somewhat under constrained FMR if their occupancy rates were 97 percent or better; agencies in other regions would lose subsidy. Under an FMR payment standard at actual vacancy rates, with the cushioning effects of the transition rule in Year 1, the biggest subsidy losses would accrue to extra-large PHAs in the Northeast and in the Midwest; even so, the reductions would be 5 percent or less. By Year 4, if vacancy problems were not addressed, there would be major losses for the extra-large agencies. Year 4 would also see sizeable losses for the large PHAs as a group and for the very small agencies.

The groups of PHAs most adversely affected by a constrained FMR system of this design would be the extra-large and the very small agencies. Both at 97 percent occupancy and at actual occupancy in Year 4, very small PHAs in every region show subsidy losses; in Year 4 these range from 6.4 to 11.2 percent less federal funding. A major factor in these losses is the deduction of debt service, because the very small agencies have relatively high debt service per unit month and relatively low FMRs (see Exhibit 7.4). In fact, of the 248 PHAs whose FMR payments net of rents would not even cover debt service, 174 are very small agencies. These are agencies for which the difference between FMR and rents would not cover the debt-service; at the least, they would lose any operating subsidy they now receive and at the worst would owe HUD a portion of the debt service out of rents, reducing monies available for operation.

The primary results of simulating this constrained FMR system can be summarized as follows:

- Total subsidy costs would be in the range of \$3.8 to \$4.3 billion under the constrained system modeled here;

- The required federal funding for public housing subsidies would be reduced relative to PFS and CGP in 1992. At 97 percent occupancy, the reduction would be 8.9 percent. At actual occupancy, the first year reduction would be 0.7 percent; it would total 11.6 percent after a four-year transition period if no improvements in occupancy were made.

- The constraints would limit the degree of subsidy gains and losses to a PHA, but a loss of 20 percent would still have a major effect on any agency's ability to operate. Extra-large and very small PHAs would feel the most adverse financial impacts.

Adding Backlog Funding to the Constrained FMR System

As we have already discussed in this chapter, one of the major issues in the concept of an FMR payment standard for public housing is the treatment of the modernization backlog. If private owners were to use rents to pay for remedying a backlog of physical needs, these costs would typically be financed at terms providing for 20-year amortization at mortgage loan rates. (For example, at 9 percent interest, a 20-year amortization schedule would require annual payments of 10.8 percent of the amount borrowed.) It is not clear whether the maximum rents for private landlords in the Section 8 Existing Program would or should be adequate to address unmet capital repair and replacement needs or even to cover such amortization. Certainly, the mechanisms for taking care of such needs in the private market (accumulation of a capital reserve plus mortgage refinancing at the time of major improvements) have not been available to public housing operators, and only the capital reserve may become so.

Leaving aside the possible effects of the backlog on overall operating cost levels (discussed in Section 7.1.4), it seems clear that additional funding to clear the modernization backlog would be needed under any FMR system for some period of time.[41] We have therefore simulated a constrained FMR system plus an unconstrained addition for annual backlog funding, set at half the agency's grant under the FY 1992 Comprehensive Grant Program.[42] In this simulation, each PHA is given the constrained FMR payment[43] (net of rent and debt

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[41] The length of the period would, of course, depend on the rate at which the backlog was funded and cleared.

[42] Using 50 percent for backlog follows the assumption of the CGP formula.

[43] It would also have been possible to simulate an unconstrained FMR plus backlog system. Using the constrained version seemed preferable, since the unconstrained systems included both large gains and large losses. The large gains would have become even larger. On the other hand, the large losses would have been masked by the addition of the backlog monies; the funding might look as if it were adequate to cover PHA operations at the current level, but in fact using the money that way would have meant the PHA would be

service) plus the annual backlog component of the combined base case. Therefore, the differences between the simulation and the combined base case are solely attributable to funding from PFS and the CGP accrual share relative to funding from FMR.

The results of this simulation are shown in Exhibit 7.10. Just as in the previous table, versions of the constrained FMR plus backlog system are shown at 97 percent occupancy, at actual occupancy in Year 1 of a transition, and at actual occupancy at the end of the transition in Year 4. Again, percent changes are displayed relative to the combined base case.

Because of the added backlog component, the required funding allocations for a constrained FMR system with backlog are larger than the appropriation for the combined base case. Seventeen percent more federal subsidy than the combined base case would be required at 97 percent occupancy, or 25 percent more at actual occupancy in Year 1; even in Year 4, the increase is 14 percent. Further, there is no category of PHAs that does not gain, relative to the combined base case, when backlog funding is included. The smallest gains are for the groups that stood to lose most under constrained FMR alone. Small, very small, and medium PHAs nationwide would receive considerable increases. The largest gains are for some of the Western agencies.

As we know from the analysis in Chapter 5, the backlog funding represented by half the amount of the FY 1992 CGP appropriation is quite small relative to total need; it would therefore take a number of years of constrained FMR plus backlog funding at this level to approach clearing the current backlog.[44] The magnitude of the differences between the combined base case and the constrained FMR system with backlog funding does suggest that a large proportion of PHAs would do better under this type of funding system, particularly if the regulatory and administrative environment for the public housing program changed along with the funding system.

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ignoring the backlog needs. PHAs could again be put in the position of deferring capital repairs and replacements.

[44] If the backlog funding were to be used to finance the amortization of loans used to pay immediately for the backlog of physical needs, the funding might still have to continue for a number of years, but the physical condition of the property would be improved immediately.

Exhibit 7.10

Federal Subsidy Under a Constrained FMR System Plus Backlog
Compared to the Combined Base Case

PHA Size/ Region	Combined Base Case	Constrained FMR Plus Backlog			Percent Difference from Base		
		97 Percent Occupancy	Actual Occupancy Year 1	Actual Occupancy Year 4	FMR 97 Percent	FMR Actual Year 1	FMR Actual Year 4
Extra-Large	$2,035,504,937	$2,298,284,673	$2,496,804,616	$2,229,283,055	12.9%	22.7%	9.5%
Northeast	1,204,242,581	1,294,175,355	1,441,706,491	1,268,759,879	7.5	19.7	5.4
South	154,603,105	184,191,641	185,095,732	173,290,180	19.1	19.7	12.1
Midwest	584,577,316	679,428,150	729,520,062	646,750,665	16.2	24.8	10.6
West	92,081,935	140,489,527	140,482,331	140,482,331	52.6	52.6	52.6
Large	1,069,497,038	1,246,201,409	1,315,923,896	1,214,673,183	16.5	23.0	13.6
Northeast	375,318,290	428,640,552	462,448,006	423,635,559	14.2	23.2	12.9
South	272,007,779	302,632,087	320,025,650	293,520,851	11.3	17.7	7.9
Midwest	305,767,005	350,398,767	368,700,839	335,620,571	14.6	20.6	9.8
West	116,403,964	164,530,004	164,749,401	161,896,202	41.3	41.5	39.1
Medium	488,490,062	605,264,454	632,696,563	595,263,002	23.9	29.5	21.9
Northeast	144,339,132	179,252,910	189,142,729	177,288,933	24.2	31.0	22.8
South	141,386,551	171,167,077	178,830,142	168,291,673	21.1	26.5	19.0
Midwest	141,517,990	167,618,834	176,758,749	163,157,063	18.4	24.9	15.3
West	61,246,389	87,225,633	87,964,943	86,525,333	42.4	43.6	41.3
Small	596,196,713	731,759,613	777,493,199	724,155,994	22.7	30.4	21.5
Northeast	139,966,062	176,644,832	187,795,061	175,626,031	26.2	34.2	25.5
South	207,812,976	250,918,981	265,554,979	247,576,123	20.7	27.8	19.1
Midwest	210,349,968	252,908,878	271,353,714	250,115,448	20.2	29.0	18.9
West	38,067,707	51,286,922	52,789,445	50,838,392	34.7	38.7	33.5
Very Small	152,974,534	183,637,913	197,124,835	181,514,749	20.0	28.9	18.7
Northeast	17,098,646	21,572,564	23,099,732	21,475,003	26.2	35.1	25.6
South	38,155,928	45,105,604	48,591,923	44,833,854	18.2	27.4	17.5
Midwest	83,797,615	99,561,586	107,013,440	97,989,807	18.8	27.7	16.9
West	13,922,345	17,398,159	18,419,741	17,216,084	25.0	32.3	23.7
ALL	4,342,663,284	5,065,148,062	5,420,043,108	4,944,889,983	16.6	24.8	13.9
Northeast	1,880,964,712	2,100,286,213	2,304,192,019	2,066,785,405	11.7	22.5	9.9
South	813,966,338	954,015,391	998,098,426	927,512,680	17.2	22.6	13.9
Midwest	1,326,009,893	1,549,916,215	1,653,346,803	1,493,633,555	16.9	24.7	12.6
West	$321,722,341	$460,930,243	$464,405,861	$456,958,343	43.3%	44.3%	42.0%

Data Base: FMR Data Base.

Notes:
1. As compared to Table 6.1, the combined base case figures (PFS plus CGP) differ because Indian HAs and Territories are excluded from FMR analysis.
2. All figures in 1992 dollars.
3. FMR subsidy may be overstated by about $333 million because no data are available to adjust for tenant-paid payments.

Our analysis of a constrained FMR system with backlog funding thus indicates that:

- Adding an annual amount for the modernization needs backlog would increase the federal subsidy required relative to the PFS plus CGP by 14 to 25 percent after 4 years (following a transition period);

- The greatest subsidy gains would accrue to Western PHAs and to medium, small and very small agencies in all regions. The smallest subsidy increases would go to the extra-large PHAs in the Northeast and large PHAs in the South and Midwest, due to vacancy rates and FMR levels.

7.3 AN FMR SYSTEM WITH PORTABILITY: THE TENANT VOUCHER VARIANT

In 1982, when HUD last reported to Congress on alternative funding systems for the public housing program, the concept of housing vouchers was still in the process of definition. The authors described a funding system that had two primary objectives: "cost containment through competition;" and increased tenant choice. Several elements that later became part of the Section 8 Voucher program were envisioned in the 1982 Report to Congress, as possible modifications to the FMR systems for funding public housing based on the Section 8 certificate model.[45] These included:

- subsidy portability, meaning that the tenant could use the subsidy in either public or private housing; and

- use of the FMR as payment standard but not as a limit on the level of rent.

The tenant voucher system described in the 1982 Report also involved major changes in the operation of the public housing program, such as:

- releasing PHAs from federal restrictions on tenant income levels and rents;

- detachment of the subsidy from the housing unit and linkage to the tenant household instead;

- increased PHA control over capital decisions, including the disposition or demolition of public housing stock; and

- freedom to compete with private market owners, through deregulation in many other aspects of daily operation.

[45] See *Alternative Operating Subsidy Systems for Public Housing*, Chapter 9 (pp.301-364).

As envisioned, the tenant voucher system would provide funding for PHAs in much the same manner as the *un*constrained FMR system, with the housing agency receiving the FMR net of debt service[46] and net of 30 percent of tenant income. The tenant would be informed of the subsidy amount and of the right to use the same subsidy in alternative private housing. The agencies would set rents based on the market, with a view to maximizing occupancy and maintaining financial viability. If operating costs and debt service were more than covered by the FMRs, the agency could reduce rents; it could also set up reserves for future needs. On the other hand, a PHA with operating costs and debt service in excess of FMR payments would need to raise rents, increase efficiency, and/or curtail operations. Lower rents would give tenants a break and higher ones would require payment of rents above 30 percent of income. As tenants left public housing, the agency would be free to look for higher-income tenants for the vacated units, making the capital improvements needed to compete effectively and raising the rents to market levels.

A tenant voucher system (spelled out in much greater detail) was simulated as an unconstrained FMR system in the 1982 Report. As we showed in Exhibits 7.7 and 7.8, such a system would provide some agencies with very large increases in subsidy, while others would suffer significant losses. Under tenant vouchers, it was considered likely that agencies in the latter group would make the hard decisions about down-sizing stock and operations, just as a private owner would supposedly do. The degree of losses among very small agencies suggested the likelihood that many of these would cease operations altogether.

The 1982 analysis examined the feasibility of covering PHA costs with unconstrained FMR funding, by using existing data to estimate the market rent of public housing units in eight cities. It also examined data on public housing tenant satisfaction, as well as on mobility among low-income renters, in order to assess the likely effects of a tenant voucher system on occupancy rates and subsequent rents. Overall, the results suggested "that the voucher system would require radical changes in the cost structures of many PHAs" and thus in the PHAs' housing inventories as well.[47]

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[46] If PHAs received the entire FMR, they would be obligated to reimburse HUD or the Treasury for the debt service.

[47] *Alternative Operating Subsidy Systems for the Public Housing Program,* pp. 346-349.

From the perspective of 1992, more questions must be raised. A decade of slowed growth in the public housing stock, and the fact that project-based subsidies in the privately owned multifamily rental housing stock are vulnerable to expiring use agreements, has highlighted both the scarcity and permanence of public housing. Residents of this housing nationwide express satisfaction with it.[48] They are aware of the economic protection provided by rents based on income and the legal protection offered by lease and grievance regulations and procedures. Are there real options in the private market for many public housing residents? How many can improve their housing and neighborhoods by moving? What are the risks? How many would end up homeless, on the street or in shelters, by venturing into private housing?

On the other hand, there is renewed interest, in Congress and among PHAs, about reducing the heavy concentrations of poverty and trying mixed-income models. Under a tenant voucher system, residents would not have to move if their income levels outgrew the voucher eligibility, and elderly housing operated by PHAs could be occupied by moderate-income elders. PHAs would have more choices about both tenant mix and rent levels.

Some aspects of a tenant voucher system have been put into use in limited ways over the past decade. For example, since 1976 the Gautreaux Demonstration has offered Chicago Housing Agency tenants in racially impacted locations access to a Section 8 subsidy for use in non-impacted areas, including the suburbs. A substantial number of public housing tenants have sought to participate in this program, and more than 4,000 families have moved.[49] More broadly, the Section 8 Voucher Program has incorporated the separation of rent limits from the payment standard, with the result that participants may pay more or less than 30 percent of income and have a wider choice of units. Research has shown the effect of this to be that (on average) Voucher participants have higher rents, higher out-of-pocket tenant contributions, higher rent burdens *and* higher assistance payments than in the Certificate program. The

[48] Rachel G. Bratt, *Rebuilding a Low-Income Housing Policy* (Philadelphia: Temple University Press, 1989), pp. 63-64, reports the results of four studies of resident satisfaction with public housing. In all cases, the majority of respondents reported positive feelings about their housing; this was even true of more than two-thirds of the respondents residing in a seriously troubled authority's developments.

[49] An early examination of the program is found in *Gautreaux Housing Demonstration: An Evaluation of its Impact on Participating Households*, (Office of Policy Development and Research, HUD, December 1979). A recent analysis of mobility and its effects is James E. Rosenbaum, "Black Pioneers — Do Their Moves to the Suburbs Increase Economic Opportunity for Mothers and Children?" *Housing Policy Debate*, V.2 #4, 1991.

distribution of rents and rent burdens are wider than under the Certificate program, with more participants at each extreme.[50] Finally, both Section 8 vouchers and certificates are now mobile, in the sense that participants may use them outside the jurisdiction of the originating PHA. However, there has not yet been any research on the effects of expanded mobility.

Indeed, we do not appear to be in a better position in 1992 than in 1982 to answer key questions such as the circumstances under which public housing residents might choose to move, the numbers that might do so, whether they could be replaced (especially by higher-income households), and how PHA operations might be affected in the short or the long run.

For this Report, the primary relevance of considering features of a voucher system is to highlight, even in the context of FMR systems, the limitations remaining on making public housing more competitive with the private market. The FMR simulations all still presumed subsidy tied to housing units, federal restrictions on incomes and rents, and the like. Even so, the financial effects of FMR funding on some PHAs would be quite drastic. A voucher system very likely would be even more so.

7.4 IMPLICATIONS OF THE FMR SIMULATIONS

Our discussion of the concept of FMR systems and the variety of issues raised by applying Fair Market Rents to public housing funding should be kept in mind as we consider the results of the simulations presented in this chapter. Among the major factors shaping the FMR results, and the impacts they could have, are:

- the role of vacancies, making clear the degree to which implementing an FMR system would bring pressure on PHAs to raise occupancy;
- the wide variation in debt service, and the problems some PHAs would have in operating under an FMR system even at full occupancy, if responsibility for ACC payments shifted from HUD to the agencies;
- the high levels of FMRs in some areas, providing agencies with major increases in funding if they were compensated like private owners in the same markets;

[50] Mireille L. Leger and Stephen D. Kennedy, *Final Comprehensive Report of the Freestanding Housing Voucher Demonstration*, (Cambridge, MA: Abt Associates, Inc., May 1990), Vol. 1, pp. ix - xiii and Chapters 4, 6, and 7.

- a combination of low FMRs and high debt service that would lead a substantial number of PHAs, particularly very small ones, to sustain major losses in funding under an unconstrained FMR system; and

- the current modernization backlog, which (if funded as a component added to a constrained FMR system) would bring FMR funding to a level more than half a billion dollars higher than the combination of PFS and CGP nationwide.

In Chapter 8, discussion of the impacts of all the alternative systems examined in this Report will put the FMR findings in a broader context.

CHAPTER 8

A SUMMARY OF THE IMPACTS OF REVISED METHODS FOR FUNDING PHAS

In this chapter, the threads of analysis from Chapters 1 through 7 are drawn together into a summary of the anticipated impacts of revised funding systems for the public housing program. Two types of impacts are considered: financial ones in Section 8.1 and non-financial impacts in Section 8.2.

8.1 ANTICIPATED FINANCIAL IMPACTS OF ALTERNATIVE FUNDING SYSTEMS

The anticipated financial impacts examined in this section include impacts at the PHA level (how do different types of PHAs fare under alternative systems?) as well as impacts at the program level (what is the overall level of federal spending for the public housing program under the various alternatives?). We first address the distributional differences among the various systems, summarizing the analyses presented in different chapters about funding allocation to PHAs by size and region strata. Then the budget estimates for the entire program under each alternative are compared, both for FY 1992 and for the subsequent five-year period (FY 1993 to FY 1997).

8.1.1 Comparison of the Gains and Losses to PHAs Under Alternative Funding Systems

The analyses presented in earlier chapters of this Report have already considered the question of distributional impacts across PHAs at some length. In each chapter, comparisons were made between the appropriate base case and the alternative system under examination. The comparisons were directed both at differences in the percentage shares of funding going to the public housing agencies (grouped by size and region) and at the magnitude of change in funding for the same groups of agencies.

Rather than repeat here the detailed material for each system, it seems preferable to bring the comparisons together and examine the entire set. We will do this in two forms: in a comparison of shares across the different systems and in a comparison of the direction and magnitude of gains and losses.

The funding systems simulated in this study, for which subsidy shares can be compared, are as follows:

Operating Subsidy Systems[1]	
1.	The Performance Funding System (base case)
2.	PFS with the Formal Review Process
Capital Subsidy Systems	
3.	The Comprehensive Grant Program (base case)
4.	Capital Funding Based on Backlog Shares Only
5.	Capital Funding Based on Accrual Shares Only
Combined Operating and Capital Subsidy Systems	
6.	PFS plus CGP (base case)
7.	An unconstrained FMR system
8.	A constrained FMR system
9.	A constrained FMR system with funding of CGP backlog shares

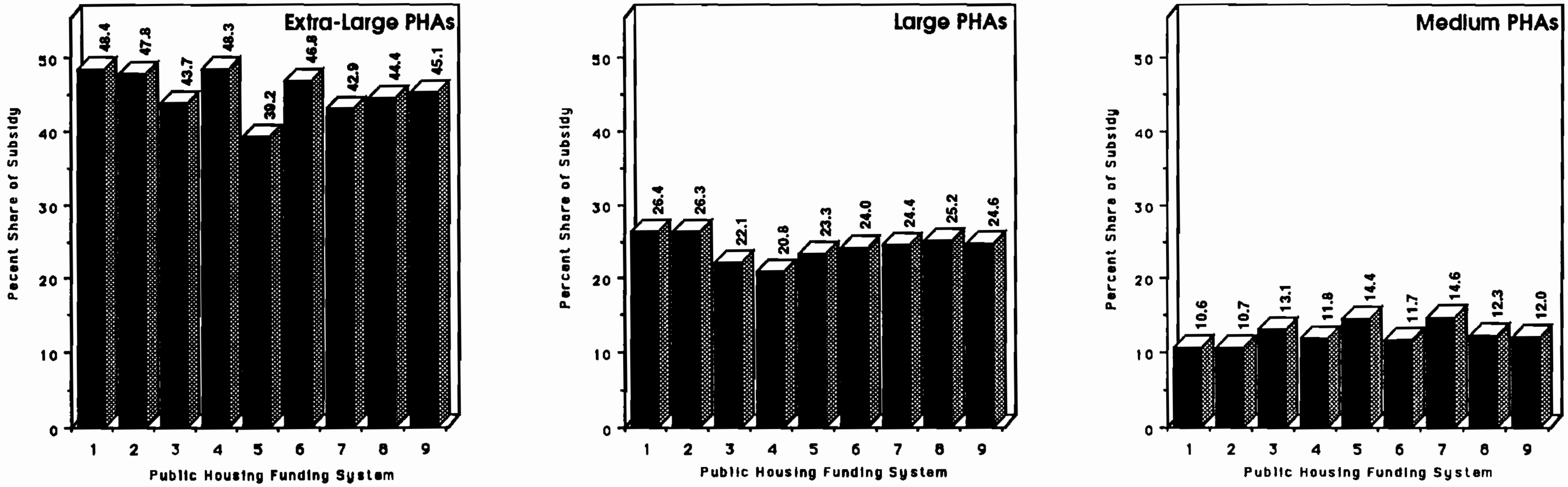
We use this numbering scheme to designate the various systems in the displays that follow.

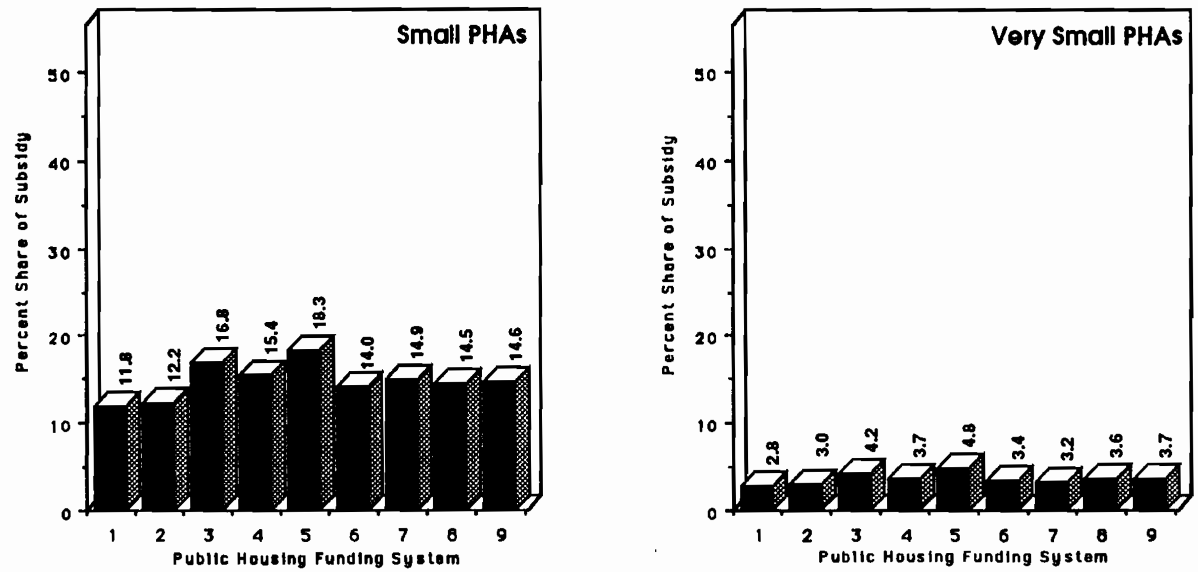
Exhibit 8.1 shows the percent shares of subsidy by size of PHA across the nine different funding systems. Each of the size categories is shown in its own panel, but the panels have a common scale. At first glance, what is most striking about Exhibit 8.1 is the relative consistency of shares for each group of PHAs across the alternative systems. For example, the shares for extra-large agencies range from 39.2 percent (capital funding/accrual shares only) to 48.4 percent (base case PFS), and these shares are above 43 percent in 7 of the 9 systems. The large PHAs would receive between 20.8 and 26.4 percent of the funding under any of the

[1] A system based on private market costs was also examined (see Chapter 3); however, it did not support a simulation of subsidy shares by PHA size and region.

Exhibit 8.1

Percent Shares of Subsidy by Size of PHA





Number	Public Housing Funding System
1	PFS Base Case
2	PFS with Formal Review
3	Comprehensive Grant Program (CGP) Base Case
4	Backlog Shares Only
5	Accrual Shares Only
6	PFS & CGP Base Case
7	Unconstrained FMR (Actual Occupancy)
8	Constrained FMR (Actual Occupancy - Year 4)
9	Constrained FMR & CGP Backlog (Actual Occupancy - Year 4)

systems. The range for medium agencies is 10.6 to 14.4 percent, for small agencies 11.8 to 18.3 percent, and for the smallest PHAs 2.8 to 4.8 percent of the total subsidy.

Of the different size groups, the two with the widest range of shares are the extra-large and the small PHAs. For the extra-large agencies, base case PFS provides the largest share, in contrast to capital funding based on accrual shares only (39.2 percent); among systems of the same type, the greatest contrast is between backlog-only and accrual-only capital funding. In contrast, the small PHAs do better (in terms of share size) in all the systems with a capital component than with operating subsidy only. Base case PFS provides the smallest piece of the whole pie (11.8 percent) to this group of agencies, while accrual-only capital funding would provide the largest relative to other systems.

Despite the relatively narrow range of shares, the differences are considerable in dollar terms. The difference of 1.5 percent between unconstrained FMR and constrained FMR funding for the 23 extra-large PHAs represents $245 million per year. For the very small agencies, the difference of 1.1 percent between backlog shares only and accrual shares only comes to $28.5 million per year, or $33.13 every month for every one of the 71,663 units they operate.

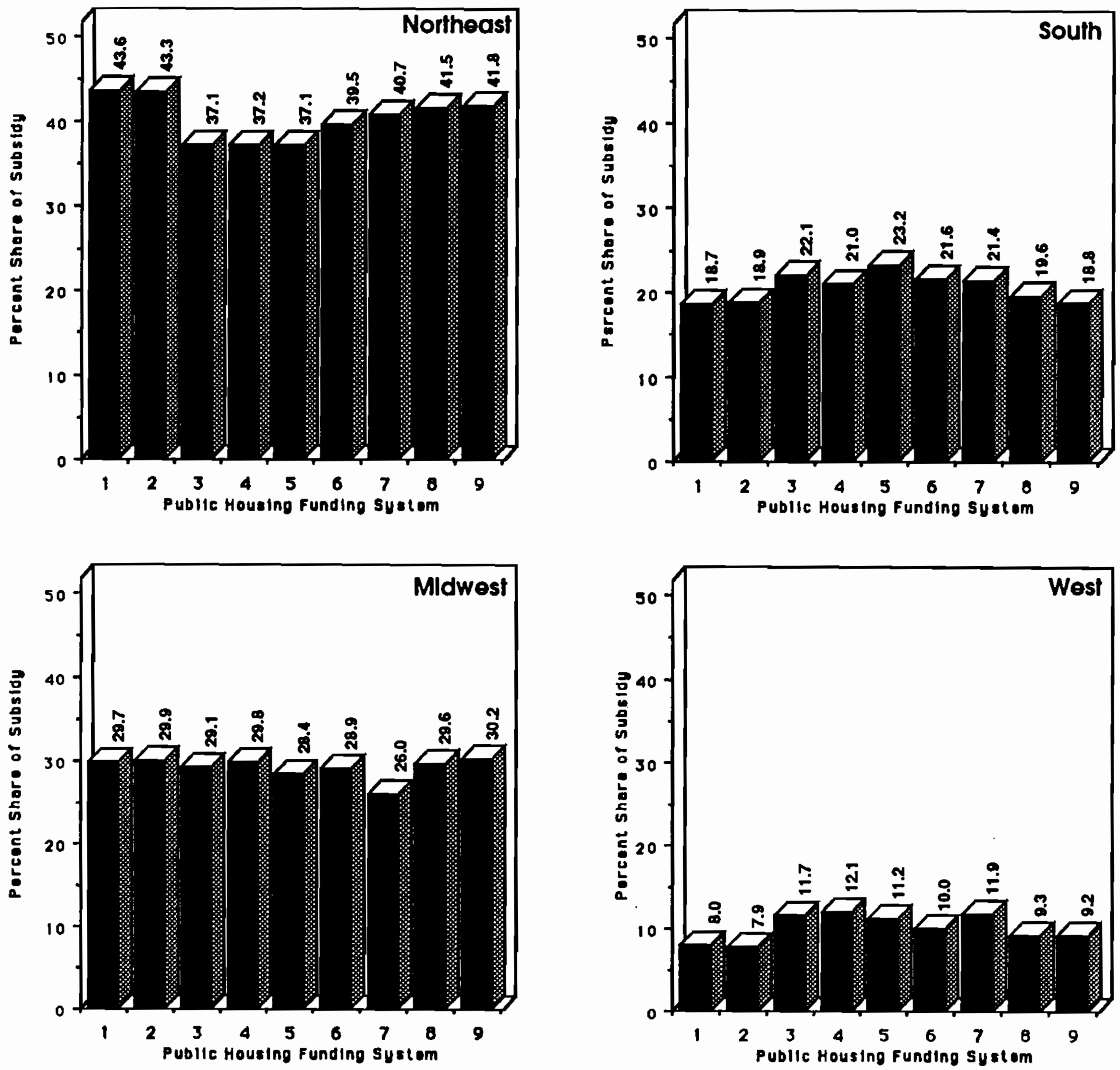
Exhibit 8.2 presents parallel information on shares of subsidy for the four HUD regions. Although region is not perhaps of intrinsic importance in the world of public housing, some startling differences in patterns by region were noted in some of the analyses in this Report. Here, we see that there is a contrast in shares for the Northeast among the sets of systems (operating subsidy, capital subsidy, and combined), with lower shares for all the capital systems than for operating or combined. The Midwest's portion of total subsidy under the different systems is within a narrow 28 to 30 percent range, except under an unconstrained FMR system.

There is much more variation in the funding shares that would flow to the West and South under the various subsidy systems. Western PHAs would gain most with backlog-only capital funding (12.1 percent) or an unconstrained FMR system (11.9 percent), although they do well under CGP (11.7 percent). Southern agencies also do well with CGP, 22.1 percent, but capital funding based on accrual only would increase their share to 23.2 percent. This difference of 1.1 percent is equivalent to $28.8 million in funding.

We turn now to distributional effects by size ***and*** region, comparing the direction and magnitude of gains and losses under the alternative systems among the different strata of PHAs. Recall that the constrained FMR system caps gains and losses at 20 percent. Exhibit 8.3 makes

Exhibit 8.2

Percent Shares of Subsidy by PHA Region



Number	Public Housing Funding System
1	PFS Base Case
2	PFS with Formal Review
3	Comprehensive Grant Program (CGP) Base Case
4	Backlog Shares Only
5	Accrual Shares Only
6	PFS & CGP Base Case
7	Unconstrained FMR (Actual Occupancy)
8	Constrained FMR (Actual Occupancy - Year 4)
9	Constrained FMR & CGP Backlog (Actual Occupancy - Year 4)

Exhibit 8.3

PERCENTAGE CHANGE IN FEDERAL SUBSIDY: DISTRIBUTIONAL IMPLICATIONS BY PHA SIZE AND REGION

Part A -- Revised PFS, CIAP, Revised CGP Alternatives

BASE CASE		PFS	CGP			
ALTERNATIVE SYSTEM		PFS with Formal Review	Historical CIAP	Backlog Shares Only	Accrual Shares Only	Funding Total Need in 5 Years
Extra-Large	-Total	0	---	++	--	+++
	-Northeast	0	---	0	0	+++
	-South	0	---	++	--	+++
	-Midwest	0	---	+++	---	+++
	-West	0	---	++	--	+++
Large	-Total	0	--	-	+	+++
	-Northeast	0	++	0	0	+++
	-South	0	--	--	++	+++
	-Midwest	0	---	-	+	+++
	-West	0	---	+	-	+++
Medium	-Total	0	---	-	+	+++
	-Northeast	+	+	-	+	+++
	-South	+	---	--	++	+++
	-Midwest	0	---	--	++	+++
	-West	0	---	-	+	+++
Small	-Total	+	---	-	+	+++
	-Northeast	+	-	-	+	+++
	-South	+	---	--	++	+++
	-Midwest	+	---	--	++	+++
	-West	0	---	+	-	+++
Very Small	-Total	+	---	--	++	+++
	-Northeast	+	-	0	0	+++
	-South	+	---	--	++	+++
	-Midwest	++	---	--	++	+++
	-West	0	---	0	0	+++
ALL		0	---	0	0	+++

Key: Percent change in **Federal subsidy** to PHAs:
--- loss of 25% or more
-- loss of 10-25%
- loss of 3-10%
0 loss of 3% to gain of 3%
\+ gain of 3-10%
++ gain of 10-25%
+++ gain of more than 25%

Exhibit 8.3
PERCENTAGE CHANGE IN FEDERAL SUBSIDY: DISTRIBUTIONAL IMPLICATIONS BY PHA SIZE AND REGION
Part B -- Fair Market Rent Alternatives

BASE CASE		PFS + CGP							
ALTERNATIVE SYSTEM		Unconstrained FMR		Constrained FMR			Constrained FMR + Backlog		
		97% Occupancy	Actual Occupancy	97% Occ. Year 4	Actual Occ. Year 1	Actual Occ. Year 4	97% Occ. Year 4	Actual Occ. Year 1	Actual Occ. Year 4
Extra-Large	-Total	--	---	--	-	--	++	++	+
	-Northeast	--	---	--	-	--	+	++	+
	-South	+	-	0	0	-	++	++	++
	-Midwest	--	---	--	-	--	++	++	++
	-West	+++	+++	++	++	++	+++	+++	+++
Large	-Total	--	--	-	0	-	++	++	++
	-Northeast	--	---	-	0	--	++	++	++
	-South	--	--	-	0	--	++	++	+
	-Midwest	--	---	-	0	--	++	++	+
	-West	++	++	++	++	+	+++	+++	+++
Medium	-Total	+	0	0	+	-	++	+++	++
	-Northeast	+	0	-	+	-	++	+++	++
	-South	++	+	0	+	-	++	+++	++
	-Midwest	-	--	-	0	-	++	++	++
	-West	+++	+++	++	++	++	+++	+++	+++
Small	-Total	-	--	-	0	-	++	+++	++
	-Northeast	-	--	-	+	-	+++	+++	+++
	-South	-	--	-	0	-	++	+++	++
	-Midwest	--	---	-	0	-	++	+++	++
	-West	++	++	+	+	0	+++	+++	+++
Very Small	-Total	--	---	-	0	-	++	+++	++
	-Northeast	--	--	-	0	-	+++	+++	+++
	-South	--	---	-	0	-	++	+++	++
	-Midwest	---	---	-	0	--	++	+++	++
	-West	-	-	-	0	-	+++	+++	++
ALL		--	--	-	0	--	++	++	++

Key: Percent change in Federal subsidy to PHAs relative to combined base case: --- loss of 25% or more; -- loss of 10 to 24.99%; - loss of 3 to 9.99%; 0 loss of 2.999 to gain of 2.999%; + gain of 3 to 9.99%; ++ gain of 10 to 24.99%; +++ gain of more than 25%.

this comparison by measuring the change in subsidy (relative to the appropriate base case) for each group of PHAs in percentage intervals, from a loss greater than 25 percent to a gain of the same magnitude. The exhibit's key shows the range of percent change as a number of plus signs and minus signs for each interval. Minimal change, in the range of 3 percent loss to 3 percent gain, is indicated by a zero.

Part A of Exhibit 8.3 shows the single alternative operating subsidy system and the four alternative capital subsidy funding mechanisms. PFS with Formal Review (analyzed in Chapter 2) will bring an increase of less than 3 percent in total PFS funding; it will benefit PHAs of medium size or less (except Western ones) by 3 to 10 percent, with a larger gain only to the very small Midwestern agencies. The magnitude of changes and the variation in impacts are larger for the capital funding systems. Compared to the Comprehensive Grant Program, historical CIAP provided less funding to most PHAs (by at least 25 percent); only large and medium Northeastern housing agencies did better under CIAP than they will under CGP.

The columns showing Backlog Shares Only and Accrual Shares Only in Exhibit 8.3 Part A are, of course, mirror images of each other, symmetrical around the equal weighting of the two aspects of capital need in CGP. Extra-large PHAs outside the Northeast would be the primary gainers in subsidy amount -- relative to the current CGP formula -- from heavier weighting of backlog needs (with gains in the 10 to 25 percent range), but large and small agencies in the West would also gain subsidy. Heavier weighting of accrual needs in the Comprehensive Grant Program formula would benefit public housing agencies from large size down to the very small, although this effect would not be as great for the Western PHAs of these sizes.

The most striking contrast among the alternative capital-funding-only systems is the magnitude of change if CGP were funded to clear the backlog in five years. Total subsidy would increase by more than 25 percent, as would the federal resources going to every stratum of PHAs.

Part B of Exhibit 8.3 displays the distributional impacts of all the Fair Market Rent system variants explored in Chapter 7, relative to the combination of operating and capital subsidy represented by the sum of PFS and CGP. The main contrast is among:

- an unconstrained FMR system (no limits to the degree of gain or loss in subsidy);
- a constrained FMR system (capping gains and losses at 20 percent and phasing in large losses over a 4-year transition period); and
- a constrained FMR system with an additional increment for addressing the current backlog (the increment equalling the backlog share of FY 1992 CGP funding).

The secondary contrast is related to differences in occupancy rates. The figures at 97 percent occupancy show the distributional effects *if all PHAs with vacancies in excess of HUD's current standard were able to eliminate them;* this is a "best case" scenario. The gains and losses at actual occupancy rates show the distributional effects if *there is no improvement in the occupancy level* with the implementation of the FMR system (a "worst case" scenario).

Under an unconstrained FMR system, Part B of Exhibit 8.3 shows that many categories of PHAs would sustain losses in subsidy greater than 25 percent and a few, including most of the Western PHAs, would gain. The largest percentage losses would accrue at the two ends of the PHA size range (the extra-large and the very small agencies). Details of the magnitude of individual agency gains and losses from an unconstrained FMR system were examined in Chapter 7; they suggested the need to develop a constrained FMR model with limits on total subsidy gain or loss and transition rules for agencies facing reduction in resources.

The middle columns of Exhibit 8.3 Part B show that under the constrained FMR-based funding system simulated in this study,[2] there would still be reductions in subsidy, but of diminished size. The system at 97 percent occupancy (shown for Year 4) would require 8.9 percent less subsidy in total and would mean losses to all strata of PHAs except the extra-large, large, medium, and small Western agencies and the extra-large and medium Southern agencies. Year 1 of a transition to this system at actual occupancy rates *with no improvement* would mean small or very minor subsidy losses and gains. But the full effect (Year 4) of a constrained FMR system at current occupancy rates would be an overall reduction of 11.6 percent, with 10 to 25 percent losses distributed to most PHA strata but sizeable gains to the extra-large, large, and medium Western agencies.

[2] The full set of constraint rules is described in Chapter 7, Section 7.2.

The final panel of Exhibit 8.3 Part B shows the distribution of subsidy under a constrained FMR system to which annual backlog funding has been added. (The backlog funding is assumed to be equal to the backlog half of the FY 1992 CGP grant.) Overall, the federal subsidy would be 16.6 percent larger for 97 percent occupancy (Year 4) relative to the combined base case and 13.9 percent larger even at current occupancy rates (with no improvement) after a transition period. No group of PHAs would lose subsidy under such a system, and there would be significant gains, particularly to Western PHAs and to the small and very small agencies.

The factors influencing the distributional effects we have summarized here are explored in the specific chapters presenting the alternative systems. Overall, the most significant contrasts are these:

- With respect to capital subsidy, funds appropriated by Congress for CGP represent a major increase relative to CIAP for virtually all groups of agencies.

- Funding of backlog over a 5-year period would increase subsidy relative to CGP to all groups of PHAs by over 25 percent.

- With respect to combined operating and capital subsidy, change to an FMR-based funding system would make real differences in federal funding, both in the aggregate and in distributional terms. Many agencies would face significant funding reductions under either an unconstrained or a constrained system. However, a constrained FMR system with an annual backlog payment would mean increased resources for all groups of PHAs, even if no improvement in vacancies were to be achieved due to the capital funding and the incentives built into this system.

8.1.2 Comparison of the Required Federal Budget Outlays under Alternative Funding Systems

This section summarizes the current year funding obligations of the systems we have analyzed and provides projections of the funding requirements for the subsequent five years. In all cases, the current year is 1992; thus all systems have been brought into 1992 dollars if they were not originally based on 1992 allocations.

The systems presented here include all the major base cases and simulations of alternative systems that have been presented in Chapters 2, 4, 5, 6, and 7. Our goal is to summarize, in an easily referenced format, the funds that would be required for subsidization of public housing in 1992 and for five years thereafter, to 1997.[3] In Exhibit 8.4, the alternative subsidy systems are those for operating costs or for capital costs. Exhibit 8.5 covers the combined operating and capital subsidy systems. It is the combined systems that represent the full costs of supporting public housing. Thus, recall that the combined base case for 1992 is simply the sum of the requirements for the PFS plus the FY 1992 CGP funding.

The remaining combined subsidy systems (also shown in Exhibit 8.5) include the Fair Market Rent (FMR) systems analyzed in detail in Chapter 7 and three alternative "full" systems for funding both operating and capital costs. Here, we have combined several sub-systems (operating and capital) in new ways, in order to examine alternative ways of funding full amounts for accrual and the modernization backlog.

These hybrid systems, as well as the other combined subsidy systems, provide Congress with a full "tableau of needs" for public housing, against which it may analyze its appropriations. The systems vary quite significantly with regard to the level of funding required. As will be discussed, this variation is a function of the components of need that are included or excluded (particularly the components of the backlog) and the timing of the funding (whether backlog is funded in 5, 10, or some other number of years). For example, if backlog were funded fully in the five years 1992 through 1996, a "steady state" situation would presumably be reached thereafter, in which public housing subsidy requirements would consist only of operating costs and accrual needs.

The subsidy systems in Exhibit 8.4 include the following:

Operating Subsidy Systems

(1) PFS 1992. This system is the 1992 requirement for PFS at $2.14 billion. As discussed in Chapter 6, since this allocation is utilized as the operating subsidy portion of the combined base case, we have also included the operating amounts for PHAs that receive CGP but are funded outside the PFS system.

[3] The projections extend through 1997, and, as is always the case with forecasts, it is difficult to determine in what manner to adjust for inflation. Throughout this report we have used the implicit price deflator for gross national product to adjust to 1992 prices. The Congressional Budget Office provides estimates of future inflation; currently CBO is projecting through 1993, and the rate is expected to be 3.15 percent. We have used the 1993 estimate to forecast to 1997; that is, we have simply updated the 1992 dollars by 3.15 percent for each year thereafter.

Exhibit 8.4

FEDERAL SUBSIDY PROJECTIONS FOR FY 1993 TO FY 1997: ALTERNATIVE PUBLIC HOUSING FUNDING SYSTEMS (in Billions)

System Number	Public Housing Funding System	FY 1992 CURRENT	FY 1993 YEAR 1	FY 1994 YEAR 2	FY 1995 YEAR 3	FY 1996 YEAR 4	FY 1997 YEAR 5	COMMENT
	OPERATING SUBSIDY SYSTEMS							
1	PFS Base Case	$2.138	$2.205	$2.274	$2.346	$2.420	$2.496	1. PFS operating funds only. Steady state.
2	PFS with Formal Review	$2.168	$2.237	$2.307	$2.380	$2.455	$2.532	2. PFS operating funds and review only. Steady state.
	CAPITAL SUBSIDY SYSTEMS							
3	Comprehensive Grant Program	$2.562	$2.642	$2.726	$2.811	$2.900	$2.991	3. Capital funds only. At current funding level, backlog not fully funded until FY 2021.
4	Five–Year Full Modernization Funding	$5.970	$6.158	$6.352	$6.552	$6.759	$2.406	4. Full CGP backlog and accrual funded 1992 through 1996. Accrual funding only by 1997.
5	Ten–Year Full Modernization Funding	$4.070	$4.198	$4.330	$4.467	$4.608	$4.753	5. Full CGP backlog and accrual funded by 2002. Accrual funding only thereafter.

Notes: 1. CGP backlog indicates the backlog components included in CGP. Refer to Exhibit 5.3.
2. Full modernization funding includes broader definition of backlog than CGP. Refer to Exhibit 5.3.

(2) PFS 1992 plus Formal Review. The same as (1) but including the amounts added under the Formal Review System discussed in Chapter 2. In 1992 dollars, the Formal Review Process adds approximately $30.7 million.

Capital Subsidy Systems

(3) CGP (Comprehensive Grant Program). The system was developed from the backlog and accrual shares of the CGP, and applied to the FY 1992 appropriation of $2.56 billion.

(4) Five-Year Modernization Funding. This system, described in detail in Chapter 5, includes backlog and accrual as they were defined in the development of the CGP system. (Refer to Exhibits 5.1 and 5.3 for a list of the needs components included and excluded from this definition). This option is found in row III.A of Exhibit 5.3, under the column for a five-year funding horizon. The full amount is funded over five years (1992 through 1996 in Exhibit 8.4). Thus, a steady state is reached in 1997, at which time, in theory, only the accrual portion of modernization need would be funded.

(5) Ten-Year Modernization Funding. This system is defined exactly as the Five-Year system in (4) above, except that the backlog is funded over ten years. Steady state is reached in 2002, at which time accrual, as above, is the only component of modernization which would be funded. This option is also found in row III.A of Exhibit 5.3, under the column for a 10-year funding horizon.

Combined subsidy systems are show in Exhibit 8.5, beginning with:

(6) Combined base case. This is the sum of PFS and CGP as defined in Chapter 6. Under this approach, assuming that accrual is fully funded, the funding horizon for the backlog is 29 years.

(7) Unconstrained FMR. Under this approach, PHAs would immediately change systems without a transition period. In theory, accrual is funded under FMR, but no special provision is made for any backlog funding.

(8) Constrained FMR. A four-year transition period is added to the FMR system, as well as limits on gains and losses. As with (7), no special provision has been made for funding backlog.

(9) Constrained FMR with 50 percent CGP Funding. This system adds to system (8) the allocation for backlog defined under CGP. (For FY 1992, this represents about $1.3 billion, one-half the FY 1992 CGP funding). As in the combined base case, the implied funding horizon for the backlog is 29 years.

Other combined subsidy systems are also presented in Exhibit 8.5. The major goal in creating these additional alternatives is to present funding levels and time horizons relevant to **complete** funding of operating costs and estimated modernization need. Thus, in most of the combined systems, operating costs are represented by PFS with Formal Review.[4] With regard to modernization needs for backlog and accrual, two options are considered:

- Modernization Funding: components of need as defined under CGP. Refer to row III.A of Exhibit 5.3.

- "Full" Modernization Funding: components of need including all of those under CGP plus Energy and Redesign as estimated in the Modernization Needs Study. In addition, Extra-ordinary Accrual is included in the total. Refer to row III.B in Exhibit 5.3.

In each of these alternative definitions of backlog, the relevant totals are funded over a period of either five or ten years. We have included examples of both. This is an arbitrary decision, since it is really not known how long is "too long" with regard to the impact on accrual of an unfunded backlog. Periods in excess of ten years would suggest that serious additional problems might arise from unmet repairs and replacements, but this is obviously a topic for further research. On the other hand, depending on the magnitude of the backlog at a given PHA, perhaps not all backlog work could be accomplished in just five years. Thus, our totals are merely representative of some options for funding horizons.

Returning to Exhibit 8.5, the other combined subsidy systems include the following:

(10) PFS plus Formal Review plus Five-Year Modernization Funding. This system combines system (2) for operating funds with system (4), the five-year funding option for modernization funding. Note again that backlog would be fully funded from 1992 through 1996; after that, steady-state accrual-only funding is joined with PFS.

(11) PFS plus Formal Review plus Five-Year ***Full*** Backlog Funding. This system is exactly like (10) except that Energy and Redesign are included in the backlog subsidy and Extraordinary Accrual is included in total accrual. Steady state is again reached in 1997, and accrual joined with PFS, with accrual still expanded to include extraordinary needs.

(12) Constrained FMR at 97 percent occupancy plus *Full* Backlog funded over 5 years. This alternative combines system (8) with so-called *Full* Backlog. Thus, this

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[4] An alternative is a constrained FMR system; the FMR, in theory, includes not only operating costs but also the accrual portion of modernization.

Exhibit 8.5

FEDERAL SUBSIDY PROJECTIONS FOR FY 1993 TO FY 1997: COMBINED SUBSIDY SYSTEMS FOR THE PUBLIC HOUSING PROGRAM (in Billions)

System Number	Combined Subsidy System	FY 1992 CURRENT	FY 1993 YEAR 1	FY 1994 YEAR 2	FY 1995 YEAR 3	FY 1996 YEAR 4	FY 1997 YEAR 5	COMMENT
6	Combined Base Case (PFS+CGP)	$4.802	$4.953	$5.109	$5.270	$5.436	$5.607	6. Steady state combined formula.
7	Unconstrained FMR							7. Steady state FMR. No special backlog funding.
	97 Pct Occupancy	$4.198	$4.331	$4.467	$4.608	$4.753	$4.903	
	Actual Occupancy	$3.763	$3.882	$4.004	$4.130	$4.260	$4.395	
8	Constrained FMR							8. Steady state FMR. No special backlog funding.
	97 Pct Occupancy	$4.377	$4.515	$4.657	$4.803	$4.955	$5.111	
	Actual Occupancy	$4.769	$4.732	$4.698	$4.658	$4.804	$4.956	
9	Constrained FMR+Backlog							9. Steady state FMR. Again, twenty-nine year funding horizon for backlog.
	97 Pct Occupancy	$5.601	$5.777	$5.959	$6.147	$6.341	$6.541	
	Actual Occupancy	$5.993	$5.995	$6.001	$6.001	$6.190	$6.385	
10	PFS with Formal Review with Five-Year Modernization Funding	$8.138	$8.395	$8.659	$8.932	$9.213	$4.832	10. Combined System. Backlog funded 1992 through 1996. Steady state PFS with accrual 1997 onwards.
11	PFS with Formal Review with Five-Year Full Modernization Funding	$9.358	$9.653	$9.957	$10.270	$10.594	$5.591	11. Like System 10 except Energy and Redesign added to backlog funding and extraordinary accrual added to accrual.
12	Constrained FMR at 97 Pct Occupancy + Full Backlog Funded Over Five Years	$8.947	$9.229	$9.519	$9.819	$10.128	$5.111	12. The FMR System (8) at 97 percent occupancy plus full backlog (including Energy and Redesign) funded over five years.

NOTES: 1. Constrained FMRs at Actual Occupancy assume that FY 1992 is Year 1 of the transition to actual occupancy rates and FY 1995 is Year 4.
2. The 97 percent occupancy lines have no transition period to get to that level; they essentially represent the maximum subsidy.
3. FMR 1992 cases were adjusted upward to the full combined base case N, by multiplying by 1.1058 (the 1992 ratio).
4. Unconstrained FMR at actual occupancy rates assumes *no reduction in vacancies over time*. It thus represents a minimum subsidy amount.
5. CGP backlog indicates the backlog components included in CGP. Refer to Exhibit 5.3.

> definition of backlog includes all the components considered under CGP as well as Energy and Redesign. Note, however, that it does not include accrual, since the FMR itself, in theory, makes adequate provision for accrual.[5] Thus, after a five-year funding period for backlog, funding remains simply the FMR in steady state.

A comparison of combined subsidy systems (6) through (9) in Exhibit 8.5 with the alternative combined systems (10) through (12) suggests two major types of differences: the starting point for the level of funding and the shape of the funding horizon until steady state is reached. The major differences in level of funding arise primarily from differences in the treatment of the backlog -- that is, which categories of need are included. The major differences in the funding horizon arise from assumptions -- explicit or implicit -- concerning the period over which the backlog will be eliminated.

The combined base case (6), $4.8 billion in 1992, is the least costly of all the combined systems that include backlog. (Note that two of the four FMR systems make no provision at all for backlog, so they are not strictly comparable to the other combined cases). It also has the longest funding horizon: backlog will not be fully funded for at least 29 years. In theory, in 2021 the system would require funding only for PFS and accrual, if the delays in addressing backlog items did not induce additional or more serious problems.

The next lowest cost starting point is system (9), Constrained FMR with Backlog. This system, however, assumes that accrual is in the FMR and therefore only contains the backlog portion of CGP (represented as 50 percent of the 1992 allocation). Here, steady state is also not reached for 29 years with regard to elimination of backlog problems. It is instructive to compare this system with (12), which includes *full* backlog as estimated by the Modernization Needs Study and which sets a funding horizon of 5 years for this backlog. Thus, after funding at levels of $8.947 to $10.128 billion from FY 1992 to FY 1996, the steady state requirement drops to $5.111 billion, exactly the level indicated for system (8). Systems (10) and (11) are variations of PFS plus Formal Review, with modernization defined in the two ways noted above. Both would seek to eliminate the backlog in 5 years and reach steady state after this 5-year period. The steady-state requirements are fairly similar, except that system (10) includes only age-related accrual, whereas the other includes extraordinary accrual as well.

[5] See, however, the discussion in Chapter 7.

In summary, this section has sought to provide an overview of options for funding public housing and the time horizons implied by decisions regarding the backlog. Other combinations and assumptions can easily be made. There are also questions to raise. In the exhibits, the steady-state funding requirements are similar for all systems adopting a five-year horizon. This would probably be true as well for the ten-year horizon versions. However, if the true backlog is not funded for over 29 years, the accrual figures are almost certainly too low because backlog will influence accrual. Another question concerns the FMR systems, which in theory cover accrual. This may not be the case; in the private sector if refinancing is required to cover major repairs and replacements, rents may be raised at a rate well above the inflation adjustments included here. Thus, while the outcomes of the choices made today are unknowable, it is also true that, based on our analyses to date, the implications of under-funding are not certain. Chapter 9 sets forth our suggestions for future research.

8.2 ANTICIPATED NON-FINANCIAL IMPACTS OF ALTERNATIVE FUNDING SYSTEMS

The previous section discussed the financial impacts of the various funding system alternatives on the level and distribution of financial subsidy. The remainder of the chapter will highlight the primary non-financial impacts of the funding models. In contrast to the analysis of financial impacts, which relied on quantitative data, information on non-financial impacts is largely qualitative and to some extent speculative in nature. The analysis focuses on the administrative and managerial implications of the various options, as well as their impacts on public housing tenants and local communities. Experts in the field of public housing, from within HUD and from PHAs and their advocacy organizations, were interviewed for their perspectives on likely impacts and on issues that would need to be addressed under each funding mechanism. The issues raised by the different funding alternatives varied somewhat; however, in general, observers were asked to comment on the following types of expected impacts:

- degree of change or hardship from the current system
- appropriateness of the standard
- administrative simplicity
- incentives for good management
- degree of local flexibility and control.

The following sections present observers' comments on the four basic funding approaches analyzed in this research: PFS with Formal Review, operating subsidy based on private market costs, Comprehensive Grants for modernization, and an FMR-based system for combined operating and capital funding. Exhibit 8.6, at the end of the chapter, attempts to summarize this information by comparing the alternatives with the current funding systems along the various dimensions identified above.

8.2.1 PFS with Formal Review

The Performance Funding System (PFS) has now been in effect for seventeen years. While observers admit that PHAs have managed to operate under the formula subsidy system, PFS has had vocal critics who argue that it has not provided an adequate level of subsidy to manage effectively the public housing stock and provide appropriate services to public housing residents.

There have been two general categories of criticism leveled at PFS. The first is that the initial formula was flawed. Since the system was first implemented, many public housing experts have argued that some housing agencies were short-changed by the formula and, consequently, that an appeal process for challenging the formula funding amount is needed. The second argument is that public housing funding should be based not on a theoretical formula, but rather on some determination of "real" operating costs.

To date, HUD has rejected the idea of trying to determine real operating costs, largely because it is so difficult to document operating costs when public housing budgets have been constrained by PFS for so long. Instead, the Department has retained the formula funding approach, implementing various modifications and improvements over the years. One recent modification is the formal review process. As noted in Chapter 2, formal review is not a true "appeals" system, but rather an expanded range test. It was designed to allow PHAs to request a one-time adjustment to their formula funding level to correct for inequities in the original PFS formula. As noted, the overall impact on subsidy is small; the primary beneficiaries of the review process will be small housing agencies with low allowable expense levels relative to other PHAs with similar characteristics.

The administrative requirements of the formal review process are minimal, involving only one relatively straightforward re-calculation for agencies qualifying for a formula increase. In future years, the subsidy will be adjusted for inflation and for the aging of the stock, as has been done in the past. Most housing agencies will realize only small (if any) increases in their funding levels as a result of the formal review process. Thus, impacts on tenants or local communities are likely to be virtually unnoticeable.

Advocates of a PFS appeals process are generally disappointed with the formal review process developed by HUD. These observers accept the notion of formula funding as the starting point but still want a "true" appeals system. One observer suggested that such an appeals system could be based on a review of PHA Allowable Expense Levels (AELs) relative to their size category and region. PHAs whose AELs were the lowest compared to others in their size category and region would have their formula level reviewed and perhaps adjusted.

Critics of formula funding argue that even with a true appeals system, the PFS still would not address the question of what housing agencies *need* to operate effectively. All admit that there are enormous variations between housing agencies' operating conditions and funding needs, even within PHA size categories and regions. However, many assert that more effort needs to be made to document what it costs to operate public housing. Such an effort, many contend, must consider the costs of providing necessary social services for public housing tenants, in addition to meeting operating and capital needs. One public housing expert argued that such costs must be determined not only on a housing agency-by-housing agency basis, but even on a development-by-development basis, in order to accurately identify funding need. These costs would then be documented in management plans addressing how the subsidy would be used.

Another expert suggested an approach that would use an appeals process as the basis for developing better information and guidelines on actual funding needs. Under this approach, the basic PFS system would be retained, but with a detailed review process for PHAs that appealed. The administrative burden of appeals would be constrained by giving priority to PHAs with AELs that were a certain percentage below the average for their size and region and by limiting the total number of appeals to be processed each year. The objective of the system would be to achieve greater equity (within regional and size categories) in terms of the resources provided to do the job. For example, a PHA might show that it has fewer maintenance staff per unit than other similar PHAs and be allowed increased subsidy to bring itself up to the average. Appeals would be handled by a review committee that would develop norms (and a database) as it proceeded. A similar process could also be used to focus on high-end outliers, assessing whether high costs arise from need, management problems, or a combination of both. Such a system could also be designed to identify overfunded PHAs and adjust AELs downward.

8.2.2 Systems Based on Private Market Operating Costs

Chapter 3 of this report analyzed two potential data sources that could be used as standards for providing PHAs with operating funds, based on the costs of operating private rental properties. The objectives of such a funding system would be to impose private market discipline on PHAs and to match (to the extent possible) PHA funding with actual private market costs, based on similar building types, tenant populations, and local market conditions.

The primary objection to this approach stems from a belief that public housing and private rentals are simply not comparable. Critics point out that the concentration of families with very low incomes and extensive service needs in public housing makes the operating environment very different from that found even in private subsidized housing. Also, they contend that public housing agencies operate under administrative requirements that are both costly and constraining as compared to the private market (even relative to private, assisted housing). Finally, several observers questioned whether private market multifamily projects exist that are similar enough to public housing in size, density, population mix, age, and condition to make the comparison worthwhile.

In addition to concerns about the appropriateness of private market rentals as a standard for public housing costs, there is the problem of obtaining suitable data to implement such a system. As described in Chapter 3, problems of data comparability and availability are severe and continue to preclude this approach as a viable, current option for funding public housing. While new data collection could be undertaken, the administrative costs of maintaining and updating a private market database would presumably be quite high. Also, while existing HUD-Insured Multifamily and IREM data suggest that "private" market costs are only slightly lower on average than PHA costs, the distributional impacts cannot be determined at this time.

8.2.3 Formula Grants for Modernization

The Comprehensive Grant Program (CGP), the successor to the Comprehensive Improvement Assistance Program (CIAP), was designed to be a simpler and more flexible administrative mechanism for funding public housing modernization. By providing formula-based grants instead of awards based on competitive application, HUD also intended to give housing agencies a predictable flow of capital funding and to increase local control over modernization priorities. The program requires five-year modernization plans, developed through a public planning process involving residents and local government representatives. As an incentive for efficient spending of CGP funding, HUD by statute will limit modernization funding provided to those PHAs that are determined to be "mod troubled" according to Public Housing Management Assessment Program (PHMAP) indicators, after the first year of CGP implementation.

Opinions on the anticipated management and administrative impacts of the transition from CIAP to CGP vary widely. Some PHAs are looking forward to decreased administrative burden, more stable funding, and increased fairness and flexibility under the formula-driven system. Other observers have noted that the program regulations and handbook continue to provide for a high degree of HUD oversight and control, thus undercutting the flexibility inherent in the CGP design. They also point to specific features of the formula that disadvantage certain PHAs and argue that an appeals system will be needed for this program as well, beyond that already included in the statute.

An important implementation issue for the CGP is the very sizable funding increases that will come to some of the larger, troubled PHAs. Although the analysis presented in Chapters 4 and 5 of this Report suggests that the largest PHAs have been relatively underfunded in the past, there is considerable concern about the capacity of some of these agencies to use CGP funds effectively and to avoid waste and/or scandal. Unlike CIAP, which was discretionary in nature and could take PHA capacity into account, CGP may well provide the largest gains to those agencies least able to manage their use. There is also some resentment that PHAs that allowed their stock to deteriorate will now be rewarded under CGP.

As shown in Chapter 4, overall funding levels under CGP are higher than they have been under CIAP. These higher funding levels, if continued, could result in improvement in the stock and in the quality of life for public housing residents. CGP also removes the perverse incentives for disinvestment or premature replacement inherent in CIAP and therefore should result in more intelligent maintenance and spending decisions. Finally, some observers hope that the very size of the program will help build capacity at the PHA level, by attracting stronger managers and providing incentives for sound, ongoing capital planning.

On the downside, there is the potential for abuse noted above, as well as the fact that funding levels may still be insufficient to address the significant backlog of capital needs except over a long period. Observers point out that the formula cannot take into account either the fact that backlog needs were never fully addressed nor that funds expended since 1985 may not have been effectively spent. Thus, the formula may not reflect current physical needs. In addition, there is concern that under CGP it will be difficult to fund the large, multi-phase modernization projects that were encouraged under CIAP. Also, HUD appears likely to prevent the establishment of replacement reserves under CGP until current needs are cleared.

8.2.4 Combined Capital and Operating Cost Systems

Among the most widely discussed alternatives to the current system of public housing funding is the use of local FMRs to set subsidies. As noted in Chapter 7, the approach does not rely on a presumed comparability between public and private housing but rather on a determination that the federal government should not pay more for public housing than for subsidized units in the private market. An FMR system could provide maximum flexibility to PHAs to set priorities, to manage funds, and (since it would provide a single subsidy for operating and capital needs) to negotiate the gray area between repairs and modernization. PHAs would also have an incentive to reduce vacancies, as only occupied units would be funded. An FMR system has the inherent appeal of assuring that PHA costs are in line with the market. It may be simpler for HUD to administer, given that FMRs are published annually for Section 8 Market Areas. Moreover, funding levels would increase for most types of PHAs if funding increments were included to address the backlog of capital needs.

While these features make the system appealing, there are a variety of problems that would need to be worked out. Some of these are adjustments that would be needed to achieve better "comparability" between the two systems, including deductions for debt service and the addition of a fee for PHA administration. Some observers suggested that there should also be some adjustment for hard-to-house tenants. There is also major concern about the effects of the backlog, since private market comparables must meet Section 8 Housing Quality Standards. They also have access to bank refinancing for major improvements. Most important, some PHAs in markets with high FMRs would garner large increases, and others in markets with low FMRs would suffer debilitating losses. This has led to proposals for constrained systems, either to limit windfalls or to cushion losses (or both) during some transition period or for the long term. Details of the design of an FMR system would make a major difference in such a system's impact.

From an operations perspective, the PHAs' transition to an FMR system could be complicated. In the past, most housing agencies have had separate staff members or departments administering the operating budget and the modernization program. While simplification might result in the long run, extensive staff re-training or re-organization could be required.

Exhibit 8.6 provides a summary of non-financial impacts of the four basic funding approaches analyzed.

EXHIBIT 8.6

SUMMARY OF NON-FINANCIAL IMPACTS OF ALTERNATIVE FUNDING SYSTEMS

Funding System	Degree of Change or Hardship for PHAs	Appropriateness of Standard	Administrative Simplicity	Management Incentives	Flexibility & Local Control
PFS with Formal Review	Minimal; results in increases only	Slight improvement for PFS outliers	No change Still complex	No change	None
Comprehensive Grant Program	Substantial change, although probably little hardship. Capacity issues for large, troubled PHAs	CGP underfunds PHAs with high share of total backlog need	Has potential to be much simpler than CIAP, but actual shape not fully known	More control over planning and timing. Predictable flow of funding	Required local government and resident input; link to CHAS
Private Market Cost-Based System	Unclear	Comparability of public and private housing costs is debatable	Not significantly simpler, if requires on-going private market data collection and local adjustments	"Private market discipline"?	No change
FMR-Based System	Substantial changes for PHAs; would be significant hardship and transition issues for some. Constrained system might ease transition and reduce long-term effects	Many issues about FMR levels, coverage of debt service, coverage of modernization backlog, coverage of unusual administrative costs	Simplifies subsidy calculations, especially with regard to utilities	"Private Market discipline"? Single subsidy-increased control for PHAs	Could be far more flexible

CHAPTER 9

DIRECTIONS FOR FUTURE RESEARCH

In virtually every chapter of this Report, we have noted unexplored issues and data limitations that circumscribed our ability to assess revised methods of providing federal funds for public housing agencies. There have been questions raised that simply could not be answered either from existing studies or by this research. The cumulative effect is to suggest a considerable list of useful data collection and studies relevant to the subject of public housing funding as it reflects aspects of public housing conditions, needs, and operations.

The purpose of this chapter is to draw together the list of data collection and research needs in a way that will prove useful to HUD and to Congress. The discussion is organized in three sections:

- research on operating costs and capital costs (Section 9.1);
- research on public housing residents (Section 9.2); and
- research on public housing management (Section 9.3).

Each section contains suggestions about ongoing data collection and monitoring as well as about occasional studies. Together, they provide many components for an agenda to strengthen our knowledge and understanding of public housing and improve our policy-making for the public housing program.

9.1 DIRECTIONS FOR FUTURE RESEARCH ON OPERATING COSTS AND CAPITAL COSTS

Many of the previous chapters, in noting the limitations faced by some of the analyses conducted for the present Report, have made suggestions for research topics and data collection efforts which might further our understanding of the issues regarding operating and capital costs. Chapter 8 also presented a critique of the operation of the current funding systems, particularly the PFS. PFS has long been the target of criticism; the CGP, still in early implementation, raises concerns inevitable to major changes in procedure.

This section comments on the major outstanding questions that need to be addressed and attempts to focus on a realistic agenda for improvements. Three key issues need to be noted with regard to the approach which might be taken.

First, PFS and CGP are obviously at very different points in their histories. Some feel that the fundamental structure of the PFS needs reassessment, after more than a decade and a half of operation. CGP on the other hand, is just being implemented. HUD is mandated by statute to evaluate CGP and report the results to Congress three years after CGP funds are first made available to the PHAs. In the interim, HUD should document the details of the development of the CGP as a system.

Second, PFS and CGP are also very different "models" with regard to their development. CGP was derived from, and can continually make reference to, a carefully measured set of "real capital needs." The origins of PFS are grounded within the historical evolution of the public housing operating system itself and do not have a "real need" reference point.

Third, HUD has followed entirely separate tracks in the development, evaluation, and modification of the operating and capital cost systems. To our knowledge, all decisions regarding CIAP and PFS were taken entirely separately, both at the system level overall and for individual PHAs. Given the complex inter-relationships among some components of operating costs, backlog, and accrual, we suggest that a joint evaluation of both systems will soon be desirable.

Thus, this section will attempt some merger of the separate discussions regarding PFS and CGP in terms of a research agenda. With the advent of a dual formula system, the approach to the distribution of both PFS and CGP is based on the same types of methodological and theoretical underpinnings. In essence, what now faces the PHAs is a single, large pool of funds. Even if this pool is not fully fungible, the two streams of funding are more closely related than ever before. As noted, the two types of costs are also closely related in numerous ways, such as those discussed in the combined base case presented in Chapter 6. Thus, the most efficacious set of future research efforts will consider many aspects of the systems together.

In summary, two alternatives might be posed for the framework of a research agenda:

- that the current situation be continued, that is, that operating and capital costs be assessed separately and the systems kept entirely separate in operation; or

- that the pool of funds be considered as one for research purposes, and possibly merged for operational purposes some time in the future. For research purposes, we would wish to consider the adequacy of the ***total*** funding package and the manner in which PHA characteristics determine certain inter-related expenditures (for example maintenance, energy conservation, backlog, and accrual; or tenant services, security, and vacancy procedures).

The first option, which has been the traditional approach to research for public housing, now seems too limiting. As an example, one can hypothesize that one reason for the tremendous differences among agencies in the PUM subsidies under PFS is that, at the point of introduction of the PFS, PHAs were in radically different situations with regard to expenditures on maintenance and capital repairs. This could result in situations that color the way we look at PFS and CGP: (1) the AELs ***at that moment in time*** were very different, even though future needs might be nearly identical for PHAs in similar circumstances; and (2) the AELs of older agencies, or those already undertaking capital repairs, reflect a greater share of capital expenses relative to operating expenses.

This type of argument supports an "integrated" research approach suggested above in option two. The ultimate implication of this option might be a fully integrated formula funding ***all*** public housing expenditures. While this outcome may become increasingly pertinent as time goes on, it is perhaps premature to now suggest a combined formula approach. For one thing, CGP is entirely new, and the derivation of the system has not even been evaluated. For another, PFS has faced through the years and still faces tough criticism regarding the current relevance and adequacy of the AELs (which are in most cases simply linear extensions of the originals from 1975). Thus, PFS itself must address a number of issues before operating costs can be considered with the same level of confidence as the estimates of modernization.

In essence, we suggest a "separate but interrelated" research agenda, which addresses each system separately but also considers the important connections and the joint distribution of funds. Thus, in general, future research would take into account the following issues, each of which is addressed more thoroughly in the subsections below:

- For the PFS, at what level of intensity should the issue of "appropriate" costs be examined? Should the assessment be based on public housing needs, private sector costs, or some combination of both?

- For the CGP, what might be revealed about its distribution patterns by a review of the formula's statistical development?

- For backlog and accrual, how might data collection and monitoring help determine the current actual backlog and its implications for future accrual? Should a subset of PHAs be analyzed in order to compare estimates of the update with actual, current need?

- Finally, with regard to appeals, how can further assessment of "needed" funds under PFS, newly available funds under CGP, and a planning exercise based on the total pool of monies, assist in developing a new approach to appeals, one which is fair to PHAs but not open-ended with regard to HUD's required response?

9.1.1 Recommended Research for the PFS

As noted in Chapter 8, many PHAs are not satisfied with either the PFS or with the ability of the recent Formal Review Process to address the majority of their concerns. Since the original system was designed without a "needs assessment," it has often been suggested that such a study be carried out: a study in which, function by function, estimates are prepared of what is ***required*** to operate public housing. The contrasting position, as discussed above with regard to comparison with private sector operating costs and FMRs, is simply to impose the discipline of the private sector on public housing. Given the tremendous undertaking that would be required by either type of study, we propose an alternative approach to PFS-related studies, as follows:

(1) In the short term, in order to focus directly on the most glaring weaknesses of the PFS, disaggregate the approach to studying operating costs, so that administration, maintenance, tenant services, and so forth, are considered separately. This approach allows a better assessment of two issues: (a) what functions have arisen or increased in importance since the PFS was introduced? What functions have decreased in importance? (b) how do particular types of operating costs relate to particular types of PHA characteristics?

(2) Once this type of disaggregated approach has been taken, conduct "need" studies of certain new functions faced by many PHAs, such as enhanced security or tenant services.

(3) Reassess what an appeals procedure is supposed to be able to do. Because it was based on PFS data, which may be badly out-of-date with regard to the types of costs that need to be included, the recent Formal Review Process was unable to address broader coverage and magnitude issues, ones which should definitely be examined for PFS.

(4) Perform a fundamental reassessment of operating costs. Studies (1) through (3) above will provide a partial assessment of several of the key features of PFS that have been most controversial over the years. Based on the findings, a decision should be made on whether a complete redevelopment of the system for operating costs should be undertaken. As has often been noted by both HUD and industry representatives, it is difficult to continue to "fix" the PFS. A thorough reassessment of operating costs, based on effectively managed PHAs, is probably warranted. Information from two current initiatives -- PHMAP and project-based accounting -- will be of great assistance in selecting candidate PHAs and undertaking the necessary quantitative data collection and analysis.

(5) With regard to private sector costs, examine the relationships between operating costs and accrual, on one hand, and FMRs, on the other. Understanding the variance in the ratios of these costs and the outliers in both data sets will provide a "macro" approach to relating public and private costs. This topic is further discussed below, in Section 9.1.3 on suggestions for combined operating/capital cost studies.

Our arguments for this approach to a PFS research agenda include the following: (1) avoidance of extremely costly studies before a clear set of goals has been established; and (2) a desire to develop a comprehensive picture of needs for the total of operating expenses, backlog, and accrual. The function-by-function needs assessment (or a detailed comparison with private sector operating costs) would require very large and complex studies. Given the important impact on costs of PHA characteristics, PHA management, tenant characteristics, and neighborhood characteristics, the sample size selected for detailed study would have to be substantial, in order that all the important determining factors could be adequately addressed.

On the private market side, as discussed in Chapter 3, the Institute for Real Estate Management (IREM) data have many shortcomings for this analysis. Therefore, for a private sector approach, a separately designed survey and inspection of private market housing might have to be undertaken. The needs assessment approach would require extensive definitional preparation as to what standards were being employed to define adequate. However, the recent study of HUD-insured Multifamily housing provides strong guidance on how to proceed; an update of that study might even suffice.

For these reasons, we suggest beginning with a disaggregated approach to examining what are likely to be the worst omissions in PFS, combined with a more detailed analysis of how FMRs relate to public housing costs. These studies could be carried out with attention to issues addressed in PHMAP, to bring the ever-present concerns about PHA management into view.

9.1.2 Recommended Research for CGP and for Modernization Needs

The data files already available for examining capital costs can form the basis for much of the policy development and research needed on CGP and modernization needs. In addition, a mini-study of current capital needs, combined with an ongoing monitoring study of CGP, could assist in clarifying the magnitude of the current backlog and anticipated accrual.

The following suggestions are made with regard to modernization:

(1) Prepare a policy statement and information package regarding funding both accrual and the full backlog, so that Congressional leaders have a better idea what is and is not now being funded. Understanding the true nature and size of the backlog and the relationship between the level of funding and the time it will take to fully fund the backlog is a complicated issue but one vital to a meaningful policy-making and appropriations process.

(2) Two additional types of information are necessary to clarify and update the policy position suggested above: estimates of remaining backlog and some understanding of how CIAP (and now CGP) monies were/are actually spent. The approach might involve drawing a subsample of the PHAs studied for the 1985 estimates of modernization need; the status of each of the sampled agencies under PHMAP would also be important to the study plan. For these PHAs, an update of capital needs should be developed and the current "actuals" compared with updated estimates from the original data.

(3) Meanwhile, it is also important to evaluate CGP. As noted, an evaluation has been mandated to occur within the first 3 years of operation. First, however, a statistical review of the development of CGP (such as an analysis of the residuals of the equations and an assessment of the impact of capping), should be made to provide a better understanding of the distributional aspects of CGP, specifically how PHA characteristics influence formula shares.

As indicated, several of these studies can rely mainly on existing data. The second point requires new data collection, but it is likely that a subsample of the original Modernization Needs Study sample would be adequate. The number of backlog components requiring inspection could also be limited and the inspection procedures greatly simplified, as was done for the study of HUD-insured Multifamily housing. An ***ongoing data collection effort*** for this same subsample is important in understanding how CGP is operating. Again, PHMAP information will be important both for sampling purposes and for relating the backlog estimates to management effectiveness.

9.1.3 Recommended Research for the Joint Distribution of Operating and Capital Funds

Two main themes underlie our suggestions for "combined" research:

- for the first time, to consider PFS and CGP funds as a single pool of resources; and

- to continue the analysis of FMRs and the overall funding of public housing.

The "single pool of resources" approach should be very revealing in helping understand the relationship between total funds and PHA characteristics. As noted in Chapter 6, the shares of PFS and CGP in the total show great variation, even within size and region groups. Also, as noted in Section 9.1.2, examination of the relationship of the backlog to total funding now available could be carried out for a subsample of projects/PHAs from the Modernization Needs Study. Examination could be made of different subsets of total costs. For example, for some types of expenditures the costs reflect a continuum of similar actions. For other types of costs (for example, administration of occupancy and eligibility), a continuum between operating and capital expenses is less evident. The goal is to develop and test "models" of generation of expenses so that the underlying factors explain as much of the variance as possible. In this manner, it should be possible to achieve a more equitable view of both real needs and the limits to those needs (especially if sample selection considers PHMAP indicators).

The other theme underlying the combined research approach is the need for a better understanding of why there is such great variance in the ways that public housing costs relate to private sector costs, such as in a FMR system. Note that the FMR approach has been recommended as an alternative to undertaking a detailed collection of private sector costs function by function. However, much more work is needed to understand how private and public sector costs do and do not overlap. For example, in theory FMRs cover operating costs and accrual. On the other hand, some costs may not be pertinent to both sectors. Excluding costs relating to functions not undertaken by the private sector (such as waiting lists, recertification, and so forth) will improve comparability. Seeming outliers among the FMRs can also be identified. The basic goal is to obtain a better understanding of the relevant totals for both operating and capital funds and how both real needs and equitable limits on total PHA spending can be established.

9.2 DIRECTIONS FOR FUTURE RESEARCH ON PUBLIC HOUSING RESIDENTS

In the last several years, HUD and Congress have focused their interest in the residents of public housing. The articulation of empowerment as a Federal goal, the encouragement and support of Resident Management Corporations, the HOPE 1 Program of the 1990 National Affordable Housing Act focusing on resident ownership of the public housing stock, the priority given resident input into anti-drug strategies for the Public Housing Drug Elimination Program — all these initiatives suggest recognition that the people who live in public housing matter. They matter as human beings, and they matter because of how public housing residence affects them and how they affect public housing.

Despite this policy interest, there is surprisingly little systematic information available about those who live in public housing nationwide or in particular communities. In an earlier period, HUD collected such data from PHAs and published them in the *HUD Statistical Yearbooks*. As part of the preparation and implementation of the PFS, two independent tenant surveys were conducted, in 1976 and 1979.[1] There have also been occasional analyses using survey data from the Annual (and now the American) Housing Survey; examples include a comparative study for the years 1974 to 1981[2] and the newly published volume for 1989 covering HUD-assisted renters in public housing, the Section 8 Voucher and Certificate programs, and private project-based housing.[3]

There are several important drawbacks to dependence on the American Housing Survey for information about public housing residents. First and foremost is the limited sample size: just 221 interviews represent the 1.3 million public housing units. This makes it difficult to generalize about subpopulations and to make reliable statements comparing groups of tenants across programs. Second is the inability to look at geographical variations below the regional level. Third, a variety of questions specific to renters receiving federal housing subsidy -- and even specific to public housing residency -- cannot be asked in a general survey. Fourth, issues

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[1] See Suzanne B. Loux and Robert Sadacca, *Comparison of Public Housing Tenant Characteristics: 1976 to 1979* (The Urban Institute, 1990).

[2] Paul Burke, "Trends in Subsidized Housing, 1974-1981." Division of Housing and Demographic Analysis, Office of Economic Affairs, HUD (March 1984). This paper compared tenants in the major housing subsidy programs in 1974, 1979, and 1981.

[3] Connie H. Casey, *Characteristics of HUD-Assisted Renters and Their Units in 1989* (Office of Policy Development and Research, U.S. Department of Housing And Urban Development, March 1992).

related to development living (whether in public or in private project-based assisted housing) cannot be examined with these data.

However, since December 1989 HUD has pilot-tested and implemented a major data collection project on public housing residents called the Multifamily Tenant Characteristics System (MTCS). This project gathers information monthly about newly admitted residents and those recertified during the past month. As of February 1992, PHAs of all sizes were mandated to submit data to the system.[4] A major data base has been developed from these submissions, built on household-level records with development and PHA identifiers. Because the data are not aggregated, there is great potential flexibility in the types and levels of analysis this data base will support.

A variety of research topics can be pursued with the MTCS data set. Among the most important such topics are:

1) a detailed examination of resident demographic and socioeconomic characteristics, including comparison of recent admissions with longer-term residents;

2) analysis of resident demographic and socioeconomic characteristics at the development level, including linkage of these data to development characteristics (such as family vs. elderly, high-rise vs. low-rise, older stock vs. newer, inner city vs. other locations);

3) monitoring of trends in public housing admissions, particularly income levels and sources, family composition, and proportion of disabled persons;

4) analysis of population stability or tenant length of residence, in relation to development and family characteristics.

While these topics can be researched to a great extent using the MTCS data base once HUD makes it available, there are aspects of MTCS's design that may prove quite limiting. First, at any one time the data cover a year's cycle of admissions and recertifications; last year's record for a particular household is replaced when occupancy changes or when income is reexamined. Thus, no longitudinal changes can be tracked, except by grouping households according to admission date (and admission cohorts are subject to constant attrition as households

[4] National Computer Systems, *Multifamily Tenant Characteristics System (MTCS): Form HUD 50058 Information Packet* (Iowa City, IA: November 1990).

leave.)[5] Second, the data elements in the MTCS are the fields of HUD Form 50058 *Tenant Data Summary;* the form was developed for administrative purposes, and its contents are not optimal for research. It has been observed that many housing agencies prefer to use the Form 50059 *Owner's Certification of Compliance with HUD's Tenant Eligibility and Rent Procedures*, which has better identification of household members and more detail on income elements.[6]

Apart from the analyses that can be conducted with the MTCS data, there are several other important areas of inquiry concerning public housing residents with direct relevance to the future of the public housing program. Among these are:

- data collection and analysis of resident needs for education and training for employment;
- research on the role of residents in well-run PHAs, including their participation in a variety of PHA functions and whether the populations of such agencies differ from the norm;
- research on the social service needs of specific resident populations, including needs related to aging, to disability, and to family composition;
- longitudinal studies of tenant turnover and mobility, including why residents leave public housing and where they go.

Data collection and analysis of various types of service needs could provide significant input to discussions of areas not covered by PFS. Such research could also inform cost comparisons between public housing and other programs or the private market. Studies on turnover and mobility could allow us to examine whether there are places where public housing still helps people to get "up and out." They could also provide useful information for evaluating the voucher version of an FMR funding system. In this context, the proposed expansion of the Gautreaux Demonstration from Chicago to other sites is another opportunity to gain data to model possible outcomes if public housing subsidies were to become mobile.

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[5] There is also no tracking of resident transfers among units or developments.

[6] A revised 50058 was cleared by OMB in December 1992, and will be implemented in 1993. The revised form has more detail on household members and sources of income, and identifies residents that transfer to other developments or move out of assisted housing. Questions have been added on education levels of non-elderly households and on whether households are participating in the Family Self-Sufficiency Program.

9.3 DIRECTIONS FOR RESEARCH ON PUBLIC HOUSING MANAGEMENT

What we do or do not know about public housing management is a subject of seemingly endless debate. Recent discussions of the long-term role of the public housing program have each included a discussion of management problems.[7] At least from the period of PFS development in the mid-1970s until the present, HUD's concerns about PHA management have informed many aspects of policy: selection of "well-managed" agencies for the PFS cost modeling, setting of the range of Allowable Expense Levels, changes to funding of vacant units, development of PHA management indicators for the brief experiment with de-regulation in the mid-1980s, and the current implementation of the Public Housing Management Assessment Program (PHMAP).

Observers of public housing from the inside, as well as the PHA advocacy organizations and consultants with experience nationwide, tend to look at management problems in a different way. They tend to see a series of management challenges PHAs may encounter, resulting from the particular combination of resident characteristics, housing stock characteristics and condition, neighborhood environments, and political context facing each agency. There is also the widespread belief, concerning sound public housing management, that "we know it when we see it;" there are identifiable good practices being used in particular agencies and environments that hold promise for helping other agencies to function better.

Thus, one part of the research agenda on public housing management involves identification of major functions of PHAs that are common problems, along with the specific conditions that make them so. Examples of such problem areas include admissions screening, vacancy turnaround (the time required to prepare and fill an apartment with a new tenant), housing quality maintenance, rent collection, and modernization performance. The suggestion here is not to develop another set of management indicators, but to review existing case-study materials with careful attention to conditions and context.[8] In the context of PHMAP

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[7] See, for example, Charles E. Connerly, "What Should Be Done with the Public Housing Program?" APA Journal, Spring 1986, p.145; Rachel Bratt, "Public Housing Authorities: Determining an Appropriate Role in a National Preservation Strategy," *Housing Policy Debate*, v.2, n. 2. (April 1990), pp. 540-542; Michael A. Stegman, "The Role of Public Housing in a Revitalized National Housing Policy," *Building Foundations: Housing and Federal Policy* (Philadelphia, University of Pennsylvania Press, 1990), pp. 352-356.

[8] U.S. Department of Housing and Urban Development, *Case Studies of Effective Management Practices within Public Housing Agencies*, November 1985.

consideration should be giving to updating these case studies. Such research could enhance technical assistance and problem resolution efforts among PHAs and by HUD.

Ongoing data collection about PHA operations and conditions could also form the basis for more quantitative analysis of the linkages among resident characteristics, housing stock characteristics and condition, neighborhood environments, funding levels, and PHA performance. As the PHMAP implementation unfolds, there should be data collection *external to the PHMAP indicators* that can serve for assessing whether the official indicators are valid and reliable.

An area of particular interest for future research will be the management of the funds flowing to PHAs from the Comprehensive Grant Program. Because this funding for capital needs represents a significant increase over historical flows for many agencies, there are questions of PHA capacity to perform the modernization and to reduce steadily the current backlog of needs. There is also a great deal of modernization expertise in the public housing world; short-run studies to identify effective modernization practices fall under the case-study mode suggested above.

The other significant management issue concerning CGP is what PHAs are able to do with the greater flexibility promised (in comparison with CIAP). As Chapter 1 described, there is a very clear perception in public housing circles concerning HUD's over-regulation of most aspects of PHA operation. If CGP does give the agencies increased discretion to manage the condition and quality of their housing developments, it will be important to examine the ways in which their practices change and the impact on the condition of the public housing stock.

This set of research proposals on public housing management is far from exhaustive. We believe it does frame some important issues, and it suggests that the data collection and research efforts follow two parallel tracks: one focused on praxis and grounded in the particulars of operating environments; the other more formal and focused on providing a context for evaluating the operations and effects of PHMAP and the Comprehensive Grant Program.

Appendix A

The Revised Equation Under the Formal Review Process

The revised equation applied to calculate the Formula Expense Levels (FELs) under the PFS formal review process[1] is based on a sample of 2,600 public housing agencies and Indian Housing Authorities, covering a wide range of PHA types and sizes. The data have been weighted by the number of units in the PHA. In a recent two-year period (FY 1987-88), the revised equation statistically explained about 70 percent of the variation in actual costs. The revised equation is:

$$\begin{aligned} \text{FEL} = & -0.2344 + 7.954*\text{POOR1940} + 116.496*\text{LGWI8788} + \\ & 0.002896*\text{MIN[NUM2BRS, 15000]} + 37.294*\text{PCT2BRS} + \\ & 22.303*\text{PCT3BRS} \end{aligned}$$

The indicators in the revised formula, and their respective weights, or regression coefficients, (in parentheses) are as follows:

1. **POOR1940** (7.954): [Pre-1940 rental units occupied by poor households in 1980, as a percentage of the 1980 population of the community.] This Census-based statistic will apply to the county of the PHA except if the PHA has 80 percent or more of its units in an incorporated city of more than 10,000 persons, in which case city-specific data are used. County data will exclude data for any incorporated cities of more than 10,000 persons within its boundaries.

   This variable, which pairs older housing units with poor tenant households, is used as a proxy for community fiscal and social need. It is seen as a measure of urban, physical, fiscal, and neighborhood problems.

2. **LGW18788** (116.496): The average of 1987 and 1988 local government wages, as determined by the Bureau of Labor Statistics. It is a county-based statistic calibrated to a unit-weighted PHA standard of 1.0. For multi-county PHAs, the local government wage is unit-weighted. For this formula, the local government wage index for a specific county cannot be less than 85 percent or more than 115 percent of the average local government wage for counties of comparable population and metro/non-metro status, on a state-by-state basis. In addition, for counties of more than 150,000 population in 1980, the local government wage cannot be less than 85 percent or more than 115 percent of the wage index of private employment determined by the Bureau of Labor Statistics and the

[1]Source: *Federal Register*, February 4, 1992, pp. 4282-4283.

rehabilitation cost index of labor and materials determined by the R.S. Means Company.

This is not believed to be a good indicator in rural areas where many government workers are part-time or volunteers.

3. **MIN[NUM2BRS, 15000]** (0.002896): [The lesser of the current number of the PHA's two or more bedroom units available for occupancy, or 15,000 units.] This variable is an indicator of PHA size, and a direct measure of number of family units in a PHA. The cap functions for the largest PHAs only.

4. **PCT2BRS** (37.94): [Ratio of the PHA's number of two or more bedroom units available for occupancy in high-rise family projects to the number of all the PHA's units available for occupancy.] For this indicator, a high-rise family project is defined as averaging 1.5 or more bedrooms per unit available for occupancy and averaging 35 or more units available for occupancy per building and containing at least one building with units available for occupancy that is five or more stories high.

   This indicator of operating characteristics has the advantage of combining both family units and high-rise units. This is seen as a better indicator than just high-rise alone, since high-rise units occupied by the elderly are believed to have lower operating costs than those occupied by families.

5. **PCT3BRS** (22.303): [The current ratio of the number of the PHA's three or more bedroom units available for occupancy to the number of all the PHA's units available for occupancy.] The proportion of the PHA's units that can house large families.

   This precise measure of unit size is expected to reflect the intensified costs of serving large families. This indicator is believed to reflect indirectly scattered site housing, since scattered site housing in many PHAs is for large families. However, the revised equation has been criticized for not having a direct measure of scattered-site housing, a characteristic which is believed to affect operating costs of PHAs.[2]

The constant in the regression equation is -0.2344.

The above indicators were chosen to meet the following criteria: following the intent of the statute and the framework of the proposed rule; being available and easily computable in a standardized format; having a common sense rationale for explaining variations in PHA

[2]This is mentioned in the "Response to Public Comments" part of the Formal Review Process Final Rule, *Federal Register*, February 4, 1992, p. 4286.

operating expenses; being significantly correlated with PHA expenses; adding significantly to the statistical fit of a system of indicators; and having a formula coefficient in the expected direction (expected sign).

APPENDIX B

COMPARABILITY OF THE AVAILABLE PRIVATE AND PUBLIC HOUSING DATA

This appendix summarizes the comparability of the operating cost data available for the public housing stock, the private housing stock represented in the Institute for Real Estate Management's (IREM) published cost data, and the Abt Associates data on the HUD-insured Multifamily housing stock.

PHA Cost Data

For this study, HUD provided two data sets of public housing operating cost information: the Statement of Operating Receipts and Expenditures (SORES) data base, which contains 1989 cost data submitted by 2,932 public and Indian housing authorities on HUD form 52599; and the 1989 Allowable Expense Level (AEL) data base (including utilities expense level data) for 3,248 public and Indian authorities.

The AEL figures support comparisons between current allowable public housing operating costs and private sector costs. As discussed in Chapter 2, the AEL is the non-utility expense level established by HUD for use in calculating PHA eligibility for operating subsidy. The AEL is based on an amount initially determined by the PFS formula. It is updated annually for changes in the PHA's characteristics (i.e., building age, bedroom size distribution, and building height) and for inflation. Utilities are not included in the AELs. Because utility consumption is influenced by weather conditions and it only partly under the control of the PHA, HUD does not treat utilities under the prototype formula. Instead, HUD compensates the PHA for average consumptions levels as compared with previous years and allows to pass through any utility rate increases or decreases. In this analysis, we examine the Utilities Expense Level data reported in the AEL data base.

While we have extensive cost data for PHAs, the data are quite limited on the characteristics of the physical stock and the tenant characteristics that might affect costs. The only comprehensive housing agency descriptors available are region, central city status, project age, and percentage of elderly households. There is also some information on building type and numbers of units by bedroom sizes, for smaller subsets of housing agencies. In addition, costs for PHAs are calculated at the PHA level (combining all the PHA's properties), not at the development level. Therefore, we cannot analyze costs by building or development type, as the private market sources do. Finally, no data are available about neighborhood characteristics, another element that may affect costs. If development-level data on location and tenants were available, it might be feasible to link the development data to the appropriate Census data on neighborhood characteristics. However, because the PHA data are only available for the housing agency as a whole, such an analysis is not possible.

As we have noted, a meaningful comparison of private market operating costs and public housing expenditures requires that key areas of information be available for both types of housing: information on operating costs, building characteristics, household characteristics, and neighborhood conditions. In addition, some adjustments must be made to account for the different operating circumstances encountered in the two sectors. As discussed above, real estate taxes should be excluded from private market cost calculations because housing agencies do not pay them (or pay only a small amount in lieu of taxes). Utilities should also be excluded, because housing agencies use a separate calculation to essentially pass through the cost of utilities to HUD.

Comparability of IREM and PHA Data

The published IREM data are of limited usefulness as a comparison for public housing costs because of serious limitations in the comparability of the data. Little is known about the characteristics of the IREM ***or*** PHA stock. It is impossible to control for characteristics that may influence costs, such as neighborhood characteristics, family/elderly occupancy, and age and condition of the buildings. Further, the IREM data do not "line up" very well with the available data on housing agencies because IREM's reports present only medians by building type by region. Costs by building type are not available for public housing, making direct comparisons virtually impossible. In addition, the regional definitions in the two sources vary. Finally, separating utility and tax expenses from the IREM data is difficult, since it requires subtracting median values for these costs from a median total operating cost. Such a calculation may not be accurate, especially if sample sizes are small.

Comparability of HUD-Insured Multifamily Housing and PHA Data

The data from the HUD-Insured Multifamily Housing Study provide the basis for a more useful comparison with the PHA data. Not only do the data include operating costs, but there is also information on building type (elevator, walk-up, or rowhouse), neighborhood characteristics, and tenancy -- all elements which may influence costs.

However, there are still some significant problems with trying to compare the two data sets. As noted, the PHA data provided for this study lack descriptive variables; the only comprehensive sets of housing agency descriptors are region, central city status, project age and some data on units by bedroom sizes. There are also some problems with making costs adjustments. The Multifamily Housing operating cost data base extracted for this study includes only totals for subcategories of expenses: administrative expenses, operating and maintenance expenses, and taxes and insurance.[1] The SORES costs for housing agencies consist of: administrative expenses, operating and maintenance expenses, general expenses (including payments in lieu of taxes as well as insurance) and tenant services. These can be disaggregated further if needed.

Real estate taxes are the largest component of the Multifamily Housing taxes and insurance category. Since real estate taxes are not applicable in public housing, alternative ways to make the data more comparable were considered. We could omit the entire taxes and insurance category from the Multifamily data, which would then understate the costs. Alternatively, if the entire category were included, we would overstate costs. Finally, an adjustment could be made. Based on the similarities between the Multifamily data and the IREM data for assisted housing, IREM data were used to estimate the portion of each property's total costs that were attributable to taxes (by region and building type) and that proportion was applied to obtain an estimate of costs net of taxes for the Multifamily data.

There still are some differences in the two sets of data. For example, the Multifamily data still include advertising and rental expenses, and the SORES data include tenant services. A valid private market comparison case for public housing thus continues to pose serious analytical problems due to the lack of comparable data. Ironically, the limitations on the ***current***

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[1]Line item data are not part of the integrated data base; they reside in Field Office-level data files only.

analysis are driven to a greater extent by the lack of detailed housing agency data than by the failings of the available private market data, as was the case a decade ago. On the other hand, the HUD-insured Multifamily stock study is not likely to be repeated soon. If IREM continues as the only time-series source of private market data, the longer term limitations for developing a set of benchmarks for public housing operating costs are severe.

APPENDIX C

METHODOLOGY FOR UPDATING BACKLOG AND ACCRUAL ESTIMATES

This appendix provides supporting detail for Chapter 5 on the derivation of updated figures for public housing backlog and accrual needs.

Exhibit C.1 shows the detailed calculations involved in updating the figures from the 1990 HUD *Report to Congress on Alternative Methods for Funding Public Housing Modernization*. The 1990 HUD report basically followed a methodology for updating backlog and accrual estimates as presented in the report *Future Accrual of Capital Repair and Replacement Needs of Public Housing*.[1] That methodology has also been followed in this report and involves the following steps:

- Begin with outstanding backlog from the previous year and update for cost inflation (in the present case using the Gross Domestic Product price deflator prepared by the Department of Commerce). (The starting figures were adjusted to include an allowance of 11 percent for "soft" costs of administration and management, so that it is not necessary in a later step to account for these soft costs in accounting for appropriated funds.)

- Compute age-related accrual of additional needs for capital repairs and replacements. In the case of the basic category of these physical needs called FIX items, the accrual is computed from a vector in the ICF report (Exhibit 3.2, with 1986 matched to Year 5), updated to account for cost inflation since 1988. In the case of age-related accrual for ADDS categories, the amount of any year's current accrual need is proportional to the cumulative amount of funding which has been applied to that category since the original base of estimates developed from the 1986 Abt Associates Modernization Needs report.[2] The calculation of long-term annual accrual is updated for administrative costs and inflation from Exhibit 3.7 of the report, *Future Accrual...* .

- Start with the total available funding for modernization in a specific year. For the current year, FY 1992, this is the combination of CGP, residual CIAP, and MROP. This sum is \$2.75 million. Because the capital needs estimates do not cover Indian housing authorities, three percent of the annual funding has been deducted. This was typical of the 1988 figures but has changed slightly over the years.

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[1]ICF Inc., 1989.

[2]The current report approximates this accrual calculation by computing the average non-FIX depreciation vector from Exhibit 2.4 of the ICF report, where Year 1 is 1986.

Exhibit C.1

Update of Backlog and Accrual Estimates

YEAR		1989	1990	1991	1992	Current Accrual	Long Term Accrual[b]
		ICF update	HUD Report Year		Abt Report Year		
YEAR APPROPRIATED		$1,649.0	$1,980.0	$2,500.0	$2,752.8	$31,850.0	
INDIAN REDUCTION	0.03	$49.5	$59.4	$75.0	$82.6	$955.5	
FUNDS AVAILABLE		$1,599.5	$1,920.6	$2,425.0	$2,670.2	$30,894.5	
YEAR DEFLATOR	105.5	109.9	114.5	117.9			
DEFLATOR RATIO		1.0255	1.0255	1.0296943231	1.029	1	
FIX	0.68422 [a]						
Backlog–Start		$11,291.5	$12,150.0	$12,944.3	$13,489.5	$13,578.6	
Accrual	ICFp29	$1,531.0	$1,608.6	$1,693.6	$1,779.8	$1,894.9	$1,894.9
Cost of Delay	ICFp46	$121.8	$126.6	$130.6	$136.3	assumed zero	
Expenditures	ICFp45	$1,094.4	$1,314.1	$1,659.3	$1,827.0	$21,138.9	
Backlog–End		$11,849.9	$12,571.0	$13,109.3	$13,578.6	($5,665.4)	
MANDATORY ADDS	0.07071						
Backlog–Start		$650.4	$550.0	$434.1	$280.1	$103.7	
Accrual		$5.4	$6.9	$9.2	$12.0	$15.5	$20.1
Cost of Delay		$0.4	$0.5	$0.5	$0.4	assumed zero	
Expenditures		$113.1	$135.8	$171.5	$188.8	$2,184.8	
Backlog–End		$543.2	$421.6	$272.2	$103.7	($2,065.6)	
PROJECT SPECIFIC ADDS	0.13441						
Backlog–Start		$5,876.4	$5,890.0	$5,812.8	$5,664.4	$5,329.2	
Accrual		$9.5	$12.3	$16.5	$21.9	$28.6	$128.1
Cost of Delay		$0.8	$1.0	$1.4	$1.8	assumed zero	
Expenditures		$215.0	$258.1	$325.9	$358.9	$4,152.5	
Backlog–End		$5,671.7	$5,645.2	$5,504.8	$5,329.2	$1,205.2	
LEAD–BASED PAINT	0.01381						
Backlog–Start		$424.2	$360.0	$345.5	$323.7	$290.0	
Accrual		$1.7	$1.9	$2.4	$3.0	$3.7	$10.4
Cost of Delay		$0.1	$0.2	$0.2	$0.2	assumed zero	
Expenditures		$22.1	$26.5	$33.5	$36.9	$426.8	
Backlog–End		$403.9	$335.6	$314.6	$290.0	($133.1)	
HANDICAPPED	0.00199						
Backlog–Start		$297.7	$300.0	$305.2	$309.4	$304.5	
Accrual		$0.2	$0.2	$0.3	$0.4	$0.5	$6.0
Cost of Delay		$0.0	$0.0	$0.0	$0.0	assumed zero	
Expenditures		$3.2	$3.8	$4.8	$5.3	$61.5	
Backlog–End		$294.7	$296.4	$300.7	$304.5	$243.5	
PROJECT REDESIGN	0.02692						
Backlog–Start		$2,342.5	$2,390.0	$2,410.5	$2,416.9	$2,349.7	
Accrual		$1.9	$2.5	$3.3	$4.4	$5.7	$48.1
Cost of Delay		$0.2	$0.2	$0.3	$0.4	assumed zero	
Expenditures		$43.1	$51.7	$65.3	$71.9	$832.0	
Backlog–End		$2,301.5	$2,341.0	$2,348.8	$2,349.7	$1,523.5	
ENERGY CONSERVATION	0.06814						
Backlog–Start		$679.6	$630.0	$522.1	$377.6	$208.5	
Accrual		$6.0	$7.4	$9.5	$12.3	$15.7	$21.8
Cost of Delay		$0.4	$0.5	$0.6	$0.6	assumed zero	
Expenditures		$109.0	$130.9	$165.2	$182.0	$2,105.2	
Backlog–End		$577.0	$507.0	$367.0	$208.5	($1,881.0)	
RESIDUAL ADDS	0						
Backlog–Start		$6,185.4	$6,390.0	$6,579.7	$6,770.6	$6,770.6	
Accrual		$0.0	$0.0	$0.0	$0.0	$0.0	
Cost of Delay		$0.0	$0.0	$0.0	$0.0	assumed zero	
Expenditures		$0.0	$0.0	$0.0	$0.0	$0.0	
Backlog–End		$6,185.4	$6,390.0	$6,579.7	$6,770.6	$6,770.6	
	1.000						
				CGP Accrual Categories	$1,955.7	$1,943.1	$2,059.4
				Redesign + Energy Accrual	$17.6	$21.5	$70.0
				Extraordinary Accrual	$646.3	$646.3	$646.3
				Total Accrual	$2,619.6	$2,610.9	$2,775.7
				CGP + Redesign + Energy	$1,973.3	$1,964.6	$2,129.4
			Backlog + Accrual:				
			A. Mandatory, Project Specific, Age–Related		$22,022.9		
			B. A + Redesign + Energy		$24,835.0		
			C. B + Residual Adds, Extraordinary Accrual		$32,251.8		

[a] Fractions indicate assumed allocation of funds using last year of ICF report (1988).
[b] Inflates ICF Exhibit 3.7 by Administrative Costs and Inflation since 1988.

Notes: Soft Costs per 1990 HUD Report = 1.11.
Costs of Delay (multiplies unfunded accrual) = 0.087. No account is taken of the costs of delay in funding the backlog.
"ICF" refers to *Future Accrual of Capital Repair and Replacement Needs of Public Housing*, April 1989.

- Compute the amount of appropriated funds that has been allocated to each modernization needs category. The ICF report used a matrix relating a number of Federal funding sources to the modernization need categories in order to obtain estimates of the allocation of funds to each modernization need category. The ICF report also made assumptions about the spread over time in actual use of appropriated funds, but computed the unfunded backlog as a final result, which was the starting place for the 1990 HUD report. The figures developed for the 1990 HUD report directly allocated to modernization categories all the funds appropriated for a given year, according to proportions indicated in a HUD data base on modernization needs funding (MADS). The figures in this report simply use the percentages indicated in the last allocation (for 1988) listed in the ICF report (Exhibit 4.2 of that report). For this reason, the details on individual categories may well differ from actual allocations by PHAs of the funds that have been received.

- Assuming that backlog needs and current-year accrual needs are funded proportionately, compute the funds allocated to accrual and compute an estimated cost of delay at 8.7 percent of the unfunded accrual. ***Note that neither the ICF report nor the 1990 HUD report nor the present one make any attempt to estimate the cost of delay in funding the basic backlog itself.***[3]

[3]It is certainly arguable that such a cost of delay does exist for unfunded backlog. For any particular system requiring attention, failing to address it may postpone an expenditure but necessitate a more costly type of repair or replacement in the future. Furthermore, a particular system not addressed (for example a roof requiring major repairs or replacement) may lead not only to higher costs for addressing that system in the future but also to added costs for other systems that may have been affected (for example, interior structure and surface elements damaged by roof leaks).

APPENDIX D

DERIVATION OF THE FMR PAYMENT AMOUNTS

The FMR payments whose size and distribution are examined in Chapter 7 were derived in the following steps, which show calculation of total funds available to the PHA *and* total federal subsidy required.

Step 1: Compute unconstrained FMR for the total stock.

(a) Using data on the mix of unit sizes for each PHA (the number of studio, 1BR, 2BR apartments, etc. in the PHA's whole stock),[1] multiply the appropriate monthly Fair Market Rent (in 1992 dollars) by the number of units of that size and sum to the PHA level.

(b) Add the administrative fee (7 percent) for each unit. *This is the gross FMR amount.*

(c) Subtract the total actual or imputed debt service payment for the PHA.[2] This assumes that debt service is paid directly by HUD or the Treasury and deducted from the gross FMR amount. Negative values are set to zero. *The result is the total funds available to the PHA* (before adjusting for project income).

(d) Subtract from total funds available the PHA's rent roll. (Note that no data were available to adjust for any non-dwelling income or uncollected rent. Note, too, that the rent roll reflects tenant-paid utility allowances.[3]) *The result is the net FMR subsidy payment to the PHA* for the whole stock. This is a figure that can be compared with the combined external subsidies now received from HUD by the PHA.

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[1]For purposes of the FMR simulations, the PHA total unit figures covered under the Comprehensive Grant Program and the combined base case (Chapter 6) have been used. In some cases, these are larger than the PFS-eligible units.

[2]The Federal government has fully paid off the original capital costs for many developments; other payments are made by the Treasury instead of HUD. These cases may create a situation in which the FMR system would provide considerable income not obligated to operating costs. Therefore, we have used an imputed debt service measure to improve comparability.

[3] Under an FMR system, gross tenant rent (before deduction of utilities allowances) would be used, to prevent greater subsidy beging paid to a PHA as a result of a configuration that shifted utilities payments to the tenants.

Step 2: Compute unconstrained FMR for 97 percent minimum occupancy.

(a) Take the gross FMR amount from Step 1. Multiply by .97 to represent occupancy of 97 percent of the PHA's units.[4] However, if the PHA's current occupancy rate is over 97 percent, use the actual figure.

(b) Subtract debt payment as in Step 1(c). This is total funds available.

(c) Adjust the rent roll to 97 percent occupancy (or to actual percent if better), then subtract from FMR sum. The result is the net FMR subsidy payment to the PHA for 97 percent minimum occupancy.

Step 3: Compute unconstrained FMR for actual occupancy.

(a) Take the gross FMR amount from Step 1. Multiply by the actual occupancy rate of the PHA's units. Occupancy rates range from 55 to 100 percent.

(b) Subtract debt payment as in Step 1(c). This is total funds available.

(c) Subtract the rent roll corresponding to the actual occupancy rate. The result is the net FMR subsidy payment to the PHA for actual occupancy.

Step 4: Derive the constrained FMR payments.

(a) For each of the three net FMR payment levels computed in Steps 1 through 3, compare each PHA's FMR subsidy payment with its payment under the combined base case, by computing the difference between the combined base case payment and the net FMR payment. The result may be negative, zero, or positive.

(b) Compute the percent gain/loss in subsidy by dividing the difference (net FMR payment minus combined base case) by the combined base case.

(c) If the percent difference is positive and more than 20 percent, reset the FMR payment level at 120 percent of the combined base case. Note that a particular PHA may have its payment constrained under one set of vacancy figures (e.g. 97 percent) but not under the other (actual, especially if considerably below 97 percent).

(d) If the percent difference is negative and more than 20 percent, reset the FMR payment level at 80 percent of the combined base case and phase the funding reduction over 4 years. If the percent difference is negative and 10 to 20 percent,

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[4]This assumes that the distribution of occupied units mirrors the distribution of the whole stock in terms of unit size. No data are available to support any alternative assumption or adjustment.

phase the funding reduction over 4 years. If there is a loss of 10 percent or less, phase it over 2 years.

Step 5: Derive the FMR payments with separate backlog component.

(a) For each housing agency, calculate the annual *backlog* payment portion of the combined base case, using the original CGP shares from HUD and the FY 1992 appropriation for CGP.[5]

(b) Add this annual backlog payment to the appropriate FMR payment (whether constrained or unconstrained).

[5]The backlog portion is calculated at 50 percent of the CGP amount, following the formula weights. See Chapter 5 for a discussion of the backlog need and the CGP amount.