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MULTIFAMILY HOUSING

Effects of HUD's Portfolio Reengineering Proposal

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Resources, Community, and
Economic Development Division

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The Honorable Alfonse M. D'Amato
Chairman
The Honorable Paul S. Sarbanes
Ranking Minority Member
Committee on Banking, Housing
and Urban Affairs
United States Senate

The Honorable Jim Leach
Chairman
The Honorable Henry B. Gonzalez
Ranking Minority Member
Committee on Banking
and Financial Services
House of Representatives

This report presents the results of our review of proposals by the Department of Housing and Urban Development (HUD) to reengineer its portfolio of insured Section 8 multifamily rental housing properties. We are providing the report to you because you are responsible for authorizing housing programs and overseeing HUD's activities.

We are sending copies of this report to congressional committees and subcommittees interested in housing, the Secretary of Housing and Urban Development, and other interested parties. We will make copies available to others upon request.

If you or your staff have any questions about this report, please call me at (202) 512-7631. Major contributors to this report are listed in appendix VII.

Judy A. England-Joseph
Director, Housing and Community
Development Issues

Executive Summary

Purpose

About 8,600 privately owned multifamily properties with federally insured mortgages totaling $17.8 billion receive federal rental subsidies for some or all of their apartments under HUD's Section 8 program. For subsidized apartments, HUD pays the difference between the rent and 30 percent of the household's income. The rents at many properties exceed market levels, resulting in high subsidies. To reduce these costs and address other problems, HUD has proposed to adjust the rents to market levels and write down the mortgages as needed to allow the properties to operate at market rents. In essence, HUD's proposal recognizes a reality that has existed for some time, namely, that many of the properties in the insured Section 8 portfolio are worth far less than their mortgages suggest.

To assist the Congress in evaluating HUD's proposal, this report examines the (1) problems affecting the properties in HUD's insured Section 8 portfolio and HUD's plans for addressing them, (2) results and reasonableness of a study performed by Ernst & Young LLP to assess the effects of HUD's proposal on the properties in the portfolio, and (3) key issues facing the Congress in assessing HUD's proposal. In addition, appendix I discusses the characteristics of, and the effects of HUD's proposal on, 10 of the properties included in Ernst & Young's study, which GAO independently reviewed.

Background

Mortgage insurance provided by HUD's Federal Housing Administration (FHA) protects commercial lenders from financial losses stemming from borrowers' defaults. When a default occurs on an insured loan, a lender may "assign" the mortgage to HUD and receive payment for an insurance claim from FHA's insurance fund. HUD's Section 8 program provides rental subsidies for low-income families. These subsidies are linked to either the apartment (project-based) or the resident (tenant-based).

The insured Section 8 portfolio—the subject of HUD's proposal—consists of 8,636 properties containing just under 859,000 apartments. These properties are insured by FHA and receive project-based Section 8 assistance, much of which was provided under long-term contracts executed in the 1970s. The properties provide housing for a diverse population, including families, single adults, elderly persons, and disabled residents. HUD estimates that the contracts for buildings containing about 69 percent of the portfolio's apartments will expire by the end of the year 2000.

To obtain information about how its proposal would affect properties in its portfolio, HUD hired Ernst & Young LLP to study a randomly selected sample of 558 properties. GAO selected 10 of the properties included in Ernst & Young's study as case studies and hired three licensed real estate appraisal firms to help assess the effects of HUD's proposal on them. While Ernst & Young's findings can be applied to the entire insured Section 8 portfolio, the results of GAO's case studies cannot be generalized.

Results in Brief

HUD's insured Section 8 portfolio suffers from three basic problems—high subsidy costs, high exposure to insurance loss, and the poor physical condition of some properties. To correct these problems, HUD introduced a "mark-to-market" proposal in 1995. Under this proposal, property owners would set rents at market levels and HUD would reduce mortgages as necessary to achieve positive cash flows, terminate FHA's mortgage insurance, and replace project-based Section 8 subsidies with portable tenant-based subsidies. In April 1996, one month before Ernst & Young completed its study, HUD renamed the proposal "portfolio reengineering" and modified it in several ways in response to concerns raised by industry officials and resident groups about various issues, such as the elimination of project-based subsidies and the termination of FHA insurance. Under HUD's modified proposal, state and local governments would decide whether to continue Section 8 project-based rental subsidies at individual properties and owners could apply for FHA insurance on the newly restructured loans.

In May 1996 Ernst & Young reported on the results of its study analyzing the effects of HUD's original mark-to-market proposal on insured Section 8 properties. Ernst & Young determined that if the insured Section 8 portfolio were reengineered, about 80 percent of the properties—with a current estimated unpaid principal balance ranging from $12.6 billion to $14.5 billion—would need to have their mortgages reduced to some degree. Furthermore, between 22 and 29 percent of the properties would have difficulty sustaining operations even if their mortgages were totally written off. GAO's analysis of Ernst & Young's data indicates that the cost to the government of writing down mortgages and addressing deferred maintenance needs at reengineered properties would be high. Using Ernst & Young's assumptions, GAO estimated that reengineering costs would generate claims of between $6 billion and $7 billion (in present value terms) against FHA's insurance fund over the next 10 years. Furthermore, Ernst & Young's data indicate that although portfolio reengineering would eventually reduce the Section 8 program's subsidy costs, the subsidy costs

over the next 10 years would be comparable to the costs of the current program if all of the properties were reengineered when their current Section 8 contracts expire. The program's subsidy costs would not decline immediately because the contracts for properties with below-market rents will generally expire earlier during the 10-year period than the contracts for properties with above-market rents. GAO believes that the financial model Ernst & Young used in the study provides a generally reasonable framework for studying the results of portfolio reengineering. However, GAO questions some of Ernst & Young's assumptions about the properties' deferred maintenance needs. In addition, some of the financing assumptions used in the financial model may not reflect the way in which insured Section 8 properties would actually be affected by portfolio reengineering.

The Congress faces a number of key issues in considering HUD's portfolio reengineering proposal. These include (1) whether FHA should insure restructured loans and, if so, under what conditions; (2) whether HUD should continue to offer project-based assistance, convert entirely to tenant-based assistance, or use some mix of the two subsidy types; (3) what kind of protection HUD should provide for current residents if it converts to tenant-based assistance; and (4) who should pay for needed repairs to HUD's properties and how much.

Principal Findings

Problems Affecting the Portfolio and HUD's Plans for Addressing Them

The high costs of subsidies for insured Section 8 properties stem, in part, from incentives such as above-market rents, introduced in the 1970s to encourage the production or maintenance of affordable housing. As the long-term contracts providing these subsidies expire, HUD's annual Section 8 contract renewal costs are expected to increase dramatically. Other major problems affecting HUD's insured Section 8 portfolio are (1) the risk to HUD of insurance losses resulting from defaults on loans—a risk that would increase significantly if the Section 8 contracts on projects in the portfolio were not renewed or were renewed at substantially lower funding levels and (2) the failure of many properties to provide physically and financially sound housing.

To address these problems, HUD in 1995 proposed a "mark-to-market" strategy designed to subject Section 8 properties to the forces and

disciplines of the commercial market. Initially, HUD proposed to (1) eliminate project-based subsidies as contracts expired; (2) let the market set rents and restructure mortgages as necessary, offsetting write-offs with payments to affected lenders from FHA's insurance fund; (3) terminate FHA insurance on refinanced mortgages; and (4) provide assisted residents with portable tenant-based subsidies enabling them to stay in their current apartments or move elsewhere. Industry officials and resident groups expressed concerns about the mark-to-market strategy, indicating, among other things, that project-based subsidies and FHA insurance would still be needed. In April 1996, HUD revised the proposal, renaming it "portfolio reengineering." The revised proposal would, among other things, give priority to reengineering properties with above-market rents, allow state and local governments to choose to continue project-based subsidies at individual properties, and allow property owners to apply for FHA insurance on restructured loans.

Ernst & Young's Study and GAO's Evaluation

Ernst & Young grouped the sample properties it evaluated into four categories reflecting the effects of HUD's proposal on them: "performing," "restructure," "full write-off," and "nonperforming." Ernst & Young's study estimated that if the insured Section 8 portfolio were reengineered, 17 to 23 percent of the properties (in the performing class) could cover their current debt, operating expenses, and maintenance and capital needs without mortgage write-downs. About 50 to 58 percent of the properties (in the restructure class) could cover their new debt and other expenses if their mortgage debt were reduced. However, the remaining properties would have difficulty sustaining operations. Approximately 11 to 15 percent (in the full write-off class) could cover their operating expenses if their mortgages were entirely written off but could not meet their deferred maintenance or capital needs. Still another 11 to 15 percent (in the nonperforming class) could not cover even their operating expenses if their mortgages were fully written off.

According to the study, 60 to 66 percent of the properties in the insured Section 8 portfolio receive above-market rents. The study also estimated that expenditures of between $9.2 billion and $10.3 billion would be required to address deferred maintenance and future capital needs at the properties if they were to compete in the marketplace without project-based subsidies.

GAO's analysis of Ernst & Young's data indicates that portfolio reengineering would eventually reduce the costs of providing Section 8

assistance. However, the costs of subsidies over the next 10 years would be comparable to the current program's costs if all of the insured Section 8 properties were reengineered when their current Section 8 contracts expire. Because the contracts for many of the properties with below-market rents will expire during the first part of the 10-year period and would therefore be reengineered early in the process, the program's costs would increase during the early years but would then begin to decrease as the contracts for more projects with above-market rents were reengineered in the later years. If HUD were able, as it is now proposing, to reengineer the contracts for projects with above-market rents before they expire and to delay reengineering the contracts for properties with below-market rents, the Section 8 program's costs would decrease faster.

GAO believes that, for the most part, the methodology and assumptions used in Ernst & Young's study were reasonable, given the study's overall scope. However, for most of the 10 properties that GAO reviewed, the study estimated substantially higher deferred maintenance needs than did the property owners or managers and GAO's contract appraisers. Also, the lenders contacted by GAO believed that some of the study's financing assumptions may be more favorable than those that would actually be available.

Key Issues Facing the Congress

The Congress faces many issues in assessing HUD's portfolio reengineering proposal. One of the most important is which properties should be subject to the proposal—only those with above-market rents or those with below-market rents as well. Other issues concern the reengineering process itself—how it should be carried out, the extent to which FHA should insure restructured loans, whether rental assistance should be linked to the unit or the tenant after restructuring, and the extent to which the government should finance the costs of rehabilitation. In addition, the Congress will need to decide how to deal with HUD's problems in managing the insured Section 8 portfolio. Addressing these and other issues will require trade-offs among actions that may achieve progress in one area at the expense of another or benefit one group of stakeholders more than another. How these issues are resolved will, to a large degree, determine how effectively the problems that have long plagued the portfolio are permanently corrected and how extensively the reengineering process results in savings to the government.

Recommendations

This report contains no recommendations.

Agency Comments and Our Evaluation

GAO provided a draft copy of this report to HUD for its review and comment. In commenting on the draft, HUD said the report provided an excellent summary of the portfolio reengineering proposal and its likely impact on the insured multifamily portfolio. HUD also noted, among other things, that differences in the estimates of deferred maintenance and capital needs developed by Ernst & Young and by GAO's contract appraisers are due to differences in the methodologies used. While agreeing that the differences in the estimates are due, in part, to differences in methodologies, GAO continues to question certain aspects of Ernst & Young's approach, including the (1) assumption that working systems and components will be replaced if their estimated useful lives have expired and (2) inclusion in the capital needs estimates of the cost of work that is under way but not yet completed. The fact that Ernst & Young's estimates for 7 of the 10 case study properties that GAO reviewed were based on inspections of fewer than 10 percent of each property's units also adds to the uncertainty of the estimates. HUD's comments and GAO's evaluation of them are discussed in more detail in chapter 2 and in appendix VI.

Contents

Figures

Abbreviations

DSCR	Debt service coverage ratio
FHA	Federal Housing Administration
GAO	General Accounting Office
HFAs	Housing Finance Agencies
HUD	Department of Housing and Urban Development
IREM	Institute of Real Estate Management
LTV	loan-to-value
OIG	Office of Inspector General

Introduction

The Department of Housing and Urban Development (HUD), through the Federal Housing Administration (FHA), insures mortgages on both single-family homes and multifamily rental housing properties for low- and moderate-income households. In addition to mortgage insurance, many FHA-insured multifamily properties receive some form of direct assistance or subsidy from HUD, such as below-market interest rates or Section 8 rental subsidies tied to some or all units (Section 8 project-based assistance).

In an effort to resolve long-standing problems with the segment of the insured multifamily portfolio that both has mortgages insured by FHA and receives project-based Section 8 rental subsidies (the insured Section 8 portfolio), HUD during 1995 proposed a major restructuring process that it called "mark-to-market." In early 1996, HUD made several key changes to its proposal in response to concerns raised by various stakeholders and changed its name for the process from mark-to-market to "portfolio reengineering." HUD left most of the basic thrust of the original mark-to-market proposal intact, however.

Background

FHA insurance protects private lenders from financial losses stemming from borrowers' defaults on mortgage loans for both single-family homes and multifamily rental housing properties. When a default occurs on an insured loan, a lender may "assign" the mortgage to HUD and receive payment from FHA for an insurance claim. According to the latest data available from HUD, FHA insures mortgage loans for about 15,800 multifamily properties. These properties contain just under 2 million units and have a combined unpaid mortgage principal balance of $46.9 billion.[1] These properties include multifamily apartments and other specialized properties, such as nursing homes, hospitals, student housing, and condominiums.

HUD's Section 8 program provides rental subsidies for low-income families. These subsidies are linked either to multifamily apartment units (project-based) or to individuals (tenant-based). According to HUD's latest available data, about 1.4 million units at about 20,400 multifamily properties receive Section 8 project-based subsidies. Under the Section 8 program, residents in subsidized units generally pay 30 percent of their income for rent and HUD pays the balance. According to HUD's data,

[1]These data do not include properties with "HUD-held" mortgages, or those for which HUD has paid an insurance claim and is now, in effect, the lender. According to its data, HUD holds the mortgages on 1,609 properties that have a combined unpaid principal balance of $5.4 billion.

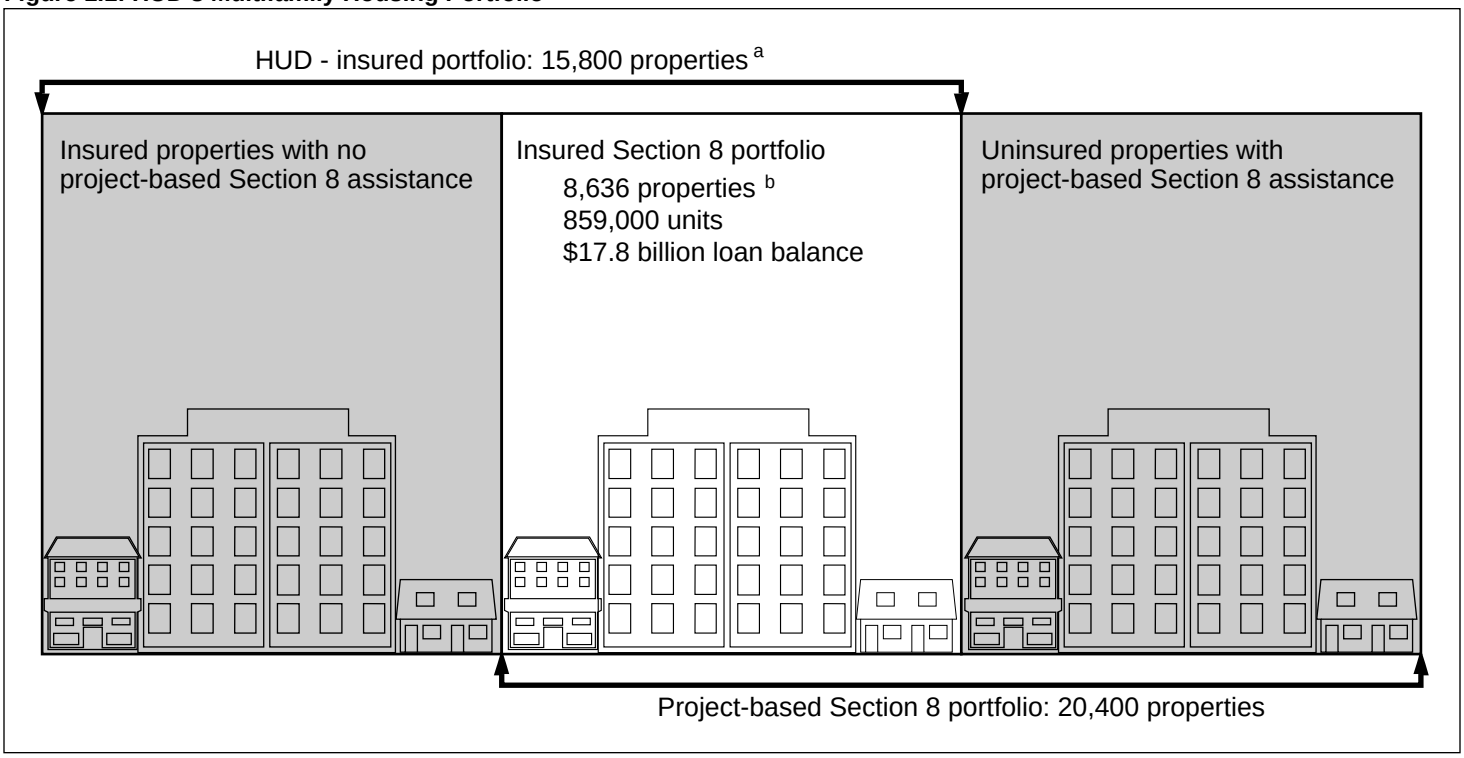
monthly Section 8 payments to HUD-insured properties average about $300 to $500 per unit.

The Insured Section 8 Portfolio

According to HUD, its restructuring proposals apply to 8,636 properties that both have mortgages insured by FHA and receive project-based Section 8 rental subsidies for some or all of their units. In this report, we refer to these properties as HUD's insured Section 8 portfolio. Data provided by HUD show that, together, these properties contain 859,000 units and have unpaid principal balances totaling $17.8 billion.

For various reasons, HUD chose to exclude from its restructuring proposals properties with project-based Section 8 assistance that are insured under its "moderate rehabilitation" program. HUD estimates that about 167 properties containing about 16,800 units are insured under this program. Figure 1.1 shows how the insured Section 8 portfolio fits into HUD's overall multifamily housing portfolio.

Figure 1.1: HUD's Multifamily Housing Portfolio



[a]Excludes properties with HUD-held mortgages.

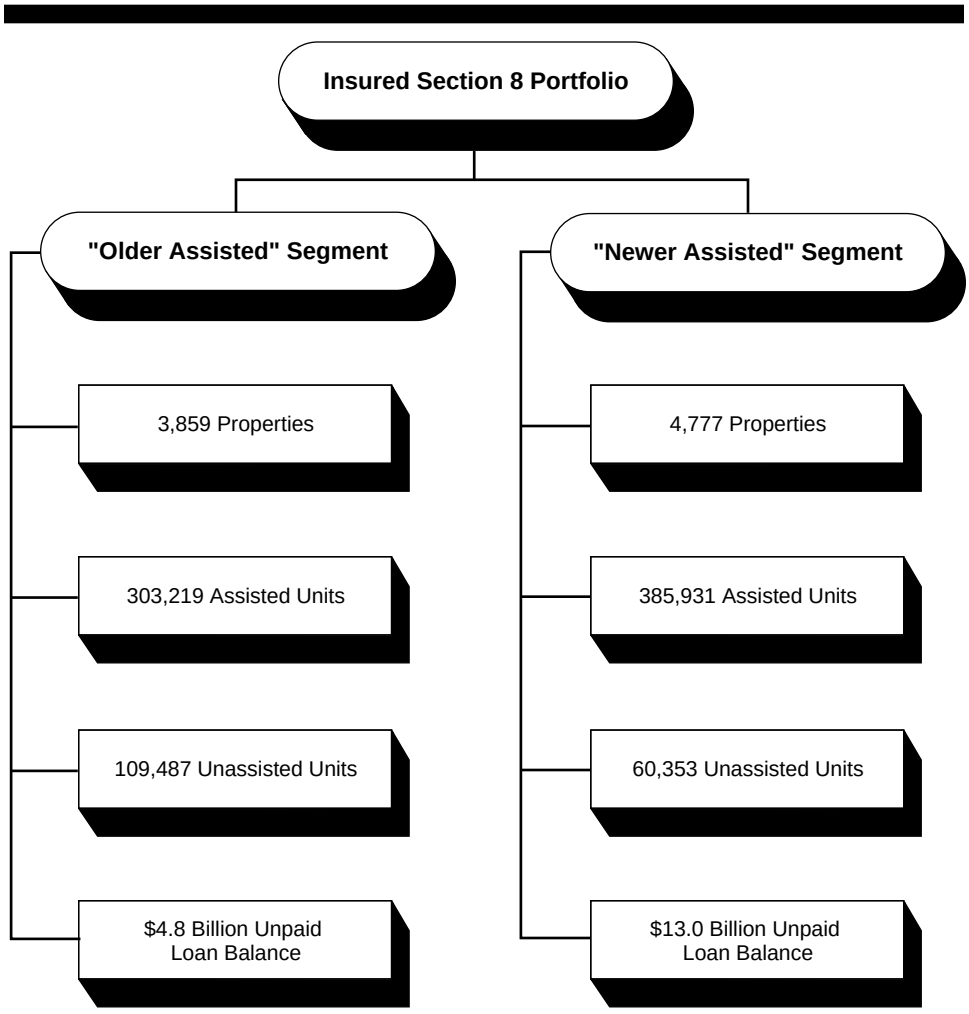
[b]Excludes 167 properties and about 16,800 units with project-based assistance provided under the Section 8 "moderate rehabilitation" program.

Source: GAO's presentation of data from HUD.

According to HUD's data, about 45 percent of the insured Section 8 portfolio (3,859 properties) consists of "older assisted" properties. These were constructed beginning in the late 1960s under a variety of mortgage subsidy programs, to which project-based Section 8 assistance (Loan Management Set-Aside) was added later, beginning in the 1970s, to replace other subsidies and to help troubled properties sustain operations. About 55 percent of the insured Section 8 portfolio (4,777 properties) consists of "newer assisted" properties. These were built after 1974 under HUD's Section 8 New Construction and Substantial Rehabilitation programs and received project-based Section 8 subsidies calculated on the basis of formulas with automatic annual adjustments, which, according to HUD, tended to be relatively generous to encourage the production of affordable

housing. Figure 1.2 provides additional data on the insured Section 8 portfolio.

Figure 1.2: the Insured Section 8 Portfolio



Note: The older assisted properties were constructed beginning in the late 1960s under various mortgage subsidy programs to which project-based Section 8 assistance was added later, beginning in the 1970s. The newer assisted properties were built after 1974 under the Section 8 New Construction and Substantial Rehabilitation programs.

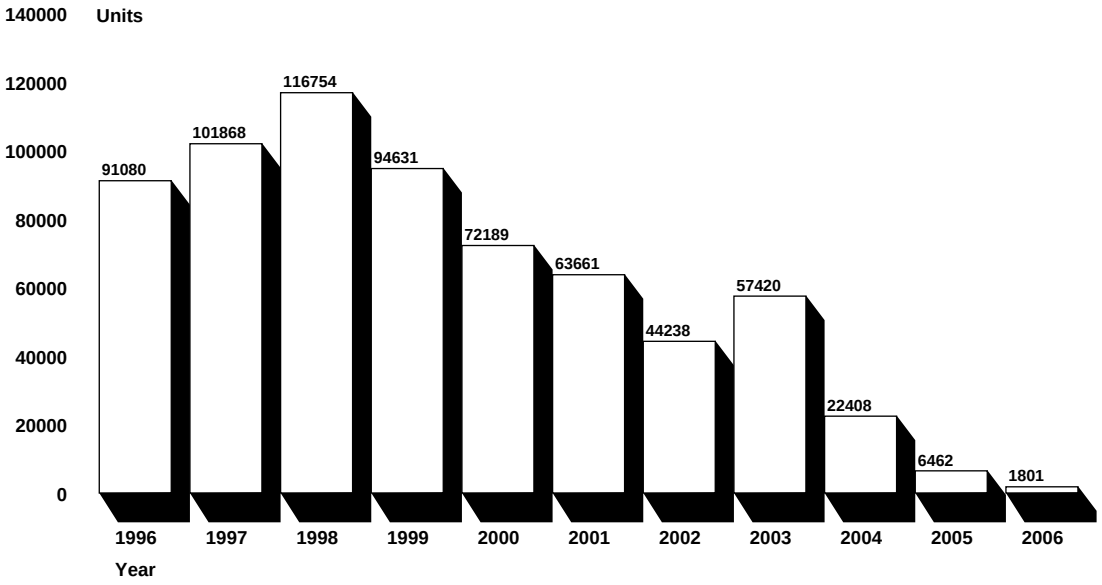
Source: GAO's presentation of data from HUD.

Expiring Section 8 Assistance

The project-based Section 8 assistance for properties in the insured Section 8 portfolio is covered by contracts, many of which are for long

terms. Under these contracts, property owners agreed to house lower-income tenants for specified periods in exchange for guaranteed rental subsidies for specified units. In the next few years, many of these contracts will expire. According to the available data from HUD, contracts covering about 69 percent of the project-based Section 8 units in the insured Section 8 portfolio will expire by the end of the year 2000 and contracts covering about 98 percent of the units will expire by the end of the year 2006. (See fig. 1.3.) In the early 1990s, most expiring contracts were renewed for 5-year periods, but the terms of Section 8 contracts have been gradually shortened since then. To improve its budgeting for contract renewals, HUD proposes to renew all contracts for 1-year terms, beginning in fiscal year 1997.

Figure 1.3: Number of Units in FHA-Insured Multifamily Properties Whose Existing Project-Based Contracts Will Expire Each Year, 1996-2006



Note: Contracts covering a total of 689,150 units will expire during the period.

Source: GAO's presentation of data from HUD.

Problems Affecting the Insured Section 8 Portfolio

The insured Section 8 portfolio suffers from three basic problems—high subsidy costs; high exposure to insurance loss; and, in the case of some properties, poor physical condition.

A substantial number of properties in the insured Section 8 portfolio now receive subsidized rents above market levels. Many of these rents substantially exceed the rents charged for comparable unsubsidized units. This problem is most prevalent in (but not confined to) the newer assisted segment of the portfolio, where it stems from the design of the Section 8 New Construction and Substantial Rehabilitation programs. The government originally paid to develop these properties under the two Section 8 programs by establishing rents above market levels and then raising them regularly through the application of set formulas that, according to HUD, tended to be generous to encourage the production of new affordable housing.

The high cost of Section 8 subsidies is reflected in the cost of renewing the existing project-based contracts for the properties in the insured Section 8 portfolio as they expire. HUD is requesting $863 million in budget authority for fiscal year 1997 to renew expiring contracts covering almost 293,000 insured Section 8 units. As its long-term Section 8 contracts expire and its 1-year contracts are renewed annually, HUD estimates that its annual renewal costs will increase steadily in each of the following 9 fiscal years, resulting in an estimated annual renewal cost of about $6.7 billion by the year 2006 and a 10-year cumulative renewal cost approaching $45 billion.

A second key problem affecting the insured Section 8 portfolio is the high risk of insurance loss. Under FHA's insurance program, HUD bears virtually all the risk in the event of a loan default. According to a recent HUD-contracted study of the Department's capacity to manage the assisted multifamily portfolio's financial risk,[2] HUD's multifamily insurance program depends upon the actions of private parties whose share in the risk and stake in the properties' financial success may be limited. The study points out that instead of bearing the financial risk of default, private lenders may have a more limited stake in the continuation of mortgages through their servicing rights. Rather than having substantial equity invested in the properties, the owners may possess indirect interests that are hard for HUD to evaluate. Borrowers are often structured into partnerships in which the general partners, who are responsible for the properties' day-to-day

[2]Thomas H. Stanton, Institutional Capacity to Manage Financial Risk: An Essential Consideration for the Future of the HUD Multifamily Assisted Loan Portfolio (Apr. 2, 1996).

management, may have interests in property management fees through affiliated firms.

HUD's fiscal year 1994 loan loss reserve analysis[3] evaluated the risk of default and insurance loss for a sample of multifamily properties on the basis of a set of financial, physical, and management data. The properties were categorized as excellent, good, standard, substandard, or doubtful, and degrees of risk were assigned on the basis of these categories. According to the analysis, 48 percent of the older assisted properties and 20 percent of the newer assisted properties had a medium to high risk of default. This risk could increase substantially if the properties' Section 8 contracts are not renewed or are renewed at substantially lower levels.

Poor physical condition is a third key problem affecting many properties in the insured Section 8 portfolio. A 1993 study of multifamily rental properties with FHA-insured or HUD-held mortgages found that almost one-fourth of the properties were "distressed." The properties were considered to be distressed if they failed to provide sound housing and lacked the resources to correct their deficiencies or if they were likely to fail financially.[4]

Principal Causes of the Problems

The problems affecting HUD's insured Section 8 portfolio have several causes. These include (1) program design flaws that have contributed to high subsidies in the Section 8 program and have put virtually all the risk on HUD in the insurance program; (2) HUD's dual role as both the mortgage insurer and the rental subsidy provider, which has resulted in the federal government's averting claims against FHA's insurance fund by supporting a subsidy and regulatory structure that has masked the true market value of the properties; and (3) weaknesses in HUD's oversight and management of the insured portfolio, which have allowed physical and financial problems at a number of HUD-insured multifamily properties to go undetected or uncorrected. According to a September 1995 paper prepared by the Affordable Housing Preservation Tax Policy Group,[5] a related problem is that the limited-partner investors in many of the properties no longer have an economic incentive to invest, or an interest in investing, additional

[3]HUD's loan loss reserve analysis is a multistep process used to estimate FHA's future losses on insured multifamily housing mortgage loans.

[4]Abt Associates, Inc., Assessment of the HUD-Insured Multifamily Housing Stock (Sept. 1993).

[5]Reorganization of HUD-Assisted Multi-Family Housing Projects—The Tax Obstacles (Washington, D.C., Sept. 1995).

capital to pay for improvements, such as new roofs, boilers, and updated appliances, which many properties are now starting to need.

HUD's Proposals to Address Problems With the Insured Section 8 Portfolio

In May 1995, HUD proposed to address the key problems affecting the insured Section 8 portfolio through a process that it called "mark-to-market." The principal steps in this process were to reset rents to market levels and reduce mortgage debt if necessary to permit a positive cash flow, terminate FHA's mortgage insurance, and replace project-based Section 8 subsidies with portable tenant-based subsidies.

The basic idea behind HUD's mark-to-market proposal was to address the three key problems and their causes by decoupling HUD's mortgage insurance and project-based rental subsidies and subjecting the properties to the forces and disciplines of the commercial market. HUD originally proposed to do this by (1) eliminating project-based Section 8 subsidies as existing contracts expired (or sooner if the owners agreed), (2) allowing owners to rent their apartments for whatever amounts the marketplace would bear, (3) facilitating the refinancing of FHA-insured mortgages with smaller mortgages if needed for the properties to operate at the new rents, (4) terminating FHA's insurance on the mortgages, and (5) providing the residents of assisted units with portable Section 8 rental subsidies that they could use to either stay in their current apartment or move to another one in accordance with their wishes or financial needs.

HUD recognized that many owners could not cover their expenses and might eventually default on their mortgages if their properties were forced to compete in the commercial marketplace without their project-based Section 8 subsidies. The mark-to-market proposal therefore included several alternatives for restructuring the program's FHA-insured mortgages to bring properties' income and expenses into line. These alternatives included selling the mortgages, engaging third parties to work out restructuring arrangements, and paying full or partial FHA insurance claims to lenders to reduce the mortgage debt and monthly payments. Each of these alternatives would likely expose HUD to claims against FHA's insurance fund, but HUD estimated that over the long term this approach would cost the government less than maintaining the status quo.

The proposed mark-to-market process would likely affect properties differently, depending on whether their existing rents were higher or lower than market rents and whether they needed funding for capital items, such as deferred maintenance. If the existing rents exceeded market value, the

process would lower the mortgage debt, thereby allowing the property to operate and compete effectively at lower market rents. If the existing rents were below market value, the process would allow the owner to increase the rents, potentially providing more money to improve and maintain the property. HUD recognized, however, that some properties would not be able to generate enough income to cover their expenses even if their mortgage payments were reduced to zero. In these cases, HUD proposed using alternative strategies, including demolishing the property and subsequently selling the land to a third party, such as a nonprofit organization or government entity.

Although both the Senate and the House held hearings on the mark-to-market proposal, no consensus was reached as to whether it or some other approach should be adopted. No action was taken, in part because reliable information was not available on the properties and their surrounding commercial rental markets. Potential stakeholders raised questions about the proposal that could not be answered, including the following: (1) What are the physical and financial conditions of the properties that make up the insured Section 8 portfolio? (2) What different effects would the proposal have at different types of properties? (3) Would the government realize net savings or incur additional costs in the long run? (4) To what extent would low-income residents be displaced or have to pay higher rents? (5) To what extent could such residents find suitable and affordable alternative housing if they chose to or had to? (6) To what extent would possible income tax consequences[6] and other negative effects on owners cause them to oppose the proposal and hamper HUD's efforts to implement it? and (7) To what extent would owners with substantial time left on their Section 8 contracts disinvest and let their properties deteriorate? Without this information, it was difficult to predict the overall effects of HUD's mark-to-market proposal on the properties, their owners, the residents, and the federal government. HUD contracted with Ernst & Young LLP in 1995 to obtain up-to-date information on market rents and the physical condition of properties in the insured Section 8 portfolio, develop a financial model to show how HUD's proposal would affect the properties, and estimate the subsidy and insurance claims

[6]HUD's original mark-to-market proposal could have triggered two different kinds of income tax liabilities for limited-partner investors, who typically own most of the equity interests in a property, without generating any cash that the investors could have used to pay the tax. The first type of tax liability could have occurred if HUD had made a payment from FHA's insurance fund to a mortgage holder to reduce the mortgage principal. This payment would have been considered as a "cancellation of indebtedness" and would have created a tax liability for the investor. The second type of tax liability could have occurred if the process had led an investor to sell or dispose of an interest in a property. Under certain circumstances, this action could have subjected the investor to an "exit tax."

costs associated with the proposal. (See ch. 2 for our analysis of Ernst & Young's study.)

In April 1996, before Ernst & Young completed its study, HUD modified the original mark-to-market proposal in several ways in response to concerns raised by industry officials and resident groups about various issues, such as the elimination of project-based subsidies and the termination of FHA insurance, and changed the name of the process from mark-to-market to portfolio reengineering. HUD left the basic thrust of the original proposal intact but made several key changes. These included (1) giving priority attention for at least the first 2 years to properties with subsidized above-market rents while continuing to discuss approaches with stakeholders for solving capital needs at properties with expiring contracts and subsidized below-market rents; (2) allowing state and local governments to decide whether to continue Section 8 project-based rental subsidies at individual properties after their mortgages are restructured or switch to tenant-based assistance; and (3) allowing owners to apply for FHA insurance on the newly restructured mortgage loans. HUD's portfolio reengineering proposal further differed from the original mark-to-market proposal in that it (1) put more emphasis on proactively using third parties to restructure and resolve problems with mortgages before properties' project-based Section 8 contracts expire; (2) better protected current residents from displacement by providing those in assisted apartment units with "enhanced vouchers" that would pay the difference between 30 percent of their income and the market rent for their building (even if that rent exceeded the normal Section 8 limits) and by providing rental assistance to currently unassisted residents if restructuring increased their rent to more than 30 percent of their income; and (3) reflected HUD's willingness to work with the Congress on developing mechanisms to take into account the tax consequences to the owners of properties whose mortgage debt would be forgiven as part of the restructuring process. More recently, HUD has also proposed deferring action on properties that would not be able to generate enough income to cover their operating expenses after reengineering until strategies have been developed to address the needs of their residents and of the communities in which the properties are located.

Objectives, Scope, and Methodology

To assist the Congress in evaluating HUD's proposal for reengineering the insured Section 8 multifamily housing portfolio, we examined the (1) problems affecting the properties in the portfolio and HUD's proposals for addressing them; (2) results and reasonableness of a HUD-contracted

study carried out by Ernst & Young LLP that assesses, on the basis of a national sample of 558 randomly selected properties, the effects of HUD's proposal on the portfolio; and (3) key issues facing the Congress in assessing HUD's proposal. In addition, as discussed in appendix I, we examined the characteristics of 10 properties included in Ernst & Young's study and the impact of HUD's proposal on them.

To obtain information on the problems affecting the properties in HUD's insured Section 8 portfolio and HUD's proposals for dealing with them, we reviewed relevant reports issued by GAO, HUD's Office of Inspector General (OIG), and HUD.[7] We also reviewed HUD documents discussing the Department's mark-to-market and portfolio reengineering proposals, as well as comments on the proposals provided by groups representing the multifamily housing industry and residents. We also discussed the proposals with HUD and industry officials and participated in four forums that HUD held in early 1996 to discuss problems pertaining to the insured Section 8 properties and options for addressing them.

To evaluate the results and reasonableness of Ernst & Young's study, we were briefed by staff from Ernst & Young and HUD on the approaches that Ernst & Young planned to use to carry out its study and on the actual methods used. The briefings included discussions about Ernst & Young's sampling and statistical methods, market surveys for estimating the market rents for the insured Section 8 properties, site inspections for estimating the properties' deferred maintenance and capital needs, and the financial model for determining the effect of portfolio reengineering on the properties and estimating the costs and savings associated with reengineering.

We reviewed selected aspects of Ernst & Young's sampling and statistical methodology. For example, we reviewed the computer programs that Ernst & Young used to select sample projects and reviewed the statistical methods that the firm planned to use to estimate population totals from the sample. We also reviewed the presentation of information derived from the sample in Ernst & Young's May 2, 1996, report.

When data are missing for sampled projects, a potential exists for the results of the sample to create a biased representation of the entire population of projects. In addition, assigning values on the basis of the observed sample mean can cause the sampling errors to be somewhat

[7]See the Related GAO Products at the end of this report for a list of our earlier work on problems associated with insured Section 8 properties.

understated. We checked the completeness of the data collected for Ernst & Young's sampled projects. Only one project subject to portfolio reengineering was excluded from the study. For the 558 projects included in the study, the data collection was generally complete. About 85 percent of the projects in the final sample had complete data. For the remaining projects, one or more of the following were missing: (1) data from financial statements, (2) data on tenants' payments, and (3) data on deferred maintenance. Tenant payment data were missing most frequently—about 12 percent of the time. Financial statement data and deferred maintenance data were missing no more than 3 percent of the time. When data were missing for a project, Ernst & Young assigned a value to it based on the average of the known sample properties or industry standards. (The overall reasonableness of Ernst & Young's study is discussed in ch. 2.)

To evaluate Ernst & Young's estimates of market rents, we reviewed the firm's methodology for performing market surveys and, as discussed in greater detail below, contracted with three licensed real estate appraisal firms to estimate the market rents for 10 properties in Ernst & Young's sample.

To assess Ernst & Young's estimates of deferred maintenance needs and capital costs, we met with Ernst & Young officials to understand the firm's methodology and underlying assumptions. We also obtained and analyzed related data collection documents used in the firm's study, including the instructions to those conducting on-site property inspections and the completed inspection forms and supporting documentation for the 10 properties independently assessed by the contract appraisers. We also discussed Ernst & Young's methodology with industry representatives and provided Ernst & Young's estimates for the 10 properties to the respective owners and managers and to the contract appraisers. We asked those who reviewed Ernst & Young's estimates to comment on the reasonableness and accuracy of the estimates; to state whether they generally agreed or disagreed with the estimates; and if they disagreed with an estimate, to provide specific information on the adjustments needed and the reasons for the adjustments.

To review Ernst & Young's financial model for assessing the effects of portfolio reengineering on the sample properties, we obtained a copy of the model and discussed the assumptions used in it with Ernst & Young staff. Because the model contains hundreds of data fields, formulas, and assumptions, we did not attempt to examine every data element or verify

every formula or calculation. Rather, we focused on assessing the structure of the model and reviewed its key data elements and the logic of what we considered to be its major assumptions. We also discussed the financing and operating assumptions used in the model with officials of various organizations that have expertise in underwriting and/or servicing mortgages on multifamily housing properties (including Fannie Mae, Freddie Mac, the Reilly Mortgage Group, and GMAC Commercial Mortgage Corporation). Our assessment of the model is discussed in chapter 2. As discussed in chapter 2, we used information obtained from these experts to perform sensitivity analyses that assess the effects of changes in the assumptions on the model's results. We also used data from Ernst & Young's sample to estimate certain costs. These estimates apply to the 8,363 projects from which the sample was drawn. Had we made estimates for the number of properties that Ernst & Young assumed to be affected by portfolio reengineering (8,563 properties), our estimates of the totals would have been about 2 percent higher. As discussed earlier, HUD now believes that 8,636 properties would be affected by its proposal.

We did not verify the accuracy of the data that Ernst & Young derived from HUD's data systems for use in its study except for certain data pertaining to the 10 case study properties. We found that the final data used in Ernst & Young's study for these properties were generally consistent with the data we obtained. HUD's OIG conducted a more detailed assessment of the data that Ernst & Young derived from HUD's information systems. The OIG tested 69 of the 189 data elements that Ernst & Young used for 56 projects. The OIG found differences between the data it obtained and the data Ernst & Young used for 423 of the 3,864 data elements it reviewed, 114 of which the OIG determined to be significant. The OIG shared the results of its analysis with Ernst & Young and HUD. Ernst & Young officials informed us that they had used the OIG's results to improve the study's data.

We provided comments to HUD and Ernst & Young about issues that arose throughout the study's design and implementation. HUD and Ernst & Young officials were generally responsive to our concerns, replacing their original sample, for example, with one that they could analyze using appropriate statistical methods.

We obtained data on the characteristics of 10 properties included in Ernst & Young's sample and assessed the effects of HUD's proposal on the properties. We selected these properties judgmentally from a list of properties in Ernst & Young's sample. The 10 properties are not statistically representative of the properties in either HUD's insured Section

8 housing portfolio or Ernst & Young's sample. We selected the 10 properties to reflect differences in geographical location (they are located in six states and the District of Columbia), assisted rent levels, and physical condition (as indicated in physical inspection reports from HUD). We did not have information on many characteristics of the properties—such as how their assisted rents compared with the market rents they could command, who resided in them, and what types of housing markets they were located in)—when we selected the properties.

To obtain data on the properties' characteristics, we visited each property and interviewed its manager and/or owner. We also obtained data on the properties' characteristics from HUD's field office and property records. We provided the basic data we obtained on each property to the property owner or manager for review and verification. To develop estimates of the market rents that the properties could command and assessments of the effects that portfolio reengineering would have on the properties, we contracted for the services of three licensed real estate appraisal firms with experience in assessing properties insured or assisted by HUD: Goyette Roark Appraisal Services; Maiden, Haase & Smith, Ltd.; and Miller Appraisal Review. The firms provided us with a report on each of the properties they reviewed. We also obtained comments on each appraisal report from the property's owner or manager. The results of the reports are summarized in appendix V.

We identified and formulated our observations on the key issues facing the Congress through our review of (1) HUD's proposals, (2) comments on HUD's proposals and alternative proposals prepared by various parties representing the views of those who would be affected, (3) testimony provided at several congressional hearings and our discussions with housing and lending industry officials and with the owners, managers, and selected tenant representatives at the 10 case study properties.

We provided a draft copy of this report to HUD for its review and comment. HUD provided written comments on the draft, and these comments are presented and evaluated in chapter 2 and appendix VI. We conducted our review from August 1995 through September 1996 in accordance with generally accepted government auditing standards.

Evaluation of the Results and Reasonableness of the Portfolio Reengineering Study Conducted for HUD by Ernst & Young

In May 1996 Ernst & Young reported on the results of its study analyzing the effects of HUD's original mark-to-market proposal on insured Section 8 properties. Ernst & Young's study indicates that for most of the properties subject to portfolio reengineering, the assisted rents are greater than the estimated market rents. In addition, according to the study, the properties have significant amounts of immediate deferred maintenance and short-term and long-term capital needs. The study further indicates that about 80 percent of the properties would need to have their debt reduced in order to continue operations after reengineering. For approximately 22 to 29 percent of the properties, writing down the existing debt to zero would not reduce their costs enough for them to cover their operating expenses and/or address their deferred maintenance and capital needs. Ernst & Young's report does not present information gathered during the study on the costs of portfolio reengineering to the government—that is, on how the costs of providing Section 8 assistance would change and what the likely claims against FHA's insurance fund would be. Our analysis of these data indicates that although the costs of Section 8 assistance would eventually be lower under portfolio reengineering than under the current renewal policies, little or no Section 8 savings would be achieved over the next 10 years if all Section 8 properties were reengineered when their current Section 8 contracts expire. Furthermore, Ernst & Young's data indicate that the cost of insurance claims associated with the reengineering proposal during the 10-year period would amount to between $6 billion and $7 billion.

Ernst & Young's financial model provides a reasonable framework for projecting the overall results of portfolio reengineering, such as the number of properties that would need to have their debt reduced. Furthermore, we did not identify any substantive problems with the model's sampling and statistical methodology. However, some assumptions used in the financial model may not reflect the way in which insured Section 8 properties would actually be affected by portfolio reengineering. In addition, our comparison of Ernst & Young's data with the information we gathered on our 10 case-study properties raises questions about one key data element—the estimated costs of deferred maintenance and capital needs. Specifically, the owners or managers of the 10 properties and the independent appraisers we retained questioned the model's cost estimates for deferred maintenance at the properties, generally indicating that the estimates were too high.

To assess the extent to which the use of different assumptions would affect the results of Ernst & Young's study, we performed sensitivity

analyses of Ernst & Young's model using two sets of revised assumptions that we developed through our discussions with multifamily housing industry officials. One scenario reflects assumptions that are more optimistic in terms of the cost to the government of portfolio reengineering. The other uses assumptions that are more conservative or pessimistic. Under all scenarios—Ernst & Young's results and the optimistic and pessimistic variations—a substantial number of properties would likely do well and others would have difficulty sustaining operations.

Study Was Designed to Provide Updated Data

In early 1995, when HUD proposed the mark-to-market initiative, the Department did not have current or complete information on the insured Section 8 portfolio to use as a basis for developing assumptions about, and estimates of, the costs and effects of the proposal. For example, HUD lacked reliable, up-to-date information on both the market rents that the properties could be expected to command and the properties' physical condition—two variables that strongly influence the effects on properties of the mark-to-market proposal. Information on market rents and physical condition is also needed to estimate (1) the change in Section 8 subsidy costs if assisted rents are replaced with market rents and (2) the claims against FHA's insurance fund if mortgage debt is reduced to allow the properties to operate at market rents. Because HUD did not have current data on the market rents and physical condition of the properties in the insured Section 8 portfolio, the Department had to rely on data collected for HUD's 1990 multifamily stock study.[1] An update to this study assessing changes in the stock since 1990 was scheduled to begin in the fall of 1995, but the results were not expected to be available for some time.

To obtain interim data to better assess the likely outcomes of the mark-to-market proposal, HUD contracted with Ernst & Young LLP[2] in 1995 for a study of a random sample of HUD-insured properties with Section 8 assistance to (1) determine the market rents and physical condition of the properties and (2) develop a financial model to show the effects of the proposal on the properties and to estimate the costs of the subsidies and claims associated with the proposal. The study was conducted on a sample of 558 properties out of 8,363 properties and extrapolated to the total population of 8,563 properties identified by HUD at that time as

[1]Assessment of the HUD-Insured Multifamily Housing Stock Final Report (HUD-1412-PDR, Sept. 1993).

[2]The study was conducted by the E&Y Kenneth Leventhal Real Estate Group.

representing the population subject to portfolio reengineering.[3] The study was planned to take about 2 months and be completed in 1995. However, the study took longer than estimated, in large part because of delays in completing the physical inspections and the fiscal year 1996 federal budget impasse, which required many government agencies, including HUD, to shut down operations for various periods last fall and winter. HUD and Ernst & Young released the report summarizing the study's findings on May 2, 1996.

Study Finds That Many Properties Would Require Restructuring

Ernst & Young's report provides current information comparing assisted rents at the properties with market rents, assessing the physical condition of the properties, and estimating the effects on the properties of HUD's reengineering proposal as it existed while the study was under way. Hence, the study's results do not reflect the effects of changes that HUD made to its proposal in early 1996. Ernst & Young's report estimates that the majority of the properties have assisted rents that exceed market rents and significant amounts of immediate deferred maintenance and future capital needs. The analysis also indicates that about 80 percent of the properties would not be able to continue operations without debt restructuring.

Most Properties Would Have to Adjust to Less Income

Ernst & Young conducted market surveys to estimate market rents at the properties. The properties whose assisted rents currently exceed market rents would generate less rental income after reengineering; therefore, they would likely have difficulty meeting their existing debt service requirements when their rents were adjusted to market levels. Ernst & Young's study estimates that a majority of the properties—between 60 and 66 percent—have above-market rents and between 34 and 40 percent have below-market rents.[4] Most of the properties with assisted rents that exceed market rents are newer assisted properties. Conversely, most of the properties with assisted rents that are less than market rents are older assisted properties. During fiscal years 1997 through 1999, most of the properties whose Section 8 contracts are scheduled to expire are older

[3]Ernst & Young reported that because of technical and cost considerations, the sample was drawn from a population of 8,363 properties rather than the HUD-identified population of 8,563 properties. As noted earlier, HUD now believes that 8,636 properties would be subject to portfolio reengineering.

[4]All estimates for projects whose assisted rents were determined, on the basis of Ernst & Young's sample, to be above or below market rents may be misstated because the sample did not contain properties with both types of rents in each group, or stratum, sampled. Thus, the estimates assume that none of the assisted rents for 510 projects from three strata containing newer projects were below market rents. The estimates also assume that none of the assisted rents for 372 older projects from two strata were above market rents.

assisted properties, whereas from fiscal year 2000 and beyond, most of the properties with such contracts are newer assisted properties.

The properties whose assisted rents are more than 120 percent above market levels are of special concern because they would likely experience substantial decreases in rental income. The Ernst & Young study estimates that between 41 and 47 percent of the properties have such rents.

Physical Condition Needs Are Large and Strongly Influence Results of Portfolio Reengineering

Ernst & Young hired an engineering firm, Louis Berger & Associates, to identify the properties' comprehensive capital needs. In order to obtain new loans, the property owners will need sufficient resources to address immediate deferred maintenance as well as future capital needs.

As table 2.1 shows, Ernst & Young's study indicates a widespread need for capital—between $9.2 billion and $10.2 billion—to address the properties' capital needs. The study defines capital needs as the costs of the improvements needed to bring the properties into adequate physical condition to attract uninsured, market-rate financing. Three categories of capital needs are defined: (1) immediate deferred maintenance, or the estimated costs to bring all operating systems up to market conditions and lenders' underwriting standards, (2) the short-term capital backlog, or the estimated expired costs for subsystems and components with a remaining useful life of 5 years or less,[5] and (3) the long-term capital backlog, or the estimated expired costs for subsystems and components with a remaining useful life of more than 5 years. The immediate and short-term capital costs are a significant factor in determining the impact of portfolio reengineering on the properties.

The study estimates that the properties have only approximately $1.3 billion to $1.6 billion in replacement reserves (i.e., funds set aside to cover future capital needs) and other cash reserves that could be used to address their capital needs, resulting in total net capital needs of between $7.7 billion and $8.7 billion. The average cost per unit of the total capital needs, less the reserves, is estimated to be between $9,116 and $10,366.

[5]Estimated expired costs are the partial replacement costs of items. For example, a $15,000 roof with an original useful life of 15 years would, when it was 11 years old, have estimated expired costs of $11,000, which would be included in the property's short-term capital backlog.

Table 2.1: Identified Capital Needs

Dollars in billions

Category of need	Range
Immediate deferred maintenance	Between $3.4 and $4.0
Short-term capital backlog	Between $2.9 and $3.5
Long-term capital backlog	Between $2.5 and $3.1
Total	**Between $9.2 and $10.2**

Note: Each category of need, as well as the total of the three categories, has an individual sampling error. Therefore, the total estimate is not equal to the sum of the individual estimates.

Source: GAO's presentation of data from Ernst & Young.

The study indicates that while the older assisted properties have a high level of capital needs, the newer assisted properties also require a significant investment. For example, the older properties have needs ranging between $3.8 billion and $4.4 billion for immediate deferred maintenance and short-term capital backlog, and the newer properties have needs ranging between $2.5 billion and $3.1 billion. On a per-unit basis, these amounts average between $8,665 and $10,217 for the older properties and between $6,201 and $7,491 for the newer ones.

Study Indicates a Significant Level of Debt Restructuring Would Be Needed

The study was designed to use information on market rents and the properties' physical condition gathered by Ernst & Young, as well as financial and Section 8 assistance data from HUD's data systems, in a financial model designed to predict the proposal's effects on the portfolio as a whole. Specifically, the model estimates the properties' future cash flows over a 10-year period, assuming that the loans will be reengineered (marked to market) when their current Section 8 contracts expire.[6] The model classifies the loans into four categories—performing, restructure, full write-off, and nonperforming—that reflect the effects of reengineering on the properties. A property's placement in one of the four categories is based on the extent to which the income from the reengineered property would be able to cover its operating costs, debt service payments, and immediate deferred maintenance and short-term capital expenses.

If portfolio reengineering were implemented, Ernst & Young estimates that about 80 percent of the properties—with current estimated unpaid principal balances ranging from $12.6 billion to $14.5 billion—would have to have their existing mortgage debt reduced. In addition, approximately

[6]For properties with more than one Section 8 contract, the model assumes that the property would be reengineered when the contract with the earliest expiration date expired.

22 to 29 percent of the properties would not meet all of their needs even if their debt were written down to zero. The study further estimates that between 11 to 15 percent of the properties would not even be able to cover all of their operating expenses. Table 2.2 provides an overview of the results.

Table 2.2: Effects of Reengineering on HUD's Insured Section 8 Portfolio

Status of loan after reengineering	Percent of portfolio	Costs covered with reengineered cash flows
Performing	17 to 23	Existing debt, operating expenses, all capital needs
Restructure	50 to 58	Restructured debt, operating expenses, all capital needs
Full write-off	11 to 15	Operating expenses and some capital needs but no debt
Nonperforming	11 to 15	Some operating expenses but no debt or capital needs

Note: In this analysis, Ernst & Young defines capital needs as immediate deferred maintenance and short-term (5 years or less) capital needs, less available reserves. In addition, the financial model assumes annual deposits to replacement reserves.

Model's Results Raise Questions About Savings That Might Be Achieved

Ernst & Young's model estimated the subsidy costs for HUD's insured Section 8 portfolio before and after reengineering and the claims against FHA's insurance fund entailed in writing down the mortgages and addressing the deferred maintenance needs at the properties. However, Ernst & Young's May 2, 1996, report does not present this information. According to HUD's Deputy Assistant Secretary for Operations, HUD plans to use Ernst & Young's cost data in developing future budget estimates relating to portfolio reengineering, but it never intended that the cost data be included in Ernst & Young's May 1996 report or that the model generate budget estimates. For various reasons, the cost estimates in HUD's fiscal year 1997 budget request and in Ernst & Young's study differ. For example, the budget request assumes that many loans will be reengineered before the related Section 8 contracts expire, while Ernst & Young's study assumes that reengineering will occur after the contracts expire. In addition, according to HUD, the budget assumes that Section 8 subsidy costs increase at a faster rate than Ernst & Young's study.[7]

[7]HUD officials have also indicated that Ernst & Young's cost estimates do not conform with budget rules or scoring methodology.

In the model, the claims costs include (1) the amount of debt reduction needed for each property to sustain its operations at market rents and (2) funding for some or all of the property's immediate deferred maintenance and short-term capital needs. However, the claims costs cannot exceed the unpaid principal balance of the loan at the time of its restructuring. For a property whose estimated capital needs exceed its loan's unpaid principal balance, any unresolved capital needs are tracked in the model. In addition, the claims costs are based on an evaluation, for each property, of the loan amount that the property could support using standard financial underwriting standards without the continuation of FHA insurance.[8]

Short-Term Reductions in Section 8 Assistance Costs Would Be Unlikely

Our analysis of these data indicates that although the costs of providing Section 8 rental assistance would decrease over the long term, little or no aggregate savings in Section 8 rental assistance costs would accrue over the next 10 years if, as the model assumes, all insured Section 8 properties were reengineered when their current Section 8 contracts expire. These data indicate that, for the period from fiscal year 1996 through fiscal year 2005, there may be little difference in the aggregate costs of Section 8 assistance under the current program and under portfolio reengineering:

- If project-based assistance is continued at current levels (including inflation), the costs in present value terms are estimated to be between $27.2 billion and $31.0 billion.[9]
- The cost of Section 8 assistance after reengineering is estimated to be between $26.5 billion and $29.8 billion.[10]

[8]According to an Ernst & Young official, the model was based on an underwriting approach that considered several factors for each property: (1) the debt service coverage ratio, (2) the mortgage interest rate, (3) the immediate deferred maintenance needs, (4) the annual replacement reserve requirements, (5) the funding needed to cover underfunded replacement reserves (short-term capital needs); and (6) the ability to stabilize under "market" conditions. The Ernst & Young official indicated that all these factors must be considered together before a conclusion can be made on the appropriateness of any one of the factors.

[9]These and other total cost estimates contained in our report are based on a universe of 8,363 properties—the population from which Ernst & Young selected its sample. The estimates contained in Ernst & Young's May 1996 report are based on a population of 8,563 properties. The difference between these two numbers represents the properties that did not have a chance to be included in the sample because of technical and cost considerations. In general, the estimates in our report would increase by about 2 percent if they were applied to 8,563 properties rather than 8,363, assuming that the additional properties identified by HUD were similar to those in the original population.

[10]For both estimates, the model assumes that Section 8 subsidy costs increase by 3 percent a year. We discounted these costs by 6.75 percent a year to arrive at a present value estimate.

A primary reason for the similarity in cost estimates is that the model assumes projects would be reengineered when their current Section 8 contracts expire. This assumption reflects HUD's contractual obligations, which the Department has repeatedly indicated that it will not abrogate. Because the contracts for many properties with below-market rents will expire during the first part of the 10-year period and the properties would therefore be reengineered early in the process, the costs of providing Section 8 assistance would increase during the early years but then begin to decrease as more projects with above-market rents were reengineered in the later years. In fiscal year 2005, after virtually all of the projects have been reengineered, the Section 8 assistance costs are estimated to be between $1.9 billion and $2.2 billion per year on a present value basis. The model indicates that annual savings of between $298 million to $493 million (between 13 to 19 percent) could subsequently be achieved if reengineering were implemented in place of the current program.

However, Ernst & Young's model does not reflect the changes that HUD made to its proposal in early 1996. Some of the changes offer the potential for additional Section 8 cost savings. For example, HUD is proposing to use a proactive approach to portfolio reengineering, under which it would encourage owners to terminate their Section 8 contracts voluntarily before the contracts expire and go through the reengineering process. However, it is not clear to what extent HUD will succeed in attracting owners to restructure before their Section 8 contracts expire or what additional incentives HUD may have to offer to achieve this goal.

In addition, HUD now plans to focus initially on reengineering properties with above-market rents. To the extent that portfolio reengineering focuses on such properties, the savings would increase. For example, Ernst & Young's data indicate that the 10-year costs of providing Section 8 assistance for properties with above-market rents would be between $21.2 billion and $25 billion under the current program compared with between about $18.5 billion and $21.5 billion if the loans for such properties were restructured when their Section 8 contracts expire. In addition, some further savings would result if, as Ernst & Young's model assumes, mortgage interest subsidies were terminated when projects were reengineered. Ernst & Young estimates that without reengineering, mortgage interest subsidies would range from about $841 million to $1.1 billion (in present value terms) over the next 10 years. However, most properties that receive interest subsidies are believed to have below-market rents.

Insurance Claims Costs Would Likely Be High

Our analysis of Ernst & Young's data indicates that, under portfolio reengineering, the claims against FHA's multifamily insurance funds—for mortgage write-downs and deferred maintenance and other capital needs for properties with mortgages that need restructuring—would be substantial. The mortgage balances for such properties—including those in the full write-off and nonperforming categories whose mortgages would be fully written off—would need to be reduced by between 61 and 67 percent. Over the next 10 years, according to Ernst & Young's data, this reduction would result in claims costs, calculated on a present value basis, of between $6 billion and $7 billion.[11] If, however, HUD's proactive approach were successful, the costs of claims to cover mortgage write-downs could be higher than indicated in Ernst & Young's study because (1) the loans would be restructured earlier when the unpaid principal balances were higher and (2) the present value of the claims occurring in the earlier years would be higher. However, HUD believes that without a proactive approach, owners would disinvest in the properties. Such disinvestment would have an adverse impact on the properties' physical condition, resulting in higher claims costs at a later date.

The claims payments estimated in Ernst & Young's study indicate substantial loan loss rates for the government.[12] For example, the portfolio reengineering claims for properties with assisted rents that exceed market rents are estimated to be between $4.8 billion and $5.8 billion and the related unpaid principal balances at the time of restructuring are estimated to be between $6.9 billion and $8.1 billion. The estimated loss rate would be between 67 and 75 percent. Table 2.3 provides the claims, unpaid principal balances, and loss rates for the properties subject to portfolio reengineering.

[11]FHA uses its General Insurance Fund and Special Risk Fund to account for the claim payments and other cash flows, such as premium receipts, associated with multifamily insurance programs. In fiscal year 1995, the premiums collected in these funds totaled $286 million.

[12]The loss rate represents the ratio of claims to unpaid principal balances at the date of restructuring.

Table 2.3: Impact of Portfolio Reengineering on FHA's Insurance Fund, Fiscal Years 1996-2005

Dollars in billions (present value)

Relative value of assisted rents before restructuring	FHA insurance claims costs	Unpaid principal balances at date of restructuring	Loss rate
Greater than or equal to market rents	Between $4.8 and $5.8	Between $6.9 and $8.1	67% to 75%
Less than market rents[a]	Between $1.0 and $1.5	Between $2.2 and $3.1	40% to 51%
Total	**Between $6.0 and $7.0**	**Between $9.5 and $10.8**	**61% to 67%**

Note: All estimates for projects whose assisted rents were determined, on the basis of Ernst & Young's sample, to be above or below market rents may be misstated because the sample did not contain properties with both types of rents in each group, or stratum, sampled. Thus, the estimates assume that none of the assisted rents for 510 projects from three strata containing newer projects were below market rents. The estimates also assume that none of the assisted rents for 372 older projects from two strata were above market rents.

[a]This estimate may be misstated because no projects with claims were found among the projects with assisted rents below market rents sampled from four strata. Thus, the estimate assumes that none of the 985 projects from these strata were projects with assisted rents below market rents that resulted in claims. The 985 projects included 807 newer and 178 older projects.

GAO's Evaluation of the Model and Its Results

Ernst & Young's financial model provides a reasonable framework for projecting the overall results of portfolio reengineering, such as the number of properties that would need to have their debt restructured and the related costs of insurance claims.[13] In addition, as discussed in appendix III, we did not identify any substantive problems with Ernst & Young's sampling and statistical methodology. However, some assumptions used in Ernst & Young's financial model may not reflect the way in which insured Section 8 properties would actually be affected by portfolio reengineering. Our comparison of Ernst & Young's data with the information we obtained on 10 case study properties raised questions about one key data element—the estimated costs of deferred maintenance and capital needs.

Cash Flow Model Provides the Basis for Evaluating the Outcome of Portfolio Reengineering

Ernst & Young's financial model is a 10-year cash flow model that computes the net operating incomes for each property before, during, and after the rents are set at market levels. That is, the model produces annual revenues, operating costs, and replacement reserve requirements (i.e., amounts that need to be set aside to cover future capital needs) and calculates net income on the basis of these amounts. The initial cash flows are based on data, adjusted for inflation, from the properties' audited financial statements for 1994. The model assumes that income and tenant

[13]The model does not attempt to predict owners' or residents' behavior, and, as noted earlier, does not reflect the changes made to HUD's proposal in early 1996.

payments will grow by 3 percent a year and expenses by 4 percent a year. The higher growth rate for expenses was intended to provide more conservative estimates. The model assumes that market rents will be phased in over 9 months, beginning 3 months after the first Section 8 contract for each property expires, and that the operating costs for some properties will be reduced.[14] HUD's rental assistance, included in the model as part of revenues, is based on the existing project-based subsidies, adjusted for inflation, until 3 months after the first contract expires. After the restructuring, the model assumes, residents will receive tenant-based assistance (certificates or vouchers) covering the estimated market rents at the properties. However, the assistance is no longer linked to specific properties, and the residents could choose to relocate.

For each of the 10 years covered, the model computes both a net operating income and an adjusted net operating income. The net operating income represents the total revenues less the operating expenses, whereas the adjusted net operating income is further reduced by the amount required annually for a replacement reserve. Each property is then subjected to two tests of its loan's performance when the first Section 8 contract expires to determine whether the cash flows provide sufficient income for the property to cover (1) the current debt service (mortgage payment) excluding any interest subsidy currently available and (2) the immediate deferred maintenance and short-term capital backlog costs. If a loan passes both tests, it is categorized as performing. Loans that are not classified as performing are analyzed further to determine whether their appropriate portfolio reengineering category is debt restructure, full write-off, or nonperforming.[15]

Financial Model Is Reasonable, but Some Assumptions Are Questionable

In general, Ernst & Young's financial model provides a reasonable framework for analyzing the impact of HUD's portfolio reengineering proposal on the insured Section 8 portfolio. However, some of its assumptions may not reflect the way in which insured Section 8 properties would actually be affected by portfolio reengineering. In addition, some of the model's assumptions may not be apparent to readers of Ernst & Young's May 1996 report. The market rents projected for 10 case study

[14]For properties whose current operating expenses exceed industry averages, as obtained from the Institute of Real Estate Management (IREM), and whose rental revenues would decrease under reengineering, Ernst & Young's model reduced the estimated operating expenses by up to 15 percent of the difference between the properties' historical operating costs and IREM's average costs to reflect operating efficiencies after reengineering.

[15]Table 2.2 provides the criteria for placement in the four categories used in the study to describe the potential outcome of portfolio reengineering.

properties by Ernst & Young and by the contract appraisers were generally consistent. However, our comparison of the immediate deferred maintenance needs identified at the 10 properties by Ernst & Young and by the contract appraisers and our discussions with the owners or managers of the properties indicated that the study's results may not always accurately reflect conditions at these properties. More detailed discussions of the differences between Ernst & Young's and the contract appraisers' assessments of the 10 case study properties are presented in appendixes I and V.

Market Rents Appear Reasonable, but Deferred Maintenance Costs Raise Questions

As part of our review, we contracted with three licensed real estate appraisal firms for assessments of 10 HUD-insured Section 8 properties included in Ernst & Young's sample. The appraisers' tasks included studying the local markets in which the properties are located and determining what market rents the properties would be able to command. As table 2.4 indicates, for 8 of the 10 properties, the estimated market rents that Ernst & Young developed in its market surveys are reasonably close to (i.e., within 10 percent of) the rents developed by the appraisers we retained.

Table 2.4: Comparison of Estimated Market Rents for 10 Properties in HUD's Insured Section 8 Portfolio

Case study property/location	Ernst & Young's estimate[a]	Appraisal firm's estimate[a]	Difference in dollars	Difference in percent
Capitol Towers, Washington, D.C.	$491	$451	$40	9
Fannie E. Taylor, Jacksonville, Florida	403	387	16	4
Green Ridge Meadow, Evergreen, Colorado	475	530	55	10
Jackie Robinson, San Francisco, California	1,042	1,071	29	3
Jacksonville Townhouse, Jacksonville, Florida	431	391	40	10
Murdock Terrace, Dallas, Texas	495	471	24	5
Onterie Center, Chicago, Illinois	1,245	1,134	111	10
St. Andrew's Manor, Oakland, California	489	616	127	21
Terrace Gardens, Staten Island, New York	739	952	213	22
Universal City, Chicago, Illinois	578	594	16	3

[a]Estimates reflect a weighted average of apartment sizes (studio, 1-bedroom, etc.) and include the costs of utilities.

For two properties, however, there are significant differences. Ernst & Young's estimates of the market rents for St. Andrew's Manor and Terrace Gardens are more than 20 percent lower than the contract appraisers' estimates. This difference reflects, in large measure, Ernst & Young's use of a different methodology to estimate market rents in neighborhoods consisting primarily of assisted properties—where few, if any, comparable properties with market rents were identified. In these cases, Ernst & Young assumed that because the neighborhoods were essentially maintained by non-market-driven forces, there were no markets for unassisted rents other than those controlled by the local housing authorities. Thus, Ernst & Young based its estimates of market rents on the rents subsidized by the local housing authorities. In contrast, the appraisers believed that there were comparable properties that could be used to estimate market rents for the two properties.

While Ernst & Young and the contract appraisers arrived at generally consistent estimates of market rents for the 10 case study properties, they developed widely differing estimates of the properties' capital needs. In general, Ernst & Young projected significantly higher costs. These differences occurred, in part, because Ernst & Young and the contract appraisers used different approaches for assessing capital needs.

Ernst & Young retained a firm to conduct engineering studies at the properties.[16] As discussed earlier, Ernst & Young's assessment of a property's capital needs included three components: the immediate deferred maintenance, short-term capital backlog, and long-term capital backlog. In the model, Ernst & Young assumed that funding would be provided to cover the immediate deferred maintenance and short-term capital needs at the time the property was reengineered (up to a full write-down of the property's mortgage). The short-term capital needs cover the "estimated expired costs" rather than the full replacement costs of the items with remaining useful lives of 5 years or less. For example, a $15,000 roof with an original useful life of 15 years would, when it was 11 years old, have estimated expired costs of $11,000, which would be included in the property's short-term capital backlog. The additional funding needed to replace the roof in 4 years would be funded by annual replacement reserves factored into the property's annual cash flows. Thus, the reserves cover part of the short-term capital backlog and the replacement of systems and components that have remaining useful lives of more than 5 years. Ernst & Young's approach for estimating capital needs involved reviewing a property's major subsystems and unit components and then estimating, for each, the original useful life, remaining useful life, replacement cost, and need for repairs or replacement. This information was used to calculate the property's immediate deferred maintenance needs and short-term capital backlog. According to Ernst & Young, the estimates included in the study represent the (1) costs for items that require immediate attention, (2) costs for items that may still be operable but have outlasted their planned useful life,[17] and (3) expired costs (depreciation) for items that are expected to need replacement in the next 5 years.

[16]Officials from Ernst & Young and the engineering firm indicated that the inspections provide preliminary data that can be used for budgeting purposes. However, the inspections were not the full engineering studies that would be used in financial underwriting or negotiations with owners.

[17]The useful life standards for Ernst & Young's study represent a composite based on standards from two sources, Fannie Mae and the Air Force.

In general, the contract appraisers based their estimate of a property's capital needs on their assessment of the repairs and renovations required for the property to operate as a market-rate property after reengineering. This approach relies primarily on an evaluation of the property relative to others in the same market, whereas Ernst & Young's approach depends, in part, on useful-life standards. The appraisers based their assessment on their review of the property's previous physical inspections and on their own physical inspection. The appraisers were not, however, tasked with performing engineering studies.

Because of these methodological differences, direct comparisons of Ernst & Young's and the appraisers' estimates are difficult. In our view, the most comparable estimates are for immediate deferred maintenance needs; these estimates for 10 properties appear in table 2.5. Ernst & Young's estimates are taken from the firm's May 2, 1996, report.

Table 2.5: Comparison of Estimated Immediate Deferred Maintenance Needs for 10 Properties in HUD's Insured Section 8 Portfolio

Property/location	Ernst & Young's estimate	Appraisal firms' estimate
Capitol Towers, Washington, D.C.	$1,356,434	$1,033,535
Fannie E. Taylor, Jacksonville, Florida	362,349	0
Green Ridge Meadow, Evergreen, Colorado	5,000	0
Jackie Robinson, San Francisco, California	325,350	707,200
Jacksonville Townhouse, Jacksonville, Florida	797,402	0
Murdock Terrace, Dallas, Texas	5,663,798	370,000
Onterie Center, Chicago, Illinois	58,892	0
St. Andrew's Manor, Oakland, California	415,220	176,000
Terrace Gardens, Staten Island, New York[a]	2,478,562	546,500
Universal City, Chicago, Illinois	214,184	0

Note: See app. II for Ernst & Young's estimates of the total capital costs for the 10 properties.

[a]This property includes two buildings covered by separate insured mortgages, one of which was included in Ernst & Young's sample. Ernst & Young's estimate applies only to the building in the sample. Therefore, for purposes of comparison, we have included half of the appraiser's total estimate, which covers both buildings included in the appraisal.

In commenting on this comparison, Ernst & Young officials indicated that their firm's estimates of deferred maintenance needs are likely to be higher than those of the contract appraisers because they include costs not only for the major subsystems and components that need major repair or are in poor condition but also for items such as appliances and heating and air-conditioning systems that are still functioning but have outlasted their useful life. Ernst & Young's estimates assumed that investors or lenders would want to replace such items. To demonstrate the effect of this assumption on their firm's estimates of deferred maintenance needs, Ernst & Young officials provided us with an analysis showing how the exclusion of such items would change the estimates. This additional information showed that using useful-life standards generally resulted in higher cost estimates than using, as the contract appraisers did, the actual condition of systems and components and comparisons of the appraised property with other properties in the local real estate market.

Table 2.6 adjusts Ernst & Young's estimates for the 10 properties' immediate deferred maintenance needs, eliminating the global assumption that items exceeding their estimated useful life would be replaced. This adjustment reduced Ernst & Young's estimates, in some cases substantially.[18] For example, the estimate for Murdock Terrace in Dallas, Texas, was adjusted from $5.7 million to $2.1 million when the replacement costs for items that were still operable but had exceeded their useful life were excluded.

Even after adjusting Ernst & Young's estimates, we found that, for some properties, Ernst & Young's estimates still differed substantially from those of the contract appraisers. For example, Ernst & Young's estimate of the immediate deferred maintenance needs at Jacksonville Townhouse in Jacksonville, Florida, remained at $797,402, while the appraiser did not identify any deferred maintenance needs. The property's owner and manager also strongly disagreed with Ernst & Young's cost estimates for immediate deferred maintenance, especially the estimate of $360,018 to replace heating and air-conditioning systems. The manager said the main system is only 3 years old and is covered by a maintenance contract and that the cost of work in the individual units, which Ernst & Young had estimated at $295,492 (or $3,545 a unit), is more than four times higher

[18]We did not validate the immediate deferred maintenance estimates generated by Ernst & Young for the 10 case study properties. Specifically, we did not trace the capital needs estimates back to the source documentation and to the computer program that generated Ernst & Young's estimates to determine whether the inspectors' evaluations were accurately reflected or to identify the instances in which estimated useful-life standards provided the basis for the estimates.

than necessary. He said that the heating and air-conditioning systems had recently been replaced in 35 units at a cost of $800 per unit.

Table 2.6: Comparison of Ernst & Young's Revised Estimates of Immediate Deferred Maintenance Needs and Appraisal Firms' Estimates for 10 Properties in HUD's Insured Section 8 Portfolio

Property/location	Ernst & Young's adjusted estimate	Appraisal firms' estimate
Capitol Towers, Washington, D.C.	$1,107,384	$1,033,535
Fannie E. Taylor, Jacksonville, Florida	128,535	0
Green Ridge Meadow, Evergreen, Colorado	5,000	0
Jackie Robinson, San Francisco, California	308,150	707,200
Jacksonville Townhouse, Jacksonville, Florida	797,402	0
Murdock Terrace, Dallas, Texas	2,144,209	370,000
Onterie Center, Chicago, Illinois	[a]	0
St. Andrew's Manor, Oakland, California	376,820	176,000
Terrace Gardens, Staten Island, New York[b]	1,092,922	546,500
Universal City, Chicago, Illinois	89,383	0

[a]Ernst & Young did not provide a revised estimate for this property, which was inspected but subsequently dropped from the study.

[b]This property includes two buildings covered by separate insured mortgages, one of which was included in Ernst & Young's sample. Ernst & Young's estimate applies only to the building in the sample. Therefore, for purposes of comparison, we have included half of the appraiser's total estimate, which covers both buildings included in the appraisal.

Because the estimates of capital needs that Ernst & Young presented in its study were difficult to compare directly with those of the contract appraisers, we provided both estimates to the owners and managers of the 10 case study properties for their review and comment.[19] The owners and managers generally disagreed with Ernst & Young's estimates. For the most part, they said that the estimates were too high and did not

[19]We provided the owners and managers with (1) Ernst & Young's estimates of the properties' immediate deferred maintenance, short-term capital needs, and annual replacement reserve requirements used in the study and (2) the appraisers' reports identifying any repairs and renovations needed for the properties to operate at market rates. The estimates we provided to the owners and managers did not include Ernst & Young's revised estimates of immediate deferred maintenance needs, presented in table 2.6, because we received this information subsequently, on July 24, 1996, in response to the statement of facts we provided to HUD for its review and comment.

accurately reflect the physical condition of the properties. In some cases, the owners and managers questioned some of the underlying assumptions used in developing the estimates and identified cost estimates that they considered too high—in some cases, almost twice as high as they would estimate. For example, one property manager agreed that all of the property's operating systems needed major rehabilitation. However, his detailed estimate of about $3 million, including a $500,000 allowance for overruns, was about 50 percent lower than Ernst & Young's estimate of nearly $5.7 million. The contract appraiser for that property also believed that Ernst & Young's estimate was excessive. He stated that the neighborhood's standards and rental rates would not justify the renovation costs identified by Ernst & Young. When Ernst & Young adjusted its estimate by removing the replacement costs of items that had exceeded their useful life but were still in working condition, the revised estimate of $2.1 million was more in line with the property manager's assessment of the property's physical condition.

Another property manager said that Ernst & Young's estimate was "grossly overstated and in no way accurately represent[ed] the condition of the property" because it did not appear to reflect a $2 million rehabilitation that was done in 1991 and 1992. While Ernst & Young estimated immediate deferred maintenance needs of $362,349 for this property, the manager said there were no deferred maintenance needs and the contract appraiser identified no deferred maintenance or other repairs needed for the property to compete in the marketplace. Ernst & Young's adjusted estimate of the immediate deferred maintenance needs for this property was $128,535.

According to an official from the engineering firm retained by Ernst & Young, with whom we discussed the owners' and managers' assessments of Ernst & Young's cost estimates, the owners' cost estimates may be understated. He said, for example, that current owners may be less concerned than new investors with comparing their property to others in the surrounding market and may therefore not plan for some changes that new owners would want to make. He said the estimates used in Ernst & Young's study represent the costs of meeting the standards of the industry and of the surrounding market.[20]

Other comments provided by owners and property managers and our review of the estimates indicated that Ernst & Young's estimates may not

[20]The cost estimates in Ernst & Young's study represent a composite based on national cost standards from Means Repair and Remodeling and the Department of Defense, adjusted with a cost factor for geographic location.

take into account all of the ongoing maintenance at the properties, such as the cyclical replacement of carpets and other unit items, preventive maintenance performed under contracts, recent improvements, and improvements that were under way at the time of Ernst & Young's inspections. For example, one manager said that Ernst & Young's study did not reflect the actual condition of the property's heating and air-conditioning systems because it included the full replacement cost of $253,000 for the heating system in its estimate of the property's immediate deferred maintenance needs. However, the manager noted that when the engineering firm retained by Ernst & Young inspected the property in January 1996, the system's renovation was well under way. The manager said the renovated heating system has a life expectancy of 30 years. According to Ernst & Young, this difference occurred because the study used a "point-in-time" methodology. This approach included only improvements that had been substantially completed at the time of the inspection and specifically excluded those that were planned or ongoing. Consequently, even though the inspector noted that work on the heating system was occurring in most units and would be completed within 2 months, the estimate does not reflect this work because it was not substantially completed.

We identified some additional limitations in Ernst & Young's approach that may affect the accuracy of the firm's capital needs estimates. For example, officials from Ernst & Young and the engineering firm acknowledged that although they intended to base these estimates on inspections of 10 percent of each property's randomly selected units, they were not always able to do so because of management, tenant, or timing considerations. At 7 of the 10 case study properties, Ernst & Young's inspectors examined fewer than 10 percent of the units. Also, Ernst & Young calculated cost estimates for unit items, such as cabinets, appliances, and heating and air-conditioning components, by multiplying the estimated immediate cost per unit by the total number of units at the property. However, in some cases this approach may not have been reliable because of differences among units. For example, at one of the case study properties, which has 112 apartments with kitchens and 92 assisted living units without kitchens, Ernst & Young's estimate of the property's immediate deferred maintenance needs included the costs of replacing kitchen cabinets in all of the units.

Questions Exist About Some Assumptions That Can Affect the Study's Results

Through our discussions with representatives of multifamily housing lending organizations and other multifamily housing industry officials and through our own analysis, we identified some assumptions used in the financial model that may not (1) reflect the way in which insured Section 8 properties would actually be affected by portfolio reengineering or (2) be apparent to readers of Ernst & Young's May 1996 report but are important to understanding the study's results.

- Ernst & Young's assumptions about the transition period for reengineered properties may be overly optimistic. During this period, a reengineered property changes from an assisted property with rental subsidies linked to its units to an unsubsidized property competing in the marketplace for residents. The model estimates that the entire transition will be completed within a year after the first Section 8 contract expires. In addition, the model assumes that during this year, the property's rental income will move incrementally towards stabilization over 9 months. The lenders with whom we discussed the reasonableness of the model's major assumptions considered a transition period of 1 to 2 years more likely. They also anticipated a less stable transition than the model assumed, with less income and more costs. An Ernst & Young official told us that the 9-month period was designed to reflect an average transition period for reengineered properties. While recognizing that the transition period for some properties would be longer, he believed that for others it could be shorter.
- In Ernst & Young's financial model, the first test of a loan's performance under portfolio reengineering assumes the elimination of the interest subsidy that many older assisted properties currently receive. Specifically, the model compares the net operating income under market rents with the current debt service, excluding any interest subsidy provided with the current loan. This assumption puts fewer loans in the performing category than would appear there if the subsidies were assumed to continue. According to Ernst & Young, the model excludes the current interest subsidies under portfolio reengineering because it assumes that subsidies would not exist under true market conditions. However, such an assumption implies a change in the terms of loans to which both borrowers and lenders have agreed. Hence, while this assumption might be appropriate for restructuring loans on which defaults would occur if the terms of the loans were not changed, it is not, in our view, appropriate for identifying the loans that need restructuring. As long as the borrowers continue to meet the terms of these loans, HUD cannot, as an official indicated, unilaterally discontinue the interest subsidy payments on them. Typically, the interest subsidies reduce interest payments on the loans to

1 percent. If Ernst & Young's model assumed that interest subsidies would continue, some additional properties would be classified as performing. This change would decrease the model's estimates of the claims costs associated with portfolio reengineering but would entail the Department's continuing to incur interest subsidy costs.

- The debt service coverage ratios, loan-to-value ratios,[21] and amortization periods used in the model provide for higher levels of mortgage debt than the lenders we contacted generally understood to be available. If their understanding is correct, the model's assumptions would provide for lower claims than might actually result. For example, the lenders we contacted generally believed that most lenders would want to see at least 1 year's worth of operations at the stabilized level before approving a loan. Without such a stabilized period of operations, they believed, many commercial lenders would consider the properties too risky to provide long-term commercial financing at standard terms. Some officials believed that venture capital firms might be the only firms interested in properties whose operations had not stabilized after reengineering. In any case, they believed that the financing terms available for reengineered properties without proven track records would be more conservative than standard financing terms. The lenders believed that the 1.20 debt service coverage ratio[22] and the 1.0 loan-to-value ratio used in the model would not likely be available for loans on many reengineered properties, particularly given the uncertainties concerning (1) how these properties would operate in a market-rate environment and (2) whether, what type of, and what levels of Section 8 assistance would be available in the future. They believed that higher debt service coverage ratios and lower loan-to-value ratios would be more likely. In addition, they believed that 30-year loan amortizations might not be available. The lenders indicated that 25-year loan amortizations were typical for commercial loans.[23] In commenting on the views of the lenders we contacted, an Ernst & Young official stated that the underwriting criteria would take into account not only the debt service coverage and loan-to-value ratios and the amortization periods but also the level of capital provided through the short-term capital needs estimates and annual replacement reserves, as well as the interest rates, operating expenses, and revenues estimates. He believed that these factors would

[21]The debt service coverage ratio indicates the extent to which a property's net income covers the mortgage principal and interest payments. The loan-to-value (LTV) ratio compares the amount of a loan with a property's value and assists a lender in determining the appropriate amount to lend. For example, an LTV of 80 percent would indicate a loan of $800,000 for a property valued at $1 million.

[22]Ernst & Young used a 1.2 debt service coverage ratio for two of the four categories of loans that will be restructured.

[23]The model also does not reflect lenders' views that loans without FHA insurance for reengineered properties would typically be for 5, 10, or 15 years, with 25-year amortizations and balloon payments.

provide lenders with more comfort about the ability of properties to make the transition to a market environment. When obtaining the views of the lenders, we provided them with information on the full range of underwriting assumptions used by Ernst & Young, including those relating to the funding for capital needs, interest rates, revenues, and operating expenses. The Ernst & Young official also noted that Ernst & Young's terms assumed the Congress would continue to subsidize residents with Section 8 tenant-based assistance under a multiyear program. Finally, the Ernst & Young official noted that the financial model used 1.0 as a loan-to-value ratio so that the model would calculate the mortgage amounts for reengineered properties on the basis of their debt service coverage ratios rather than their loan-to-value ratios.

- The model assumes that replacement reserves must cover the estimated annual replacement costs for all major property systems. In contrast, the lenders we spoke with generally require replacement reserves for capital items for a set period of time—such as over the life of the loan or over the life of the loan plus 2 years. Thus, Ernst & Young's approach requires higher replacement reserves than the private sector may require. The requirements for replacement reserves affect annual cash flows and the funding available to support mortgage debt. For example, in Ernst & Young's study, if a property's hot water systems were evaluated to have a remaining useful life of 25 years, the annual replacement reserve would include prorated amounts for the full cost of replacing the hot water systems. However, if the restructured loan were for 15 years, the lenders we spoke with believed that annual funding for replacing the hot water systems typically would not be required. Some replacement reserve items funded in Ernst & Young's study, such as walls and foundations and parking lots, have useful lives of more than 50 years.
- The Section 8 costs for reengineering are estimated only for the residents who currently receive Section 8 project-based assistance. In contrast to HUD's original proposal, which was the basis of Ernst & Young's study, HUD's current proposal includes the residents who do not receive Section 8 project-based assistance but would qualify for assistance when market rents were applied.

Sensitivity Analysis Can Assist in Evaluating the Range of Possible Outcomes

Any estimates of the outcomes and costs of portfolio reengineering are likely to be subject to some error because they rely on predicting the reactions of numerous owners, lenders, and residents. In addition, as discussed above, some assumptions used in Ernst & Young's financial model may not accurately reflect the effects of portfolio reengineering on insured Section 8 properties or, at a minimum, are subject to debate. To

assess the extent to which the use of different assumptions affects the results of Ernst & Young's study, we performed sensitivity analyses of Ernst & Young's model using two sets of revised assumptions that we developed through our discussions with multifamily housing industry officials. One scenario reflects assumptions that are more optimistic in terms of the cost to the government of portfolio reengineering. The other uses assumptions that are more conservative or pessimistic. Taken together, these sets of assumptions are intended to reflect the range of potential outcomes resulting from the basic policy assumptions used in Ernst & Young's study. We recognize that using alternative policy assumptions could produce different outcomes.

Appendix IV provides information on the assumptions used in Ernst & Young's study and in our optimistic and pessimistic analyses. Because the owners and managers and the contract appraisers generally believe that the capital costs for the 10 case study properties were significantly lower than those Ernst & Young estimated, we reduced all capital costs used by Ernst & Young by 25 percent in our optimistic scenario. We did not adjust Ernst & Young's capital costs in the pessimistic scenario.

As table 2.7 indicates, under both the optimistic and the pessimistic alternatives, as well as under Ernst & Young's original assumptions, a substantial number of properties are likely to do well and other properties will have difficulty sustaining operations. For example, under the optimistic assumptions, between 24 and 30 percent of the properties fall into the performing category, but between 15 and 20 percent fall into the two bottom categories—full write-off or nonperforming. Under the pessimistic assumptions, between 10 and 14 percent are in the performing category and between 39 percent and 46 percent are in the full write-off or nonperforming category.

Table 2.7: Effects of Portfolio Reengineering on Loan Performance Under Three Scenarios

Loan performance in percent

Loan performance	Optimistic assumptions	Ernst & Young's assumptions	Pessimistic assumptions
Performing	24 to 30	17 to 23	10 to 14
Restructure	53 to 60	50 to 58	42 to 49
Full write-off and nonperforming	15 to 20	22 to 29	39 to 46

As table 2.8 indicates, the cost of FHA insurance claims associated with portfolio reengineering are estimated to be between $4.9 billion and

$5.9 billion under optimistic assumptions and between $8.2 billion and $9.4 billion under pessimistic ones. Because we used the same market rents for our optimistic scenario as Ernst & Young assumed, the 10-year costs of Section 8 assistance are the same. However, the 5-percent reduction in rents assumed in the pessimistic scenario lowered these 10-year costs by between $0.9 billion and $1.0 billion.

Table 2.8: Effects of Portfolio Reengineering on 10-Year Subsidy and Claims Costs Under Three Scenarios

Dollars in billions (present value)

Costs for fiscal years 1996-2005	Optimistic assumptions	Ernst & Young's assumptions	Pessimistic assumptions
Section 8 subsidies	$26.5 to $29.8	$26.5 to $29.8	$25.6 to $28.8
Claims against FHA's Insurance Fund	$4.9 to $5.9	$6.0 to $7.0	$8.2 to $9.4

As previously discussed, these subsidy estimates assume that loans are restructured when their first Section 8 contract expires. However, as noted, HUD is now proposing a proactive approach under which owners would agree to restructure their loans before the first Section 8 contract expires. In addition, HUD is proposing to initially restructure only loans for properties whose assisted rents exceed market rents, thereby providing for decreases in subsidies.

Conclusions

Although questions have arisen about some of the data and assumptions used in Ernst & Young's study, we nevertheless believe that the study represents an important step in understanding the effects of reengineering on and the condition of the properties in HUD's insured Section 8 portfolio. Quantitative, statistically reliable information based on case-by-case analyses of the properties, such as that produced by the study, can assist the Congress in evaluating HUD's proposal and comparing it to other reengineering alternatives.

As the Congress and HUD continue to address issues associated with portfolio reengineering (see ch. 3), we believe that opportunities exist for HUD to make further use of Ernst & Young's data and to carry out additional analyses of the insured Section 8 portfolio. One important task will be to incorporate the results of Ernst & Young's study into HUD's budget estimates under portfolio reengineering. Other areas that merit additional analysis are the effects of including or excluding various segments of the portfolio in reengineering; the cost implications of continuing versus discontinuing FHA's insurance after reengineering and of

using project-based versus tenant-based assistance; and the options for dealing with those properties that fall into the nonperforming or full write-off categories after reengineering. In addition, given the uncertainties about the capital costs used in the study, further analysis of the physical condition and related capital needs of the insured Section 8 portfolio is needed. The update to HUD's 1990 multifamily stock study, currently under way, should help to address this open issue.

Agency Comments and Our Evaluation

In commenting on a draft of this report, HUD said the report provided an excellent summary of the portfolio reengineering proposal and its likely impact on the insured multifamily portfolio. HUD also noted, among other things, that differences in the estimates of deferred maintenance and capital needs developed by Ernst & Young and by the contract appraisers are due to differences in the methodologies used. (HUD's comments are reproduced in app. VI). While agreeing that differences in the estimates are due, in part, to differences in the methodologies, we continue to question certain aspects of Ernst & Young's approach, including (1) the assumption that working systems and components will be replaced if their estimated useful lives have expired and (2) the inclusion in the capital needs estimates of the cost of work that is under way but not yet completed. The fact that Ernst & Young's estimates for 7 of the 10 case study properties that GAO reviewed were based on inspections of fewer than 10 percent of each property's units also adds to the uncertainty of the estimates. For these reasons, as noted in our conclusions, we believe that further analysis is needed of the physical condition and capital needs of the insured Section 8 portfolio.

HUD's comments also indicate that HUD inferred from the comments provided by the lenders we contacted that they were not fully informed of the methodology and assumptions used in the Ernst & Young model. In fact, we provided the lenders we spoke to with information on the full range of underwriting assumptions used by Ernst & Young.

In addition, HUD commented that the estimated costs of restructuring HUD's multifamily portfolio that we derived from Ernst & Young's model do not conform with federal budget rules and scoring methodology and do not reflect all aspects of HUD's current portfolio reengineering proposal. As stated in the report, the data we present on the cost of restructuring HUD's multifamily portfolio are intended to reflect the results of Ernst & Young's financial model, including the assumptions used by Ernst & Young. We recognize that the cost estimates do not conform with federal budget rules

and scoring methodology and do not reflect all aspects of HUD's current portfolio reengineering proposal. Both of these points are discussed earlier in the chapter and were clearly stated in the copy of the draft provided to HUD for comment.

Key Issues Facing the Congress on HUD's Portfolio Reengineering Proposal

The Congress faces a number of significant and complex issues in evaluating HUD's portfolio reengineering proposal. How these issues are resolved will, to a large degree, determine the extent to which the problems that have long plagued the portfolio are corrected and prevented from recurring, as well as the extent to which restructuring results in savings or costs to the government. Key issues include the following: To what extent should FHA provide insurance for restructured loans? Should rental assistance be project-based or tenant-based? What protection should be given to households at reengineered properties? To what extent should the federal government finance the costs of rehabilitation? What actions should be taken to address problems in HUD's management of the insured Section 8 portfolio? To what extent should properties with assisted rents below market rents be included in portfolio reengineering? What processes should be used to restructure mortgages? What should be done to help the large number of properties that would have difficulty sustaining operations? To what extent should the government provide tax relief to owners affected by portfolio reengineering? Will the recently enacted portfolio reengineering demonstration program cover the full range of options and outcomes?

To What Extent Should FHA Provide Insurance for Restructured Loans?

An issue with short- and long-term cost implications is whether HUD should continue to provide FHA insurance for the restructured loans and, if so, under what terms and conditions. If HUD were to discontinue the insurance when restructuring the loans, as it originally planned, it would likely incur higher debt restructuring costs because lenders would set the terms of the new loans (e.g., interest rates) to reflect the risk of default that they would now assume. The primary benefits of discontinuing FHA insurance are that (1) the government's dual role as mortgage insurer and rental subsidy provider would end, eliminating the management conflicts associated with this dual role, and (2) the risk of default borne by the government would end as the loans were restructured.

If FHA insurance were continued, another issue is whether it would need to be provided for the whole portfolio or could be used selectively. The government could, for example, insure loans only when owners could not obtain reasonable financing without insurance. Also, if FHA insurance were continued, the terms and conditions under which it is provided would affect the government's future costs. Some lenders have indicated that short-term (or "bridge") financing insured by FHA might be needed while the properties make the transition to market conditions, after which time conventional financing at reasonable terms would be available. Under

such an arrangement, the government could insure loans for 3 to 5 years, instead of bearing the risk of default, as it now does, for the life of the loans—generally 40 years. Finally, legislation could require a portion of the risk of default, now borne entirely by the government, to be assumed by state housing finance agencies or private-sector parties.

Should Rental Assistance Be Project-Based or Tenant-Based?

One of the key issues to be decided in addressing the problems of the insured Section 8 portfolio is whether to continue project-based subsidies, convert the portfolio to tenant-based assistance, or combine the two types of assistance. On the one hand, using tenant-based assistance can make projects more subject to the forces of the real estate market, potentially helping to control housing costs, foster housing quality, and promote residents' choice. On the other hand, using project-based assistance, which links subsidies directly to rental units, can help sustain properties in housing markets that have difficulty supporting unsubsidized rental housing, such as inner-city and rural locations. In addition, residents who would likely have difficulty finding suitable alternative housing, such as the elderly or disabled and those living in a tight housing market, might prefer project-based assistance to the extent that it would give them greater assurance of being able to remain in their current residence.

What Protection Should Be Given to Currently Assisted Households?

If a decision is made to convert the Section 8 program from project-based to tenant-based assistance as part of portfolio reengineering, decisions must also be made about whether to protect the current residents from displacement. HUD's April 1996 reengineering strategy contains several plans to protect the residents affected by rent increases at insured properties. For example, the residents of Section 8 units that were converted from project-based to tenant-based assistance would receive an enhanced voucher to pay the difference between 30 percent of their household's adjusted income and the market rent for their unit even if the market rent exceeded the area's fair market rent ceiling. The residents of reengineered properties who live in units without project-based subsidies would receive similar assistance if reengineering increased their rent to more than 30 percent of their household's adjusted income. Such provisions would limit residents' rent burden and reduce the likelihood of displacement, but they would also lower the anticipated savings in assistance costs, at least in the short run. The cost estimates in Ernst & Young's report assume that HUD would continue to assist the residents of currently subsidized units even if the market rent exceeded the fair market

rent set by HUD. However, the report's cost estimates do not include any allowance for assisting the residents of currently unsubsidized units.

To What Extent Should the Government Finance Rehabilitation Costs?

Who should pay for needed repairs, and how much, is another important issue in setting restructuring policy. As discussed previously, Ernst & Young's study found substantial unfunded immediate deferred maintenance and short-term capital replacement needs across the insured Section 8 portfolio, particularly among the older assisted properties. Ernst & Young's data indicate that between 22 and 29 percent of the properties in the portfolio could not cover their immediate deferred maintenance and short-term capital needs even if their mortgage debt were fully written off. HUD has proposed to use the affected properties' reserve funds and, as necessary, claims against FHA's insurance funds to pay for a substantial portion of the rehabilitation and deferred maintenance costs associated with restructuring. Others have suggested that HUD use a variety of tools—such as raising rents, restructuring debt, and providing direct grants—but that dollar limits be set on the federal government's payment per unit, with the expectation that some other source, such as the owner or investor, will pay any remaining costs.

What Should Be Done to Address Problems in HUD's Portfolio Management?

A key cause of the current problems affecting the insured Section 8 portfolio has been HUD's inadequate management of the portfolio. As discussed in chapter 1, weaknesses in HUD's oversight and management have allowed physical and financial problems at a number of the multifamily properties insured by HUD to go undetected or uncorrected.[1] HUD's original proposal sought to address these problems by subjecting the properties to the disciplines of the commercial market by converting project-based subsidies to tenant-based assistance; adjusting rents to market levels; and refinancing existing insured mortgages with smaller, uninsured mortgages, if necessary, for the properties to operate at the new rents. However, to the extent that the final provisions of reengineering perpetuate the use of FHA insurance and project-based subsidies, HUD's ability to manage the portfolio will remain a key concern. Other means will have to be found to address the limitations impeding HUD's management of the portfolio, particularly in light of the planned staff reductions that will further strain HUD's management capacity.

[1]We have frequently discussed HUD's problems in overseeing the multifamily portfolio. See the Related GAO Products at the end of this report.

To What Extent Should Loans for Properties With Below-Market Rents Be Reengineered?

Deciding which properties to include in portfolio reengineering will likely involve trade-offs between reducing the high costs of subsidies, on the one hand, and improving the poor physical condition of the properties and lowering the government's exposure to default, on the other hand. Reengineering only those properties with rents above market levels would produce the greatest savings in subsidy costs. Yet HUD has indicated that also including those properties with rents currently below market levels could help improve these properties' physical and financial condition and reduce the likelihood of default. However, including such properties would decrease the estimated savings in Section 8 subsidy costs. Although HUD's latest proposal would initially focus on properties with above-market rents, it notes that many of the buildings with below-market rents are in poor condition or have significant amounts of deferred maintenance that will need to be addressed at some point.

What Processes Should Be Used to Restructure Mortgages?

Selecting a mortgage restructuring process that is feasible and balances the interests of the various stakeholders will be an important but difficult task. Various approaches have been contemplated, including the payment of full or partial insurance claims by HUD, the sale of mortgages, and the use of third parties or joint ventures to design and implement specific restructuring actions at each property. Because of concerns about HUD's ability to carry out the restructuring process in house, HUD and others envision relying heavily on third parties, such as state housing financing agencies or teams composed of representatives from these agencies, other state and local government entities, nonprofit organizations, asset managers, and capital partners. These third parties would be empowered to act on HUD's behalf, and the terms of the restructuring arrangements that they work out could to a large extent determine the costs to, and future effects of restructuring on, stakeholders such as the federal government, property owners and investors, mortgage lenders, residents, and state and local government housing agencies. Some, however, have questioned whether third parties would give adequate attention to owners' interests or to housing's public policy objectives. Despite these questions, HUD believes that third-party arrangements could be structured to align third parties' financial interests with those of the federal government to help minimize claims costs.

What Should Be Done to Address Properties That Have Difficulty Sustaining Operations?

According to Ernst & Young's assessment, between 22 and 29 percent of HUD's insured portfolio would have difficulty sustaining operations if market rents replaced assisted rents. Furthermore, between 11 and 15 percent of the portfolio would not even be able to cover operating costs at market rents. If these properties did not receive additional financial assistance, a large number of low-income residents would face displacement. While HUD has not yet developed specific plans for addressing the problems at these properties, different approaches may be needed, depending on the circumstances at individual properties. For example, properties in good condition in tight housing markets may warrant one approach, while properties in poor condition in weak or average housing markets may warrant another. Further analysis of these properties should assist the Department in formulating strategies for addressing their problems.

To What Extent Should the Government Provide Tax Relief to Owners?

HUD's portfolio reengineering proposal would be likely to have tax consequences for the owners of some projects. These tax consequences could result either from reductions in the properties' mortgage principal (debt forgiveness) or from actions that would cause owners to lose their property (for example, as a result of foreclosure). We have not assessed the extent to which tax consequences would be likely to result from portfolio reengineering. However, HUD has stated its belief that tax consequences could be a barrier to getting owners to agree to reengineer their properties proactively. While HUD has not formulated a specific proposal for dealing with the tax consequences of portfolio reengineering, it has expressed its willingness to discuss with the Congress mechanisms to take into account the tax consequences of debt forgiveness for property owners who enter into restructuring agreements.

How Comprehensive Will the Demonstration Program Be?

The multifamily demonstration program that HUD recently received congressional authority to implement provides for limited testing of some aspects of HUD's multifamily portfolio reengineering proposal. Such testing can provide needed data on the effects of reengineering on properties and residents, the approaches that may be used in implementing restructuring, and the costs to the government before a restructuring program is initiated on a broad scale. However, because the program is voluntary, it may not test the full spectrum of effects that portfolio reengineering could have or the full range of restructuring tools that the Department could use. For example, owners may be reluctant to participate in the program if HUD plans to enter into joint ventures with third parties because they may be

concerned about losing their properties and/or suffering adverse tax consequences. Another potential limitation of the program is that, according to HUD, the funding provided to modify the multifamily loans may not be sufficient to cover the limited number of units authorized under the demonstration program. In September 1996, the Congress made changes to the demonstration program in legislation on HUD's fiscal year 1997 appropriation (P.L. 104-204).

Observations

HUD's portfolio reengineering initiative recognizes a reality that has existed for some time—namely, that the value of many of the properties in the insured Section 8 portfolio is far lower than the mortgages on the properties suggest. Until now, this reality has not been recognized and the federal government has continued to subsidize the rents at many properties above the level that the properties could command in the commercial real estate market.

As the Congress evaluates the options for addressing this situation, the fundamental problems that have affected the portfolio and their underlying causes will be important to consider. Any approach that is implemented should address not only the high costs of Section 8 subsidies but also the government's high exposure to insurance loss, the poor physical condition of some of the properties, and the underlying causes of these long-standing problems with the portfolio. As the previous discussions of several key issues indicate, questions about the specific details of the reengineering process, such as which properties to include and whether or not to provide FHA insurance, will require weighing the likely effects of various options and the trade-offs involved when a proposed solution achieves progress in one area at the expense of another. Changes to the insured Section 8 portfolio should also be considered in the context of a long-range vision of the federal government's role—and the size of that role, given the current budgetary climate—in providing housing assistance, and assistance generally, to low-income individuals.

Addressing the problems of HUD's insured multifamily portfolio will inevitably be costly and difficult, regardless of the specific approaches implemented. The overarching objective should be to implement the process as efficiently and cost-effectively as possible, recognizing not only the interests of the parties directly affected by restructuring but also the impact on the federal government and the American taxpayer.

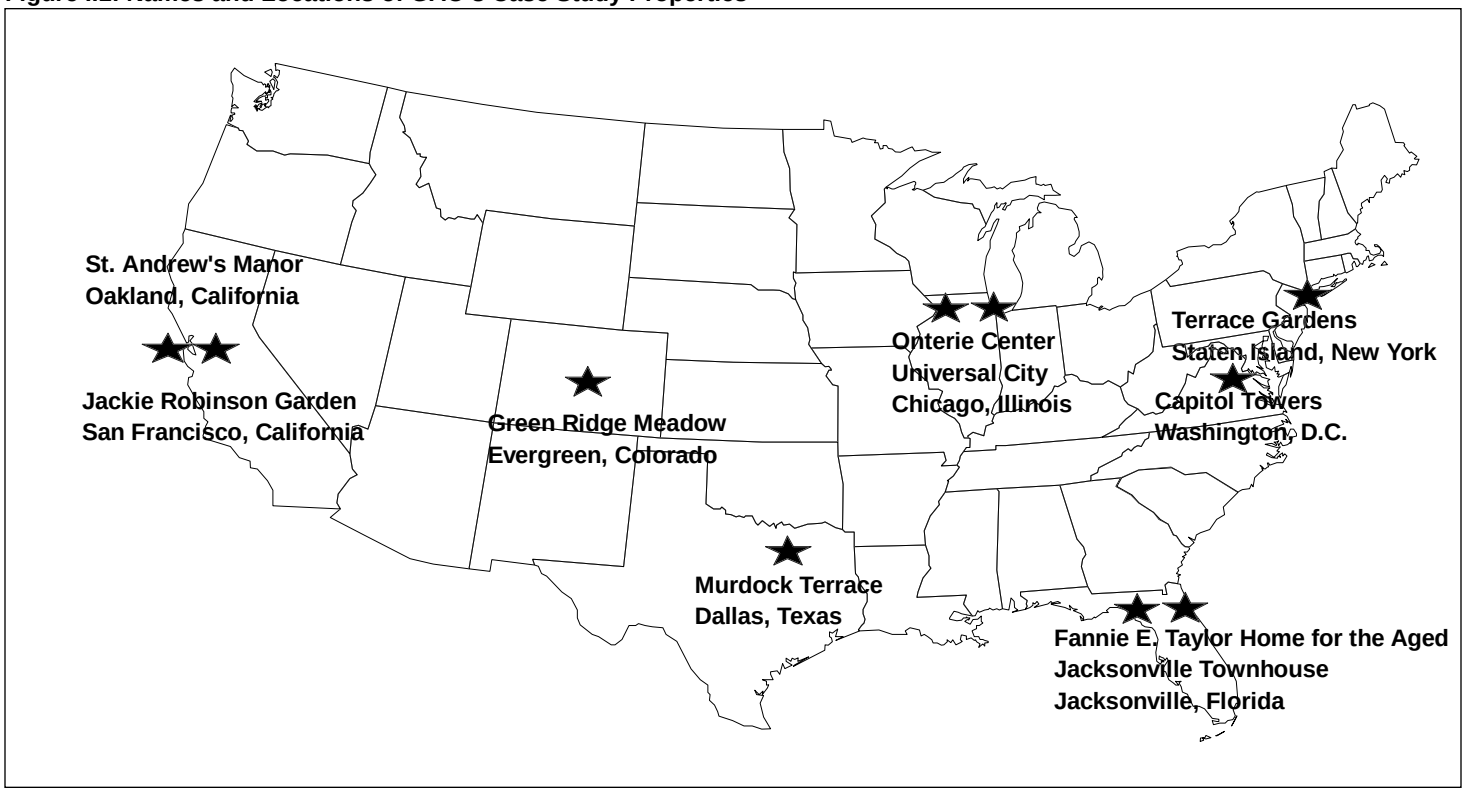
Differences Among Properties Will Influence the Results of Reengineering

The HUD-insured Section 8 properties that would be affected by reengineering differ from one another in many respects. These differences would influence the results of HUD's reengineering proposal, producing different outcomes at individual properties. Whereas some of the properties could maintain sufficient occupancy and generate a positive cash flow after reengineering, others could not. Also, the extent to which low-income residents would be able to move to better housing or would be displaced, and the availability of suitable alternative housing for them, would vary from property to property.

GAO's 10 Case Study Properties Differ

To help assess the likely effects of HUD's reengineering strategy on different types of multifamily properties, we performed case studies at 10 of the 558 properties included in Ernst & Young's study. These 10 properties, which illustrate the diversity within HUD's insured Section 8 portfolio, differ from one another in their mortgage financing, unpaid mortgage balances, types of assistance received from HUD, financial and physical condition, types of residents served, and neighborhoods' and rental housing markets' characteristics. Figure I.1 shows the names and locations of the case study properties.

Figure I.1: Names and Locations of GAO's Case Study Properties



Mortgage Financing Arrangements and Unpaid Mortgage Balances

The 10 properties that we reviewed were developed under different HUD programs by different types of owners and currently have outstanding mortgage debt with varying terms and conditions. As table I.1 indicates, three of these properties are owned by nonprofit organizations, and seven are owned by for-profit concerns. To develop the properties, the owners obtained FHA-insured mortgages under various HUD programs.

Table I.1: Original Property Financing Arrangements at GAO's Case Study Properties

Case study property	Type of ownership	Newer assisted or older assisted property	Mortgage insurance program
Capitol Towers	For profit	Older assisted	Section 236
Fannie E. Taylor	Nonprofit	Older assisted	Section 236
Green Ridge Meadow	Nonprofit	Newer assisted	Section 221(d)(3)
Jackie Robinson	For profit	Older assisted	Section 236
Jacksonville Townhouse	For profit	Newer assisted	Section 221(d)(4)
Murdock Terrace	For profit	Older assisted	Section 236
Onterie Center	For profit	Newer assisted	Section 221(d)(4)
St. Andrew's Manor	Nonprofit	Older assisted	Section 236
Terrace Gardens	For profit	Older assisted	Section 236
Universal City	For profit	Newer assisted	Section 221(d)(4)

The six older assisted properties are insured under HUD's Section 236 program, which was available between 1968 and 1973, and these properties have HUD-subsidized interest rates that are as low as 1 percent. The four newer assisted properties were constructed between 1978 and 1986 and are insured under HUD's Section 221(d)(3) market rate or Section 221 (d)(4) mortgage insurance programs. These four properties have market interest rates that range from 7.50 to 11.86 percent.

As table I.2 indicates, the insured mortgages on the 10 properties were endorsed[1] between 1971 and 1986, and all have 40-year terms, reaching maturity between the years 2011 and 2027. The face amounts of the mortgages range from about $985,000 to $66.3 million, and as of December 31, 1995, the unpaid balances ranged from about $731,000 to $49 million. At one property, Onterie Center, the mortgage debt was increased and a portion of the debt was assigned to HUD in 1992 because of continuing financial difficulties, raising the total unpaid balance to about $75 million.

[1]Final endorsement represents the time at which the final amount of the mortgage is set, following the completion of construction at the property.

Table I.2: Mortgage Debt at GAO's Case Study Properties

Case study property	Year of final endorsement	Amount of original insured mortgage	Unpaid balance on insured mortgage[a]	Note interest rate	Mortgage maturity date
Capitol Towers	1975	$1,177,100	$928,694	7.00%[b]	Apr. 2015
Fannie E. Taylor	1971	$2,857,900	$2,216,233	8.50%[c]	Apr. 2012
Green Ridge Meadow	1982	$2,757,200	$2,450,007	7.57%	Nov. 2020
Jackie Robinson	1973	$3,249,200	$2,486,859	7.00%[b]	Mar. 2013
Jacksonville Townhouse	1979	$5,685,000	$4,851,712	7.50%	Oct. 2019
Murdock Terrace	1971	$3,443,000	$2,359,540	7.50%[c]	Nov. 2011
Onterie Center	1986	$66,313,500	$74,897,466[e]	7.50%[d]	May 2027
St. Andrew's Manor	1973	$985,200	$731,003	7.00%[b]	Jan. 2013
Terrace Gardens	1973	$5,131,600	$3,907,219	7.00%[b]	July 2013
Universal City	1984	$8,661,100	$8,400,000	11.86%	May 2024

[a]Unpaid balance as of Dec. 31, 1995.

[b]Property receives a 6-percent mortgage interest subsidy from HUD.

[c]Property receives a 6.5-percent mortgage interest subsidy from HUD.

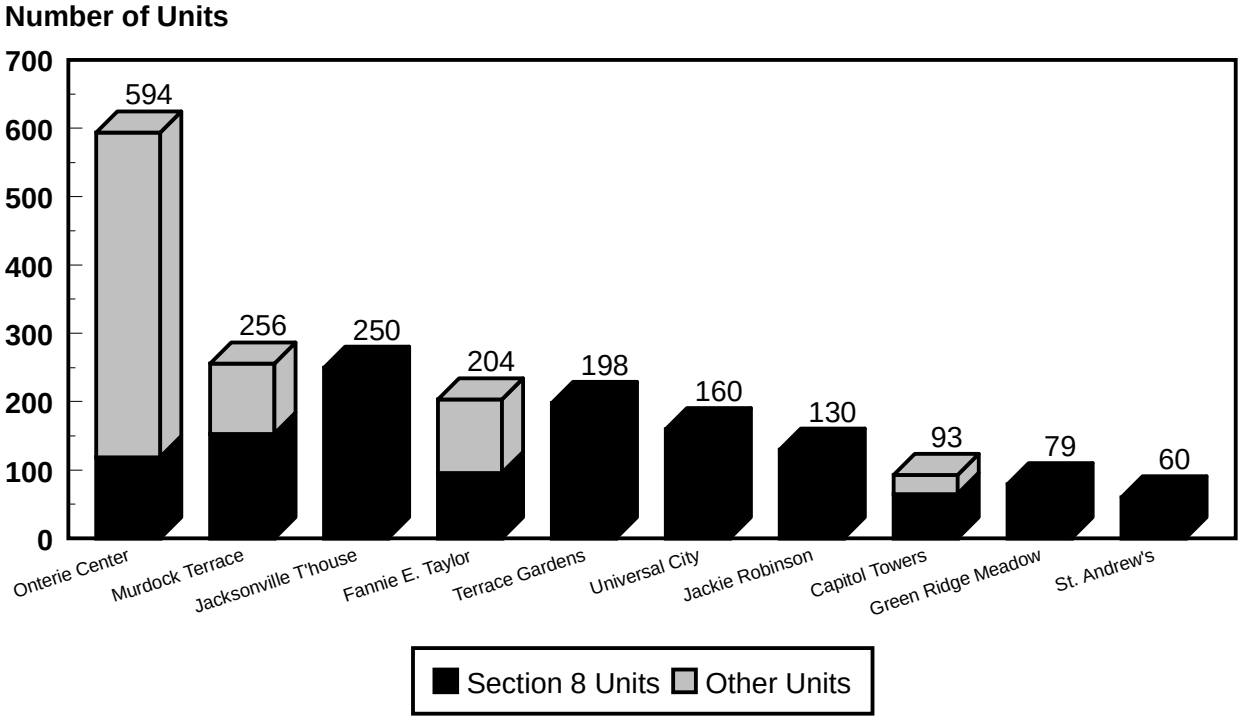
[d]Interest rate changes to 7.18 percent after June 1, 2000.

[e]Total unpaid balance includes an increase in the property's mortgage debt, $26.3 million of which was assigned to HUD in 1992 because of continuing financial difficulties at the property.

Assistance Received From HUD

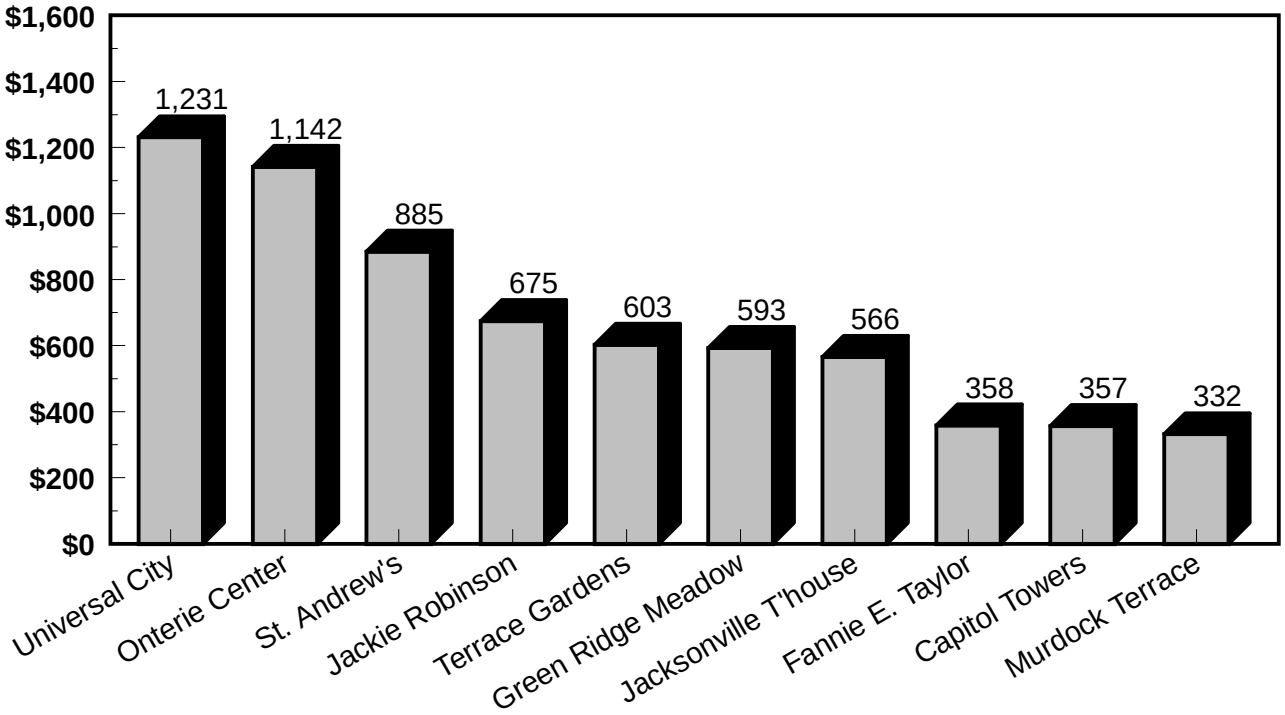
The total number of apartment units at the case study properties ranges from 60 to 594. Most of these units receive Section 8 project-based rental subsidies. Six of the properties have project-based Section 8 subsidies for 100 percent of their units, while four properties are only partially subsidized, receiving project-based Section 8 subsidies for as few as 20 percent of their units. (See fig. I.2.)

Figure I.2: Number of Units at GAO's Case Study Properties



The Section 8 units are subsidized under contracts that expire between 1996 and 2006; the contracts at seven of the properties will expire by the end of 1999. Residents of the subsidized units pay 30 percent of their household's income (after certain adjustments) toward the rent and HUD pays the rest. The rents that HUD subsidizes at the 10 properties vary considerably. For example, the rents for a one-bedroom apartment with a Section 8 subsidy range from $332 to $1,231 per month. (See fig. I.3.)

Figure I.3: HUD-Subsidized Rents for One-Bedroom Apartments at GAO's Case Study Properties



Note: For properties with a range of HUD-subsidized rent levels for one-bedroom apartments, the high end of the range is shown.

In addition, at the six properties insured under the Section 236 program, residents of the units without project-based Section 8 subsidies may benefit from the reductions in rents attributable to HUD's mortgage interest subsidies. HUD establishes two rent levels for these properties: (1) a "basic" rent that reflects the revenue needed by the property after considering the effects of HUD's mortgage interest subsidy and (2) a "market" rent that is based on the revenue that would be needed if the property paid the full mortgage interest. Residents of the units without project-based Section 8 subsidies at these properties pay the greater of the basic rent or 30 percent of their household's adjusted income, up to the market rent.

Three of the case study properties (Fannie E. Taylor Home for the Aged, Jackie Robinson Garden Apartments, and St. Andrew's Manor) have also

received low-interest loans for repairs and improvements under HUD's Flexible Subsidy Loan Program. In addition, Jackie Robinson and St. Andrew's have received grants from HUD to combat drug-related crime.

Financial and Physical Condition

The financial and physical condition of the 10 case study properties also varied substantially. HUD's fiscal year 1995 loan loss reserve analysis,[2] which included 8 of the 10 properties (and did not include Green Ridge Meadow Apartments and Murdock Terrace Apartments), provides a measure of the variation in the properties' financial health. This analysis evaluated the properties' financial condition on the basis of several financial indicators that were weighted according to their correlation with the probability of a mortgage's being troubled or assigned to HUD.[3] Six of the eight evaluated properties were considered to be in either "good" or "standard" financial condition, but one (St. Andrew's) was rated as "substandard" and another (Onterie Center) as "poor." Furthermore, as table 2.5 indicates, the physical condition and deferred maintenance needs of the 10 properties varied widely.

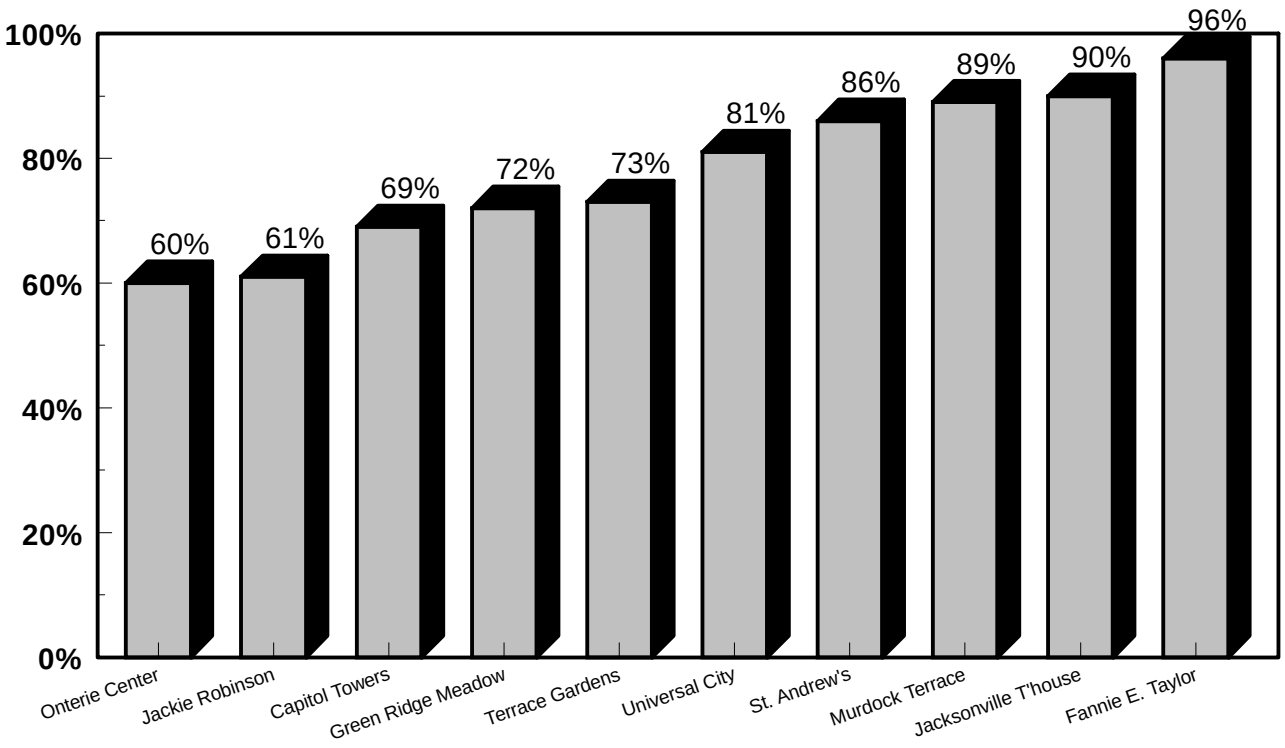
Types of Households

The majority of the residents in the 10 case study properties have low incomes. According to the properties' records, between 60 and 96 percent of the Section 8 units at each property are occupied by households earning less than $10,000 per year. (See fig. I.4.)

[2]This is a multistep process used to estimate FHA's future losses on insured multifamily mortgage loans. The risk of default for insured loans is estimated on the basis of several factors, such as the properties' surplus cash per unit and vacancy rates. FHA uses these estimates to divide the insured portfolio into five risk categories and then calculates the loss reserves on the basis of the assumptions about the risk of default that it develops for each category.

[3]This analysis used the following financial indicators to rank the case study properties: the vacancy rate, the percent of gross rent subsidized, the number of units, the weighted average surplus cash per unit, the weighted average ratio of operating costs to total revenues, and the ratio of replacement reserves to total revenues. The analysis used two additional measures to rank the three newer assisted properties (Jacksonville Townhouse, Onterie Center, and Universal City): the weighted average ratio of net income to total revenues and the weighted average ratio of current assets to liabilities.

Figure I.4: Percentage of Section 8 Units at GAO's Case Study Properties Occupied by Households With Adjusted Annual Incomes of Less Than $10,000

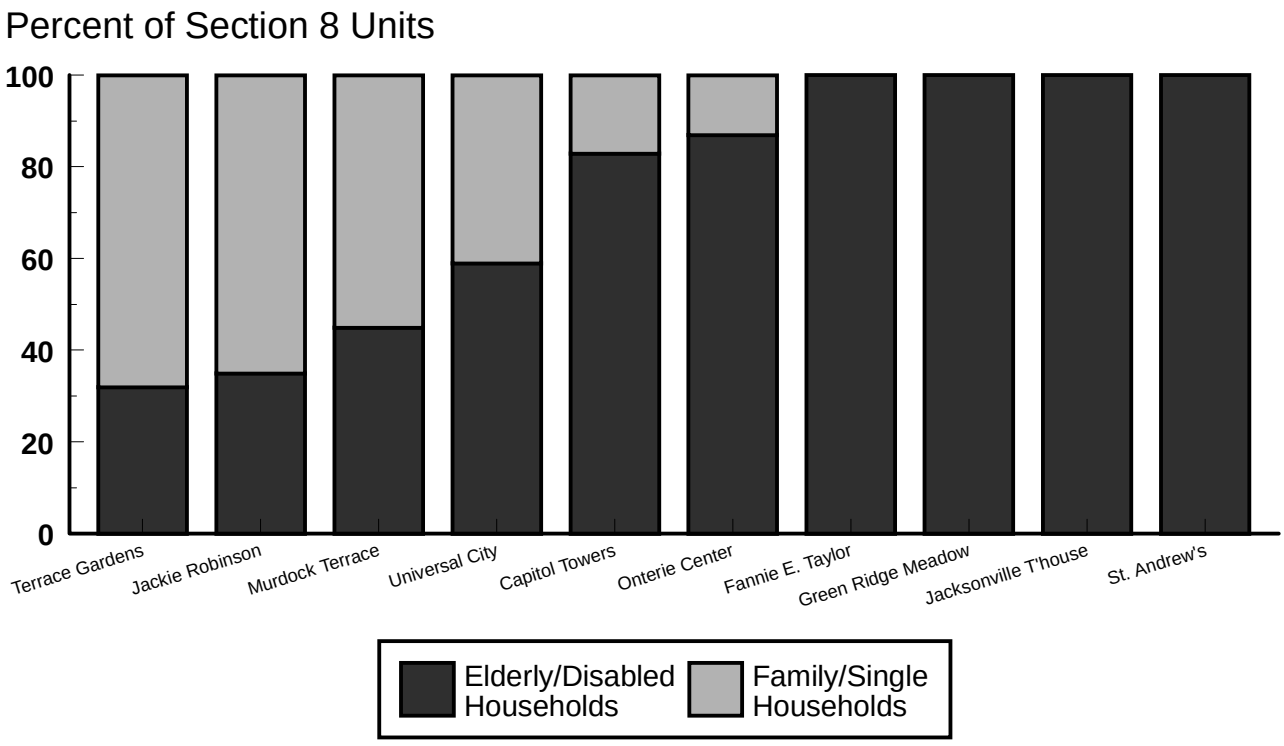


Notes: For program purposes, HUD adjusts annual income for certain expenses.

Data for Capitol Towers include residents in units without Section 8 project-based assistance.

The residents represent various types of households: families, single adults, elderly and disabled. Four of the properties (Fannie E. Taylor, Green Ridge Meadow, Jacksonville Townhouse, and St. Andrew's) are targeted exclusively to elderly and disabled residents. (See fig. I.5.)

Figure I.5: Types of Households Residing in Section 8 Units at GAO's Case Study Properties



Note: Data for Capitol Towers include residents in units without Section 8 project-based assistance.

Types of Neighborhoods and Rental Housing Markets

The 10 case study properties are located in various types of communities: 6 in urban communities, 3 in suburban communities, and 1 in a rural community. The properties' neighborhoods also vary in terms of their economic and social conditions, prevalent housing types, and rental occupancy rates. In addition, the larger rental housing markets in which the properties are located have different occupancy rates and trends.

The properties' neighborhoods range from areas whose physical condition is declining, with high crime rates, high unemployment, abandoned buildings, and/or frequent drug activity, to areas whose economies are growing, with lower crime rates and high income levels. For example, St. Andrew's Manor in Oakland, California, is in a neighborhood with vacant

buildings and lots, run-down commercial space, and crime problems. In contrast, Green Ridge Meadow Apartments in Evergreen, Colorado, is in an affluent area with strong economic growth, high household incomes, and high property values.

The types of housing surrounding the 10 properties also vary. Some properties, such as Jackie Robinson, are surrounded by government-subsidized housing, while others, such as Green Ridge Meadow, are in neighborhoods with predominately unsubsidized housing. In addition, the predominant types of buildings in the surrounding neighborhoods vary, ranging from single-family to multifamily residences. For example, Green Ridge Meadow and Universal City are located in neighborhoods where 88 and 82 percent of the properties, respectively, are single-family homes. In contrast, Onterie Center is located in an area where 97 percent of the properties are multifamily residences.

The 10 properties are located in rental housing markets whose overall occupancy rates range from 90 to 100 percent. In some areas, the occupancy levels have improved dramatically over the last several years. For example, the occupancy rate in Jacksonville increased from 89 percent in the early 1990s to about 95 percent in 1995. Similarly, the occupancy levels in Dallas rose from 82 percent in the late 1980s to 94 percent in 1995. Washington D.C., in contrast, is the only market area where the rental occupancy rate has been relatively stagnant, at about 90 percent.

Overall occupancy trends, however, are not always indicative of the occupancy rates in the properties' immediate neighborhoods. Of the 10 projects, 3 are located in markets whose occupancy rates are somewhat lower than those of their respective neighborhoods, 4 are located in markets whose occupancy rates are higher than those of their neighborhoods, and 3 are located in markets whose occupancy rates are the same as those of their neighborhoods. The Chicago rental market, for example, is weaker than that of Onterie Center's neighborhood, while the overall occupancy rate for Staten Island is about the same as for Terrace Gardens' neighborhood. In contrast, the Dallas market, with 94 percent occupancy, is much stronger than Murdock Terrace's neighborhood, which is 88 percent occupied.

Effects of Reengineering on GAO's 10 Case Study Properties

Information about the basic characteristics of properties, such as those described above, can be used to help assess the effects of HUD's reengineering proposal on individual properties. These basic characteristics help to form the assumptions made about a property's potential cash flow after reengineering, which will be a product of several factors, particularly the rents that the property can be expected to command in the open market; the cost of the physical improvements required to address deferred maintenance needs and make the property competitive; and routine operating expenses. Assumptions about these factors can be combined to estimate the impact of reengineering on a property's future viability.

To estimate the impact of HUD's proposal on the 10 case study properties, we obtained and analyzed the assessments that Ernst & Young performed of them as part of its contract with HUD. We also contracted for assessments of the properties by three licensed appraisal firms and solicited comments on the appraisers' reports from the properties' owners and/or managers. These assessments show that estimates of the effects of portfolio reengineering can vary significantly, depending on the assumptions used.

Results of the Analyses

For each of the 10 case study properties, table I.3 presents Ernst & Young's and the contract appraiser's assessment of how the property would be affected by HUD's reengineering proposal. Both assessments assume that project-based assistance at each property would be converted to tenant-based assistance and that if the project's mortgage required restructuring, FHA would not insure the new mortgage.[4]

To facilitate comparison, we grouped the appraisers' assessments into the four categories that Ernst & Young used to estimate the effects of adjusting properties' rents to market levels. For the properties in the "performing" category, the cash flows would cover the operating expenses, current debt service, and deferred maintenance and short-term capital needs.[5] For the properties in the "restructure" category, the cash

[4]These assumptions were part of HUD's proposal at the time the assessments were done. As noted in ch.1, HUD's portfolio reengineering proposal would now give states and localities the option of continuing project-based assistance at reengineered properties and would allow owners to apply for FHA insurance on restructured loans.

[5]As discussed in ch. 2, the tests that Ernst & Young used to determine whether properties' loans would be performing after reengineering assumed that the interest subsidies received by older assisted properties would no longer continue. To ensure comparability, the appraisers made the same assumption.

flows would cover the operating expenses and the deferred maintenance and short-term capital needs but only part of the current debt service. In the "full write-off" category, the properties would be able to cover the operating expenses and part of the deferred maintenance and short-term capital needs but none of the debt service. Finally, in the "nonperforming" category, the properties would be able to cover only part of their operating expenses and none of their debt service or deferred maintenance or short-term capital needs.

In general, the properties in the performing category were estimated to have increasing rents, decreasing or stable operating expenses, and less than $750,000 in deferred maintenance costs, while the properties in the restructure and full write-off categories tended to have high deferred maintenance estimates, decreasing rents, and/or mortgage interest subsidies that were assumed to be discontinued. For the properties classified as nonperforming, the rents and/or occupancy levels were expected to decrease to the extent that the revenues would be insufficient to cover the operating costs.

Table I.3: Outcomes of Reengineering at GAO's 10 Case Study Properties

Property	Ernst & Young's assessment	Contract appraisers' assessment
Fannie E. Taylor	Performing	Restructure
Jackie Robinson	Performing	Performing
Capitol Towers	Restructure	Restructure
Green Ridge Meadow	Restructure	Restructure
Terrace Gardens	Full write-off	Performing
Jacksonville Townhouse	Full write-off	Restructure
Murdock Terrace	Full write-off	Performing
St. Andrew's Manor	Nonperforming	Performing
Universal City	Nonperforming	Restructure
Onterie Center	[a]	Restructure

[a]Ernst & Young dropped Onterie Center from its sample prior to the final analysis.

As table I.3 shows, Ernst & Young found that, under reengineering two properties would be performing, two would require restructuring, three would need to have their debt fully written off, and two would be nonperforming. For three of the properties, the contract appraisers' results were consistent with Ernst & Young's conclusions; however, for six of the properties, the appraisers' results differed. For example, Ernst & Young concluded that under reengineering St. Andrew's would be

nonperforming—unable to cover its expenses even if its mortgage were fully written off. In contrast, the contract appraiser classified St. Andrew's as performing—able to cover its expenses fully even without restructuring.

Influence of Assumptions on Results

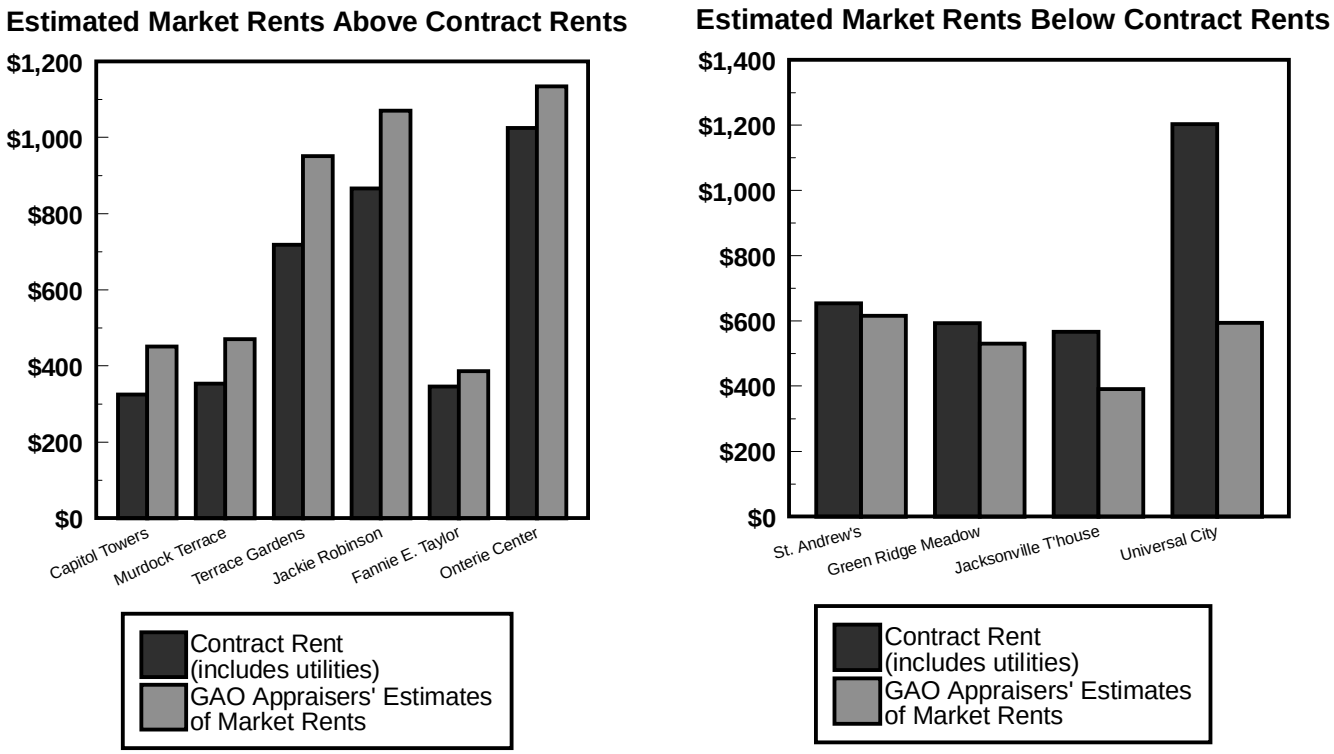
Differences in the assessments' results were due primarily to differences in the assumptions made by the contract appraisers and by Ernst & Young. Key differences concerned estimated market rent levels, deferred maintenance needs, and operating expenses. Differences also appeared in assumptions about other factors, such as financing terms and vacancy rates, but these seemed generally to have less effect on the predicted outcomes. (App. V contains information on the differences in the assumptions used for each of the case study properties.)

Assumptions About Market Rents

The rental income that a property will be able to command is one of the most important predictors of reengineering's effects because it will, in large part, determine the property's cash flows after reengineering. Differing assumptions about the rents that a property will be able to charge as a market-rate building can lead to different conclusions about the property's prospects for success under reengineering. Estimating market rents is easier for some properties than for others. As noted earlier in this chapter, some properties, such as Onterie Center, are located in areas where comparable market-rate rental housing can be used to estimate the market rents that the Section 8 properties could command. However, other properties, such as Green Ridge Meadow, are located in areas with little comparable rental housing, or, like Jackie Robinson, with predominately assisted housing. In such cases, estimating market rents is subject to greater uncertainty.

If the rents for units under Section 8 contracts were adjusted to market levels at the 10 case study properties, the contract appraisers estimated that the new weighted average rents for units of all sizes would range from $387 to $1,134 per month, compared with the current weighted average rents of $325 to $1,204 per month. At six of the properties, the units' monthly rents would increase between 10 and 39 percent. At the other four properties, the market rents would be about 6 to 51 percent lower than the current contract rents. (See fig.I.6.)

Figure I.6: Estimated Market Rents and Current Contract Rents at the 10 Properties



Note: Both the estimated market and current contract rents are the weighted average rents for units of all sizes.

Ernst & Young's market rent estimates were consistent with the contract appraisers' in most cases. However, for two properties, St. Andrew's and Terrace Gardens, Ernst & Young's estimates were more than 20 percent below the contract appraisers' estimates. The higher rent estimates contributed to the appraisers' more optimistic assessments of how the two properties would fare after reengineering. As discussed in chapter 2, the differences in the estimates for the two properties reflect, in large measure, the use of different methodologies to estimate market rents in neighborhoods consisting primarily of assisted properties.

For some properties, including St. Andrew's and Jackie Robinson, the owners or managers believed that the market rents estimated by the contract appraisers could be higher than the properties would be able to command. In such cases, the properties' cash flows could be lower than estimated.

Assumptions About Deferred Maintenance Costs

A second major factor in estimating the effects of HUD's proposal on assisted properties is determining how much deferred maintenance will need to be addressed before the properties can compete in the marketplace. Differences in appraisers' assumptions about the costs of needed physical improvements can lead to differences in the outcomes predicted for properties under reengineering.

For 9 of the 10 case study properties (including the five for which Ernst & Young projected more pessimistic results than the contract appraisers), Ernst & Young's estimates of the costs for deferred maintenance were higher than the contract appraisers' estimates. In most cases, Ernst & Young's estimates were substantially higher. (See ch. 2 for a more detailed discussion of the estimates of deferred maintenance needs for the 10 properties, including the owners' and managers' comments on the estimates.)

Assumptions About Operating Expenses

Another factor in determining the effects of HUD's proposal on the properties is the level of operating expenses (excluding mortgage payments) assumed for them after reengineering. These assumptions can influence the outcomes projected for the reengineered properties. For example, some experts on low-income rental housing have predicted increases in certain operating expenses—such as the costs of advertising vacant units, the losses due to bad debts, and the redecorating expenses and lost rents associated with turnover—as the reengineered properties become more market-oriented and less reliant on a guaranteed, subsidized tenancy. Conversely, the experts have predicted decreases in other expenses, such as property management fees and the administrative costs of complying with HUD's paperwork and management requirements. Also, as some housing industry experts noted in reference to HUD's reengineering proposal, the competitive forces of the commercial market should create an incentive for properties that lose the security of their guaranteed Section 8 project-based rental subsidies to seek new ways to minimize their operating expenses.

Again, differences in the projected outcomes for the 10 case study properties were influenced by differences in the assumptions made by

Ernst & Young and by the contract appraisers. Ernst & Young based its estimates of the properties' operating expenses on the properties' 1994 audited financial statements. However, for the properties whose current operating expenses exceeded the industry's averages[6] and whose revenues would decrease under reengineering, Ernst & Young adjusted the estimated operating expenses downward towards the industry's standards. This adjustment, which assumes that properties can gain certain efficiencies after reengineering, reduced the estimated operating expenses by up to 15 percent of the difference between the properties' historical operating expenses and the industry's averages for market-based units. Although the contract appraisers also based their estimates of the properties' operating expenses on the properties' historical financial data and the industry's standards, they did not restrict their adjustments to a predetermined maximum percentage.

For example, the contract appraiser for St. Andrew's adjusted the property's operating expenses downward by more than the maximum percentage used in Ernst & Young's analysis. The appraiser estimated—on the basis of the property's 1995 expense data, a comparison with the operating expenses at similar properties, and the industry's data—that the total operating expenses would be reduced by 37 percent after reengineering. The appraiser considered that, because the property is owned by a nonprofit organization and is targeted to elderly tenants, its annual expenses would remain above average for the industry but could still be lower than in the past. Such methodological differences in estimating operating expenses after reengineering contributed to the differences between Ernst & Young's and the contract appraisers' predicted outcomes for Murdock Terrace, St. Andrew's, and Jacksonville Townhouse.

At some properties, the owners and managers questioned the contract appraisers' assumptions about operating expenses. For example, the owners of Jacksonville Townhouse believed that the property would not be able to achieve the reduction in operating expenses estimated by the appraiser. The appraiser estimated that the property would be able to reduce its operating expenses to a level similar to that of comparable market-rate properties—a reduction of 48 percent.

[6]Ernst & Young used data from the Institute of Real Estate Management, which annually compiles income and expense information for a voluntary sample of multifamily rental properties.

Effects of Reengineering on Residents

The effects of reengineering would likely extend not only to the properties in HUD's insured portfolio but also to these properties' low-income residents. While some current residents might choose to move to different housing if they received portable tenant-based Section 8 rental subsidies, others might be displaced and have to relocate involuntarily. The extent to which such relocating residents could find suitable and affordable alternative housing would depend on the characteristics of their local rental housing market and on the amount of continued rental assistance that the Congress authorized HUD to provide.

For residents, one of the greatest potential benefits of reengineering is greater flexibility to "shop around" for the best available apartment. With a portable rental subsidy, rather than one tied to a specific unit at a specific property, a resident who could not now afford to move from an undesirable apartment would have more opportunity to do so. Also, HUD's reengineering strategy could benefit residents to the extent that it would provide funding to address deferred maintenance problems at reengineered properties and create additional incentives for owners to better maintain their properties in the future.

However, as discussed in chapter 2, some properties would not survive reengineering because, at market rents, they could not generate sufficient revenues to cover their operating expenses and/or deferred maintenance costs. The residents of such properties might be displaced and need to find new housing. HUD proposes to give such displaced residents tenant-based Section 8 subsidies. As noted earlier, Ernst & Young's analysis indicated that five of the case study properties (Jacksonville Townhouse, Murdock Terrace, St. Andrew's, Terrace Gardens, and Universal City) would have difficulty surviving the reengineering process. In contrast, the contract appraisers believed that these five properties would likely be able to sustain operations after reengineering.

Other properties would survive reengineering because they would be able to command higher rents than they do now. For example, both Ernst & Young and the contract appraisers believed that Capitol Towers, Jackie Robinson, and Fannie E. Taylor would be able to command higher rents after reengineering. For each of these properties, the average market rents would still be below the average fair market rents that HUD uses to limit tenant-based assistance payments under its Section 8 certificate program. For Green Ridge Meadow, however, both the appraiser and Ernst & Young estimated that market rents, though lower than the property's current

assisted rents, would exceed HUD's normal limits for Section 8 assistance in the area.

HUD has proposed to protect current residents against the negative effects of rent increases in two ways. First, a household that currently resides in a unit with project-based Section 8 assistance that is converted to tenant-based Section 8 would be eligible, after reengineering, for an "enhanced voucher." This voucher would pay the difference between 30 percent of the household's adjusted income and the new market rent for the unit, even if that rent were higher than HUD's normal limit for the locality. Second, a currently "unassisted" household (one that resides in a unit without project-based Section 8 assistance) would be eligible for a rental subsidy if, after reengineering, it ended up paying more than 30 percent of its adjusted income for rent and if the local government authority opted not to continue project-based subsidies at the property. These provisions would, however, increase the costs of reengineering.

The previously discussed conditions of the surrounding rental housing markets that would affect the properties' ability to operate successfully after reengineering would also affect the ability of relocating residents to find suitable new housing. Local housing officials in some tight housing markets—those with low vacancy rates—report that people who now have tenant-based Section 8 assistance have difficulty finding suitable rental housing. Relocating or displaced residents in such areas would likely experience similar difficulty, as would those living in areas with predominately single-family housing. Those residing in markets with higher vacancy rates would be in a much better position to locate suitable alternative housing if they chose to or had to.

Ernst & Young's Estimates of Capital Needs for 10 Properties in HUD's Insured Section 8 Portfolio

Property/location	Number of units	Immediate deferred maintenance	Short-term capital backlog	Long-term capital backlog	Total capital needs
Capitol Towers, Washington, D.C.	95	$1,356,434	$59,285	$125,625	$1,541,344
Fannie E. Taylor, Jacksonville, Florida	204	362,349	379,587	411,358	1,153,294
Green Ridge Meadow, Evergreen, Colorado	79	5,000	89,947	371,656	466,603
Jackie Robinson, San Francisco, California	130	325,350	374,083	808,464	1,507,897
Jacksonville Townhouse, Jacksonville, Florida	250	797,402	738,910	614,626	2,150,938
Murdock Terrace, Dallas, Texas	256	5,663,798	206,298	375,928	6,246,024
Onterie Center, Chicago, Illinois	594	58,892	1,585,771	3,839,698	5,484,361
St. Andrew's Manor, Oakland, California	60	415,220	67,360	228,337	710,917
Terrace Gardens, Staten Island, New York	99	2,478,562	74,106	791,942	3,344,610
Universal City, Chicago, Illinois	160	214,184	220,301	1,926,752	2,361,237

Statistical Issues

This appendix provides more detailed information on statistical issues related to estimates in Ernst & Young's May 2, 1996, report. Users of estimates developed from a sample need to know how much reliance to place on such estimates. The sampling error provides a measure of an estimate's reliability or precision. It indicates the extent to which an estimate based on a sample can be expected to differ from the value that would be obtained if all of the items in the population were included in the study. Because the sampling error for one estimate derived from a sample can differ substantially from the sampling error for another estimate derived from the same sample, it is important to provide the sampling error for each estimate. For estimates of the newer, older, and total project populations, HUD wanted the sampling error to be no more than plus or minus 10 percent of the estimated value, at the 90-percent confidence level.

According to our analysis, about one-fourth of the estimates in the report had no limitations. These were population estimates with a sampling error that was as precise as HUD had desired. Approximately three-fourths of the estimates showed some limitations. Some were population estimates with a sampling error that was less precise than HUD had desired. Others were population estimates without a sampling error. Still others were not population estimates; instead, they were the results of the sample that had not been adjusted to ensure appropriate estimates for the population as a whole. The results of our analysis appear in table III.1. According to HUD, all of the estimates with limitations were requested after the study was designed and HUD was aware that these items would be unlikely to have the desired level of precision.

Table III.1: Completeness and Appropriateness of 63 Statistics in the Body of Ernst & Young's May 2, 1996, Report

Statistic	Number	Percent	Number	Percent
Population estimate with a sampling error			36	57
Desired precision achieved	15	24		
Desired precision not achieved	21	33		
Population estimate without a sampling error			12	19
No estimate for population—sample data only			15	24
Total	**36**	**57**	**63**	**100**

Note: Ernst & Young developed these statistics from a sample of 558 projects selected from HUD's FHA-insured Section 8 portfolio.

Population Estimates Less Precise Than Desired

For 15 of the 36 population estimates with a sampling error (42 percent) in the May 1996 report, the error was within 10 percent of the estimate. However, for 21 estimates, the error exceeded 10 percent of the estimate. For two of these estimates, the sampling error exceeded 25 percent of the estimate. (See table III.2.)

Table III.2: Population Estimates in Ernst & Young's May 2, 1996, Report for Which the Reported Sampling Error Exceeded 10 Percent of the Estimate

Group	Description	Relative sampling error[a]
Newer	Percent of properties with assisted rents less than market rents	28%
Older	Percent of properties with assisted rents greater than 120 percent of market rents	27%
Older	Percent of properties with assisted rents between 120 and 100 percent of market rents	24%
Newer	Percent of properties with assisted rents between 120 and 100 percent of market rents	19%
All	Percent of properties that cover operating expenses after full debt write-off but still have unsolved capital needs (Full write-off)	19%
All	Percent of properties that do not cover operating expenses, irrespective of debt and capital needs (Nonperforming)	18%
Older	Percent of properties with assisted rents greater than market rent	16%
Newer	Long-term capital backlog ($ billions)	16%
Older	Long-term capital backlog ($ billions)	15%
All	Percent of properties with assisted rents between 120 and 100 percent of market rents	15%
All	Percent of properties that cover current debt, operating expenses, and all capital needs (Performing)	14%
Newer	Per-unit immediate deferred maintenance costs	14%
Newer	Immediate deferred maintenance ($ billions)	14%
Older	Short-term capital backlog ($ billions)	13%
Older	Per-unit short-term capital backlog	13%
Newer	Replacement and cash reserves ($ billions)	13%
Newer	Per-unit replacement and cash reserves	13%
All	Long-term capital backlog ($ billions)[b]	12%
All	Long-term capital backlog ($ billions)[b]	12%
Older	Per-unit replacement and cash reserves	11%
Older	Replacement and cash reserves ($ billions)	11%

[a]Relative sampling error of the estimate. This is the sampling error for the estimate at the 90-percent confidence level divided by the estimate, then stated as a percent.

[b]This estimate appeared in the report twice, once on page 18 and again on page 19.

Population Estimates Without a Sampling Error

Ernst & Young provided the sampling error for 57 percent (36 of 63) of the estimates that it developed from its sample of 558 insured Section 8 properties and presented in the body of its May 2, 1996, report. However, this report did not provide the sampling error for 12 estimates, including the following:

- $9.7 billion in comprehensive capital requirements,
- $8.3 billion in total comprehensive needs,
- $4.6 billion in total comprehensive capital needs for older properties, and
- $3.7 billion in total comprehensive capital needs for newer properties.

Because Ernst & Young did not provide the sampling error for these 12 estimates, readers of the briefing document cannot readily assess the estimates' reliability.

To determine the reliability of these estimates, we calculated their sampling error on the basis of information provided in the briefing document's appendixes. We found that the estimates generally had the desired level of precision. For two estimates, the relative sampling error was slightly higher than desired—about 12 percent. These estimates were for the total and the per-unit capital needs (including the immediate deferred maintenance needs, short-term capital backlog, and replacement and cash reserves) for newer properties.

Results of Sample Provided Instead of Population Estimates

On three pages of its May 1996 report, Ernst & Young presented statistics based on sample cases rather than statistics for the population. These three pages contained about 24 percent of the statistics cited in the report. On one page, Ernst & Young noted that the results applied to the sample cases and cautioned the reader that they could not be extrapolated to the portfolio with the designed statistical confidence. However, on another page there was no indication that the results were based on the sample. On the third page (p. 26), one of the statistics was based on the sample, while the other statistics were population estimates.

Ernst & Young's sample of projects was not designed so that the unadjusted means and percentages would provide unbiased estimates for all of the projects. Therefore, there is no assurance that the unadjusted means or percentages for the sample provide reasonable estimates of the corresponding means or percentages for the entire population of projects.

By design, some types of projects are overrepresented in the sample and some are underrepresented. For example, all of the projects with an unpaid loan balance of more than $25 million were included in the sample and are therefore overrepresented. The projects with a smaller unpaid loan balance were sampled at lower rates and are therefore underrepresented to different extents. The sampling rates for the projects with a smaller unpaid loan balance ranged from 1 out of every 9 to 1 out of every 32, depending on (1) whether the project was newer or older, (2) where the project was located geographically, and (3) whether the project was originally or subsequently identified by HUD as subject to mark to market. Because of these over- and under-representations, the unadjusted mean for the sampled projects is a biased estimate of the mean for all of the projects.

When projects have different chances of being included in a sample, formulas that account for these different chances must be used to develop appropriate statistical estimates for all of the projects. When such formulas are not used, estimates calculated directly from the sample can provide an inaccurate view of the population. For example, for the population of projects with assisted rents below market rents, the appropriate estimate of the average unpaid principal at the time of restructuring was $902,000. The corresponding average for the sampled projects was $1,265,000—a 40-percent increase.[1]

At our request, Ernst & Young provided the population estimates and sampling errors for the samples of projects analyzed on two of the pages of the report. As tables III.3 and III.4 show, for these estimates there is generally not much difference between the results of the sample and the estimate for the population.

[1]This example is for illustrative purposes only. The $1,265,000 sample result did not appear in Ernst & Young's May 2, 1996, report.

Table III.3: Comparison of Sample Results and Population Estimates for Statistics on Page 23

Type of property/per-unit cost of immediate deferred maintenance and short-term capital needs	Sample	Population	Sampling error	Relative sampling error
Older				
Less than $5,000	14%	13%	3%	24%
$5,000 to $15,000	68%	73%	4%	6%
More than or equal to $15,000	18%	15%	3%	21%
Newer				
Less than $5,000	43%	44%	5%	10%
$5,000 to $15,000	53%	53%	5%	9%
More than or equal to $15,000	4%	4%	2%	47%

Table III.4: Comparison of Sample Results and Population Estimates for Statistics on Page 27

Status of property under portfolio reengineering	Sample	Population	Sampling error	Relative sampling error
Performing,[a] when current assisted rents are				
Above market	7%	7%	2%	24%
Below market	13%	14%	3%	19%
Restructure,[b] when current assisted rents are				
Above market	35%	35%	3%	9%
Below market	19%	19%	3%	15%
Full write-off,[c] when current assisted rents are				
Above market	9%	8%	2%	23%
Below market	4%	4%	1%	35%
Nonperforming,[d] when current assisted rents are				
Above market	13%	13%	2%	18%
Below market	0%	0%	0%	[e]

[a]Could cover current debt, operating expenses, and all capital needs.

[b]After restructuring, could cover new debt, operating expenses, and all capital needs.

[c]After full debt write-off, could cover operating expenses but not all capital needs.

[d]After full debt write-off, could not cover all operating expenses.

[e]Not available. Division by zero is undefined.

For the results of the sample reported on page 26, we obtained data from Ernst & Young and developed an estimate for the population of projects that could cover their operating expenses after their debt was fully written off but could not cover all of their capital needs.[2] For these projects, the report used the sample's unadjusted results to identify $4,900 in unsolved capital needs. Using the appropriate adjustment, we estimated needs of $4,600, plus or minus $1,100.

[2]Ernst & Young said it was not prepared to make estimates of this type, which would have required it to estimate both a dollar amount and a number of units from its sample.

Assumptions Used in Ernst & Young's Model and in GAO's Sensitivity Analyses

The tables in this appendix present the assumptions used in (1) the financial model that Ernst & Young developed to project the performance of HUD's insured multifamily properties under portfolio reengineering and (2) the sensitivity analyses that GAO performed to determine the effects of changes in the assumptions on the model's results. (See ch. 2).

In developing its financial assumptions, Ernst & Young placed loans in performing, subperforming, or nonperforming categories on the basis of the extent to which projected net income after reengineering (i.e., adjusting the rents to market levels) covered the principal and interest payments. The measure used in this process was the debt service coverage ratio (DSCR), which represents net income divided by principal and interest requirements. Ernst & Young also established four subcategories within the subperforming category, depending on the DSCR after reengineering, and then developed a range of financing terms applicable to restructured loans in the various categories and subcategories.

Table IV.1: Assumptions Used in Ernst & Young's Financial Model for HUD's Multifamily Portfolio Reengineering Proposal

	Loan category/subcategory and associated debt service coverage ratio					
	Performing	Subperforming				Nonperforming
Financing assumption	1.00 and above	0.85 - 0.99	0.50 - 0.84	0.10 - 0.49	0.01 - 0.09	0.0
Restructure DSCR	1.20	1.20	1.25	1.30	[a]	[a]
Restructure LTV[b]	1.00	1.00	1.00	1.00	[a]	[a]
Restructure interest rate	9.75%	9.75%	9.85%	10.00%	[a]	[a]
Restructure amortization period	360	360	360	360	[a]	[a]
Allowance for bad debt	1%	1%	1%	1%	1%	1%
Transaction costs	3%	3%	3%	5%	5%	5%

[a]Not applicable.

[b]The loan-to-value ratio (LTV) compares the amount of a loan with a property's value. According to an Ernst & Young official, the model used a loan-to-value ratio of 1 so that the mortgages for reengineered properties would be calculated on the basis of the debt service coverage ratios used in the model rather than the loan-to-value ratio.

Besides the financial loan terms presented in table IV.1, Ernst & Young's financial model also included the following assumptions: (1) market rents replace assisted rents, (2) residents with project-based assistance receive tenant-based assistance, (3) FHA insurance is not provided for restructured loans, and (4) income and tenant payments grow at 3 percent and expenses at 4 percent. In addition, Ernst & Young adjusted operating

expenses downward if revenues decreased when rents were adjusted to market levels and actual operating expenses exceeded the Institute of Real Estate Management's (IREM) averages. Operating expenses were reduced by up to 15 percent of the difference between historical operating levels and IREM's averages to reflect assumed operating efficiencies after reengineering. These general assumptions were not revised in GAO's sensitivity analyses.

Tables IV.2 and IV.3 present the financial loan terms used in our sensitivity analyses, most of which reflect revisions to Ernst & Young's assumptions. Table IV.2 also includes the revised assumptions covering replacement reserves, deferred maintenance, and short-term capital needs that we used for our optimistic scenario, discussed in chapter 2. We did not revise these assumptions for our pessimistic scenario.

Table IV.2: Optimistic Assumptions Used in GAO's Sensitivity Analysis of Ernst & Young's Financial Model for HUD's Multifamily Portfolio Reengineering Proposal

	Loan category/subcategory and associated debt service coverage ratio					
	Performing	Subperforming				Nonperforming
Financing assumption	**1.00 and above**	**0.85 - 0.99**	**0.50 - 0.84**	**0.10 - 0.49**	**0.01 - 0.09**	**0.0**
Restructure DSCR	1.25	1.25	1.25	1.30	[a]	[a]
Restructure LTV	0.85	0.85	0.80	0.75	[a]	[a]
Restructure interest rate	8.75%	8.75%	8.85%	9.00%	[a]	[a]
Restructure amortization period	300	300	300	300	[a]	[a]
Allowance for bad debt	1%	1%	1%	1%	1%	1%
Transaction costs	3%	3%	3%	5%	5%	5%
Replacement reserves	Reduce by 25% but set floor at $200	Reduce by 25% but set floor at $200	Reduce by 25% but set floor at $200	Reduce by 25% but set floor at $200	Reduce by 25% but set floor at $200	Reduce by 25% but set floor at $200
Deferred maintenance and short-term capital needs	Reduce by 25%	Reduce by 25%	Reduce by 25%	Reduce by 25%	Reduce by 25%	Reduce by 25%

[a]Not applicable.

Table IV.3: Pessimistic Assumptions Used in GAO's Sensitivity Analysis of Ernst & Young's Financial Model for HUD's Multifamily Portfolio Reengineering Proposal

	Loan category/subcategory and associated debt service coverage ratio					
	Performing	Subperforming				Nonperforming
Financing assumption	**1.00 and above**	**0.85 - 0.99**	**0.50 - 0.84**	**0.10 - 0.49**	**0.01 - 0.09**	**0.0**
Restructure DSCR	1.30	1.35	1.40	1.40	[a]	[a]
Restructure LTV	0.70	0.70	0.65	0.65	[a]	[a]
Restructure interest rate	10.75%	10.75%	10.85%	11.00%	[a]	[a]
Restructure amortization period	300	300	300	300	[a]	[a]
Allowance for bad debt	2%	2%	2%	2%	2%	2%
Transaction costs	4%	4%	5%	5%	5%	5%
Replacement reserves	Use model's estimate but set floor at $300	Use model's estimate but set floor at $300	Use model's estimate but set floor at $300	Use model's estimate but set floor at $300	Use model's estimate but set floor at $300	Use model's estimate but set floor at $300
Market rents	Reduce by 5%	Reduce by 5%	Reduce by 5%	Reduce by 5%	Reduce by 5%	Reduce by 5%

[a]Not applicable.

Effects of Reengineering on 10 Case Study Properties

This appendix discusses the portfolio reengineering assessments performed by the appraisers we retained and by Ernst & Young for the 10 properties that we judgmentally selected as case studies from the 558 properties included in Ernst & Young's sample.

As we explained in chapter 2, Ernst & Young designed and used a financial model to predict and analyze the outcomes of reengineering for a sample of 558 FHA-insured multifamily properties. We noted that Ernst & Young used a variety of information, ranging from projected rents to estimated deferred maintenance needs, to classify the properties into four categories—performing, restructure, full write-off, and nonperforming. These classifications depended on the extent to which the properties could cover their operating costs, debt service payments, and deferred maintenance and short-term capital needs.

In appendix I, we used the 10 case studies to illustrate the diverse characteristics of HUD's properties and the effects of reengineering on the properties and their potential viability in an open market. For each property, we compared the contract appraiser's assessment with Ernst & Young's and found differences in the expected results of reengineering. These differences stemmed primarily from differences in the assumptions made about each property's future rent levels, operating expenses, and deferred maintenance costs.

The remainder of this appendix briefly discusses, for each of the 10 case study properties, (1) the property's characteristics, (2) the contract appraiser's and Ernst & Young's classification of the property's performance under reengineering, and (3) the factors contributing to any differences in the projected performance.

Figure V.1: Capitol Towers Apartments, Washington, D.C.

Capitol Towers Apartments, constructed in 1927 and renovated with a HUD-insured loan in 1972, is an eight-story building containing 79 zero-bedroom (efficiency) and 14 one-bedroom units occupied primarily by elderly and disabled households. It includes a laundry room, as well as commercial space being rented to a dry cleaning firm and a delicatessen/liquor store. HUD provides Section 8 assistance to 65 of the 93 units. On December 31, 1995, a balance of $928,694 remained on the property's FHA-insured mortgage.

Both the contract appraiser and Ernst & Young anticipated that Capitol Towers would fall into the restructure category if reengineered. Both arrived at similar conclusions about the property's likely market rents, operating expenses, and rehabilitation requirements.

The contract appraiser projected that, after reengineering, the average monthly rent would increase to $451 per unit, including utilities—a 39-percent increase in the current average rent of $325 per month. The appraiser also determined that the property's operating expenses would remain about the same and that about $1 million would be required to

repair the apartments' interiors and the property's mechanical systems. On the basis of the property's market value and income potential, the appraiser determined that, after allowing for repairs, a mortgage of about $750,000 could be financed.

Ernst & Young's assessment assumed that rents would increase to $491 at the time of reengineering, a 51-percent increase. Ernst & Young also projected that operating expenses would remain about the same and that about $1.4 million would be required to address deferred maintenance and short-term capital needs at the property. Ernst & Young concluded that a mortgage of about $1.5 million could be financed at the new rent levels but that an insurance claim of about $670,000 would be incurred to restructure the mortgage and address the property's capital needs.

Figure V.2: Fannie E. Taylor Home for the Aged, Jacksonville, Florida

The Fannie E. Taylor Home for the Aged, a 25-year-old garden-style property with 30 separate buildings, is located in an older suburban neighborhood with a mixture of commercial space, single-family units, and

apartments. The property includes a 24-bed licensed nursing care section, assisted living section, cafeteria, community room, library, hair salon, hobby room, and exercise areas, and it provides laundry service, courtesy transportation, parking, and emergency call buttons in all units. The property contains 204 units—92 zero-bedroom (efficiency) and 112 one-bedroom units—96 of which receive Section 8 subsidies. The FHA-insured mortgage, endorsed in 1971, had an unpaid balance of about $2.2 million on December 31, 1995.

The contract appraiser concluded that, under reengineering, the property would fall into the restructure category, with a partial debt write-down of about $0.8 million. Ernst & Young, however, classified the property as performing, or able to cover its operating expenses, existing FHA-insured debt, and deferred maintenance costs. The different classifications were primarily due to differences in the estimated market rents the property could command after reengineering.

The contract appraiser estimated that the property's monthly rents would increase to an average of $360 per unit, including utilities, or slightly more than the current average assisted rent of $346 per unit. The appraiser also believed that the property's physical condition was competitive with that of similar properties in the open market and determined, from the property's previous operating history and that of other properties in the market area, that operating expenses should remain about the same. According to the appraiser, however, the projected cash flow would support a mortgage of only $1.4 million and reengineering would require HUD to satisfy a partial insurance claim of $0.8 million.

Ernst & Young arrived at a more optimistic projection of rents under reengineering, estimating that the property could command average monthly rents of $403 per unit on the open market, or nearly 16 percent more than the average assisted rent. Ernst & Young also identified about $0.7 million in immediate deferred maintenance and short-term capital improvements needed primarily to the apartment buildings' interiors. After factoring in the higher rents and assuming no significant changes in operating expenses, Ernst & Young projected that the cash flow would be sufficient to cover both the existing debt and the repairs needed at the property even if the current mortgage interest subsidy were discontinued.

Figure V.3: Green Ridge Meadow Apartments, Evergreen, Colorado

Green Ridge Meadow Apartments is a 15-year-old, four-story property for the elderly/disabled, located in an affluent rural community where few multifamily apartment units are available on the open market. It includes a community room, laundry facility, library, and small sundries/ice cream shop, and it provides bus service, parking, and emergency call buttons in every unit. The building contains 79 one-bedroom units, all of which are subsidized with Section 8 assistance. The FHA-insured mortgage, endorsed in 1982, had an unpaid balance of about $2.45 million on December 31, 1995.

Both the contract appraiser and Ernst & Young placed the property in the restructure category but developed somewhat different estimates of the mortgage write-down that would occur under reengineering. Both concluded that the property could be expected to cover all operating and deferred maintenance costs but only a portion of the existing FHA-insured debt.

The contract appraiser estimated that the monthly rent, after reengineering, would be adjusted downward from HUD's subsidized level of

$593 to $530 per month, including utilities, a reduction of about 11 percent. On the basis of the property's financial history, operating statements for similar buildings, and consultations with local building managers and agents, the appraiser believed that the property's operating expenses would increase slightly. The appraiser also believed that the property's physical condition was adequate to attract market-rate renters. From the property's expected cash flow and appraised value, the appraiser estimated that about $1.7 million in debt could be financed with the projected income stream, leaving about $0.73 million as an insurance claim and debt write-down.

Ernst & Young, in contrast, projected that the property's monthly rent would be reduced from $593 to $475 under reengineering, a decrease of about 20 percent. Ernst & Young assumed that the property's operating expenses would continue at about the same level and identified deferred maintenance and short-term capital needs of about $95,000. Ernst & Young calculated that under the new rent levels, the property could support a mortgage of about $1.85 million, or about $0.6 million less than the existing debt of $2.45 million, resulting in an insurance claim of about $0.76 million, which would include funding for the property's maintenance and capital needs.

Figure V.4: Jackie Robinson Garden Apartments, San Francisco, California

Jackie Robinson Garden Apartments is a 24-year-old, 130-unit, garden-style property consisting of 11 three- and four-story buildings. Located in an older urban area, the surrounding neighborhood is dominated by subsidized housing developments. The property serves both families and elderly residents in units ranging from zero-bedroom studios to five-bedroom apartments. All 130 units are subsidized with Section 8 assistance. The FHA-insured mortgage, endorsed in 1973, had an unpaid balance of about $2.5 million on December 31, 1995.

Both the contract appraiser and Ernst & Young classified Jackie Robinson Garden Apartments as a performing property under reengineering. Both developed similar projections of market rents and of the repairs needed to improve the property's market appeal, although they differed somewhat in their estimates of the operating expenses under reengineering.

The contract appraiser estimated that after reengineering the average monthly rent would increase by 24 percent, from $867 to $1,071, including utilities. The appraiser also determined, from the past operating expenses of both the property itself and of properties in the surrounding market area, that operating expenses would decrease by about 14 percent. Additionally, the appraiser determined that to achieve the anticipated rental revenues, repairs of $700,000 would be needed to the buildings' mechanical systems, common areas, apartment units, and exteriors. According to the appraiser, Jackie Robinson Garden Apartments' income potential and market value indicated that a mortgage of about $6.7 million could be financed.

Ernst & Young reached similar conclusions about the property's performance under reengineering, projecting that rents would increase to an average of $1,042 per month, provided deferred maintenance and short-term capital needs of about $700,000 were met. This analysis assumed that the property's operating expenses would remain about the same. The property's anticipated income was expected to be sufficient to cover the existing FHA-insured mortgage and repairs even without the mortgage interest subsidy that the property currently receives.

According to the owner of Jackie Robinson Garden Apartments, both the contract appraiser and Ernst & Young overstated the average monthly market rents by $150 to $200. The owner emphasized that the projected rents were unrealistic because of the neighborhood's higher-than-average crime rate and drug-related activity, which reduced the property's marketability and occupancy potential. He also believed that the deferred

maintenance estimates were overstated by 30 to 40 percent because they did not consider $200,000 in capital improvements already planned and approved for immediate implementation.

Figure V.5: Jacksonville Townhouse, Jacksonville, Florida

Jacksonville Townhouse is an 18-year-old, 10-story high-rise for the elderly in a suburban neighborhood of commercial, residential, and single-family development. It includes a community room, laundry, and library and provides courtesy bus service, parking, and emergency call buttons in every unit. The property contains 250 one-bedroom units, all of which are subsidized with Section 8 assistance. The FHA-insured mortgage, endorsed in 1979, had an unpaid balance of about $4.85 million on December 31, 1995.

The contract appraiser concluded that the property would fall into the restructure category because its cash flow would cover all of its operating expenses but only a portion of its outstanding FHA-insured debt. As a result, a partial debt write-down of about $1.85 million would be required. Ernst & Young, however, classified the property as a full write-off,

projecting that it would cover its operating expenses but only a portion of its deferred maintenance and none of its remaining debt. The primary factors contributing to these differences were differences in the projected market rents, operating expenses, and deferred maintenance requirements.

The contract appraiser assumed that market rents would be reduced to $350 per month—substantially below the average monthly subsidized rents of $566. The appraiser also evaluated other properties in the market area and concluded that the operating expenses would decrease by 48 percent and no immediate repairs would be needed for the property to compete in the open market. The appraiser projected that the property's annual net operating income could support a mortgage of about $3 million, or about $1.8 million less than the HUD-insured loan balance.

Ernst & Young, in comparison, believed that market rents would be reduced to $431 per month but that operating expenses would be about 6 percent lower under reengineering and that the property would need about $1.5 million to cover its immediate deferred maintenance and short-term capital needs, including the repair and maintenance of carpeting, appliances, and cabinets, as well as air-conditioning, heating, and electrical systems. Under these assumptions, Ernst & Young predicted that the property's cash flow would support a mortgage of about $0.7 million. If there were a full claim against FHA's insurance fund (i.e., a claim equal to the property's mortgage balance at the time of the loan's restructuring), FHA would also be able to fund about $0.7 million in deferred maintenance needs.

Jacksonville Townhouse's owner questioned the contract appraiser's estimate that operating expenses would be reduced by 48 percent after portfolio reengineering. According to the owner, a 10-percent reduction would be more probable.

Figure V.6: Murdock Terrace Apartments, Dallas, Texas

Murdock Terrace Apartments, a 25-year-old, garden-style property consisting of 17 two-story buildings, is located in an older suburban setting characterized by commercial properties, single-family houses, and multifamily development. The property includes a laundry facility and playgrounds and provides parking and security guards. A mixture of elderly residents, families, and single persons live in 40 one-bedroom, 176 two-bedroom, and 40 three-bedroom units. HUD provides Section 8 assistance for 153 of the units under two contracts. The FHA-insured mortgage, endorsed in 1971, had an unpaid balance of about $2.4 million on December 31, 1995.

The contract appraiser determined that under portfolio reengineering the property would be in the performing category. Ernst & Young, in contrast, considered the property to be a full write-off, able to cover its operating expenses but only part of its deferred maintenance costs and none of its existing FHA-insured debt. Differences in the two classifications stemmed from differences in the estimates for market rents, operating expenses, and deferred maintenance requirements.

The contract appraiser projected that reengineering would raise the average monthly rent to $471, including utilities—an increase of about 33 percent over the average monthly subsidized rent of $354. According to the appraiser, deferred maintenance, consisting primarily of exterior work

to the property's roofing and siding, would cost about $370,000. Using expense information reported for properties sold in the neighborhood as well as for the overall market, the appraiser projected that the property's operating expenses would decrease by about 12 percent after reengineering. Under these assumptions, the property's income would be able to cover about $2.8 million in debt—a level roughly equivalent to the outstanding FHA-insured debt and the estimated costs of needed physical improvements.

Ernst & Young's analysis assumed that under reengineering, the property's rents would rise to an average of $495 per unit, about 40 percent above the average subsidized rents. Ernst & Young also estimated significantly higher costs for deferred maintenance and short-term capital needs, concluding that about $5.9 million would be required for comprehensive repairs to units' interiors, buildings' exteriors, mechanical systems, and parking areas. The analysis further assumed that operating expenses would continue at about the same level. Using these assumptions, Ernst & Young projected that after reengineering the property could support a loan of about $4.3 million, which would cover part of the deferred maintenance and short-term capital needs but none of the existing FHA-insured debt of $2.4 million.

An official from the company responsible for managing Murdock Terrace Apartments disagreed with the deferred maintenance estimates developed by both the contract appraiser and Ernst & Young. He said that recent physical assessments of the property's physical condition and several preliminary bids indicated expenditures of approximately $3 million for the property's deferred maintenance and capital needs.

Figure V.7: Onterie Center, Chicago, Illinois

Onterie Center is an 11-year-old, 60-story downtown multipurpose high-rise that operates as a retail, office, and residential complex. The property has 594 zero-bedroom (studio), one-bedroom, and two-bedroom units. HUD provides Section 8 assistance for 119 of the units. Onterie Center includes a fitness center, pool, laundry, and parking garage and provides security services. On December 31, 1995, Onterie Center had a balance of $49 million on an FHA-insured mortgage and a balance of $26 million on a HUD-held mortgage for a total mortgage debt of about $75 million.

The contract appraiser concluded that Onterie Center would fall into the restructure category because the projected market rents were not sufficient to fully refinance the existing mortgage. Ernst & Young removed Onterie Center from its sample before the final analysis and therefore did not determine how the property would be affected by portfolio reengineering.

The contract appraiser estimated that under reengineering the monthly rents at Onterie Center would range from $950 to $1,235, excluding electricity. The appraiser's estimates approximated the subsidized rents of $826 to $1,232 per month. The appraiser also determined that no significant improvements would be needed and that the operating expenses would remain about the same. According to the appraiser, the property's market value and income potential indicated that the property could support a loan of about $32 million after reengineering.

Figure V.8: St. Andrew's Manor, Oakland, California

St. Andrew's Manor, a five-story, 24-year-old apartment building for the elderly, is located in an older, declining urban area of Oakland with a mix of commercial, single-family residential, and multifamily development. The property comprises 60 apartments, including 51 zero-bedroom (studio), 8 one-bedroom, and 1 two-bedroom units. It includes a laundry facility and two activity rooms and provides parking, security services, and van service. All 60 units are subsidized with Section 8 assistance. The FHA-insured mortgage, endorsed in 1973, had an unpaid balance of about $0.7 million on December 31, 1995.

The contract appraiser determined that the property would fall into the performing category, able to service its existing debt at the time of reengineering. Ernst & Young, however, classified the property as nonperforming, determining that the existing debt would have to be written off and the property would operate at a loss. Differences in assumptions about market rents, operating expenses, and deferred maintenance requirements contributed to differences in the two determinations.

The contract appraiser projected that after reengineering St. Andrew's Manor's rents would be adjusted to $616 per month, including utilities—a

decrease of about 6 percent from the average subsidized rent of $654. From his analysis of expense levels at St. Andrew's and other properties in the surrounding market, the appraiser estimated that the reengineered property's operating expenses would decrease by 37 percent. The appraiser also estimated that about $176,000 in repairs would be required to improve the property's marketability and retain occupancy. After factoring in the property's overall value, the appraiser determined that the projected cash flow could support a mortgage of $2 million.

Ernst & Young, in contrast, concluded that the property's average rent would decrease to $489 after reengineering, approximately 21 percent lower than the contract appraiser's estimate. Ernst & Young also forecasted that operating expenses would be about 6 percent lower under reengineering and that higher vacancies would result in decreased revenues. Additionally, Ernst & Young estimated that about $482,000 would be needed for deferred maintenance and short-term capital improvements to mechanical systems, roofs, and units' interiors. Under these assumptions, Ernst & Young determined that the property would operate at a loss and be unable to cover any of its existing FHA-insured debt.

The owner of St. Andrew's Manor believed that Ernst Young's market rent estimate more accurately reflected local market conditions than the contract appraiser's estimate. The owner also questioned the 37-percent reduction in operating expenses projected by the contract appraiser. Such a reduction, the owner said, would seriously compromise the corporation's capacity to continue providing the current services, accessibility, and safety features at the property. In addition, the owner said that the true cost of performing deferred maintenance would fall somewhere between the contract appraiser's lower estimate of $176,000 and Ernst & Young's higher estimate of $482,000.

Figure V.9: Terrace Gardens Apartments, Staten Island, New York

Terrace Gardens I and III at Richmond is a 23-year-old property consisting of two seven-story buildings, each with 99 apartments. The property serves a mixture of families, elderly residents, and disabled persons in 66 one-bedroom, 96 two-bedroom, and 36 three-bedroom units. While Terrace Gardens is immediately adjacent to some single-family residential properties, the neighborhood also includes several other HUD-assisted multifamily rental properties, as well as public housing properties. HUD provides Section 8 assistance for 197 units at Terrace Gardens. The property's two FHA-insured mortgages, endorsed in 1973, had a combined unpaid balance of about $3.9 million on December 31, 1995.

The contract appraiser determined that, under the reengineering process, the property would be classified as performing. Ernst & Young, in comparison, placed the property in the full write-off category, assuming that it would be unable to cover any of its debt and only a portion of its deferred maintenance requirements. Differences in the estimated market rents and repair needs contributed to the difference in classification. In addition, Ernst & Young's analysis focused on only one of the buildings—Terrace Gardens III—while the contract appraiser's assessment covered both buildings.

The contract appraiser projected that reengineering would raise the average monthly rent from $734 to $952, including utilities. In the appraiser's opinion, repairs of about $1.1 million would be needed for the property to compete at the higher market rates. The appraiser concluded that Terrace Gardens' income potential and market value, less an allowance for repairs, would support a mortgage of $4.3 million. If the property's physical condition remained as is, the appraiser believed, the mortgage would need to be restructured for the property to continue operating.

Ernst & Young's evaluation of Terrace Gardens III projected an average monthly market rent of $739 per unit and identified $2.6 million in deferred maintenance and short-term capital needs, including repairs to individual units, mechanical systems, and the building's exterior.

Figure V.10: Universal City Apartments, Chicago, Illinois

Universal City Apartments, a 13-year-old development, consists of 160 units in one seven-story and four garden-style buildings. The property is located in an older suburban neighborhood with both single-family and multifamily housing, and it serves a mixture of elderly residents and families in 83 one-bedroom, 51 two-bedroom, and 26 three-bedroom apartments. The property includes a laundry facility, a recreation and

party room, and a small amount of commercial space, which is leased to small businesses. In addition, the property retains a social services coordinator and provides parking, security fencing, and emergency alert buttons in the units for the elderly. HUD subsidizes all 160 units with Section 8 assistance. The FHA-insured mortgage, endorsed in 1983, had an unpaid balance of $8.4 million on December 31, 1995.

The contract appraiser determined that the property would fall into the restructure category, able to cover all of its operating expenses but to support a mortgage of only $1.7 million. Ernst & Young, in comparison, categorized the property as nonperforming, unable to service any of its existing debt after reengineering. Differences in the projected operating expenses and repair needs were primarily responsible for the difference in classification.

The contract appraiser estimated that under reengineering the average monthly rent would fall significantly, from $1,204 to $594, including utilities. The appraiser also projected that operating expenses would decrease somewhat in an open market (in part because of an expected reduction in real estate taxes) and that the property would not require any physical repairs to compete with other market-rate properties. From these operating assumptions and the property's market value, the appraiser determined that the property's projected income could support a debt of about $1.7 million.

Ernst & Young projected an average monthly rent of $578. This estimate was 52 percent lower than HUD's average subsidized rent and 3 percent lower than the contract appraiser's estimate. Ernst & Young also estimated that the property's operating expenses would remain about the same after reengineering. Differing primarily from the contract appraiser in its assessment of the property's deferred maintenance and short-term capital needs, Ernst & Young estimated repair costs of $434,485. Ernst & Young concluded that the property would operate at a loss after reengineering even if its mortgage were entirely written off. A full write-off would result in a claim equal to the entire balance of the property's FHA-insured debt, or about $8 million.

Comments From the Department of Housing and Urban Development and GAO's Evaluation

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

U. S. Department of Housing and Urban Development
Washington, D.C. 20410-8000

SEP 16 1996

OFFICE OF THE ASSISTANT SECRETARY
FOR HOUSING-FEDERAL HOUSING COMMISSIONER

Ms. Judy A. England-Joseph
Director, Housing and Community Development Issues
United States General Accounting Office
Washington, DC 20548

Dear Ms. England-Joseph:

The Department has reviewed the draft of the report entitled Multifamily Housing: Effects of HUD's Portfolio Reengineering Proposal (GAO/RCED-96-243) and is submitting the comments outlined below. At the outset, we wish to express our agreement with the overall conclusion that the Ernst & Young LLP ("E&Y") methodology and assumptions provide a reasonable framework for evaluating the Portfolio Reengineering plan. In addition, we would like to acknowledge with appreciation the comments and insight provided by staff of the General Accounting Office (GAO) since August 1995 in the design and execution of the E&Y analysis. Staff of the GAO, the Congressional Budget Office (CBO), Office of Management and Budget (OMB), HUD's Office of the Inspector General (OIG) and HUD's Policy Development and Research Office provided invaluable support and critique in the development of the study's overall goals and objectives, as well as important elements in the design of its methodology. This input process occurred over a lengthy period and reflects tremendous dedication on the part of the staff involved. We believe the study benefited substantially from this.

The Department also appreciates the opportunity to offer its comments on the report. In the main, we believe the report is an excellent summary of the Portfolio Reengineering (PRE) proposal and the likely performance of the insured multifamily portfolio in such an environment. However, we do take a different view of several important findings in the GAO report. The areas of disagreement are:

- GAO's conclusion on E&Y's estimate of deferred maintenance
- GAO's report of different financing terms than those assumed by E&Y
- GAO's estimates of costs and savings due to Portfolio Reengineering

In addition to our comments on these critical areas, we offer more minor comments on other aspects of the report, as well.

E&Y's Deferred Maintenance Estimates are Appropriate

See comment 1.

The GAO report concludes that Ernst & Young's estimates of deferred maintenance are too high. However, the methodology used by GAO inspectors is vastly different from the approach used by E&Y's engineering firm. Had GAO aligned its methodology more closely to that used by E&Y inspectors, the GAO analysis would yield results similar to E&Y's results. Indeed, when E&Y recast its results to compare more directly to the GAO methodology, the differences narrowed considerably, deviating significantly only in the case of a couple of properties. Unfortunately, because the GAO sample size is so small, this difference carries more weight than it would otherwise and distorts the conclusion.

See comment 2.

The GAO appraisers relied, in part, on previous HUD physical inspections. By contrast, the E&Y work did not use these inspections at all. HUD physical inspections historically use HUD's own standard for the portfolio, called Housing Quality Standards ("HQS"), a much lower standard than the standard employed by E&Y. HUD's physical inspections report deviations from HQS. Because the PRE methodology focused on market conditions, it was important that the E&Y inspectors make an independent assessment, without any influence of previous reports or non-market standards.

See comment 2.

Another important difference in approach is that GAO employed real estate appraisers to conduct the physical inspections based upon HUD's physical inspection reports, whereas E&Y employed an engineering firm with expertise in more comprehensive cost and capital needs assessment.

See comment 1.

Moreover, the GAO extracted only 10 properties from the sample, examined them in detail and generalized its results to the entire survey. HUD believes this may exaggerate sampling errors occurring in any single property and result in unreliable conclusions. By generalizing from what may well be unusual cases, the GAO conclusions cannot in fairness be said to properly evaluate the entire survey. Any single property taken in isolation may yield different results from the survey overall, but is compensated by the remainder of the sample.

See comment 1.

Thus, the Department believes that the fundamental approach employed by GAO--to extract 10 properties and make direct comparisons to E&Y results for individual properties--yields information which may not represent the portfolio as a whole. Indeed, E&Y's individual property capital needs assessments were not meant to be taken out of the context of the portfolio level analysis.

See comment 3.

For example, Ernst & Young inspected a sample of units at each property which was selected by the property managers. E&Y asked that the sample be representative. If the sample of units included more one bedroom units than the average for the property, E&Y's estimate of capital needs may have been understated. Likewise, if the sample of units included more two bedroom units than the average for the property, then

the estimate could have been overstated. Thus, the results for any one property may well have illuminated these understatements or overstatements at the individual property level. This is inherent in any measurement methodology. However, the impact of this sampling error **on the entire portfolio** is immaterial to the overall conclusions.

See comment 4.

GAO reported at length the comments of many property owners and managers, to give support to its conclusion that E&Y deferred maintenance estimates were too high. In fact, these comments more likely reflect that owners did not understand the full details of the methodology used by E&Y. However, to bridge the difference, E&Y adjusted its estimates to compare more directly with the GAO methodology. As expected, the results of this adjustment were more in line with the statements made by owners. In other cases, owners questioned E&Y estimates that did not consider "in process" improvements or planned repairs. Again, the methodology required only "substantially complete" repairs to be included. This is a methodological standard which was applied across the portfolio; any distortions, such as the one cited in the GAO report, were evened out in the total portfolio analysis.

See comment 5.

In a study of this magnitude, there is a unique opportunity to obtain a comprehensive snapshot of the entire portfolio. Therefore, E&Y's goal was to design a methodology which, in addition to the repair costs required by market-based lenders, E&Y estimated **all** capital needs of the portfolio, in a comprehensive manner, even though some of the items or time frames used are beyond those used by traditional multifamily lenders. In supervising this effort, HUD felt it was best to present the Department, Congress and other observers with comprehensive data, elements of which could be used as needed. Consequently, E&Y used only short term capital needs for estimating property performance under Portfolio Reengineering, but also made available data on long term capital needs so that the magnitude of total capital deficiencies is known.

Financing Terms and Conditions Must be Taken in Total, Not in Isolation

See comment 6.

Several comments by the lenders contacted by GAO indicate that they were not fully informed of the methodology and assumptions used in the E&Y model. For example, both the lenders interviewed by E&Y and those contacted by the GAO wee concerned about the "transition" period of the property to market. However, the E&Y methodology assumed every Section 8 tenant currently in the property would receive Section 8 assistance at whatever level is needed to meet new market rent requirements. The methodology also assumed that only minor adjustments were made in operating expenses. These conditions apparently were not assumed by the lenders interviewed. Thus, it is difficult to understand the concern over the length of the transition period, as it is modeled by Ernst & Young.

See comment 7.

Lenders also questioned the availability of non-FHA insured loans under the loan terms used. The lenders assumed shorter loan terms (5, 10, 15 years) and a 25-year

amortization period. The E&Y model used a 30-year amortization period. The loan term of 5, 10, 15 years with a balloon payment has no impact on the financial outcome of the model or the results. The 25-year term would have an immaterial impact.

Cost/Savings Estimates

See comment 8.

The GAO made certain estimates and reported certain conclusions about the cost and savings of restructuring HUD's multifamily portfolio. It is important to recognize that GAO's cost estimates neither conform to federal budget rules, which are the basis of HUD's estimates, nor conform in important respects to HUD's current Reengineering proposal. Moreover, while the E&Y survey estimated costs, this was not intended to be compared to HUD's budget baseline and therefore to yield savings estimates.

See comment 9.

For example, the GAO estimates ten-year subsidy savings, but **includes** in this estimate units with below market assisted rents - which naturally depress savings - despite the fact that these properties have been deferred by HUD for restructuring until a later period.

Other Observations

See comment 10.

1. In one part of the report, GAO indicates that for properties which could not cover operating expenses at market rents, ". . . HUD proposed using alternative strategies, including demolishing the property and subsequently selling the land to a third party. . . ." HUD wishes to make clear that it has never proposed demolition as a preferred option for responding to such properties. Indeed, HUD believes that such properties constitute an important and often scarce housing resource for the poor, and in most cases, deserve to be protected, if at all possible.

See comment 11.

2. HUD wishes to make clear that the purpose of the study is to provide data about the market rents and physical condition of this housing stock. The study was not intended to evaluate the Portfolio Reengineering proposal. GAO's efforts to directly use the results of the study in this manner go beyond the study's original design. Rather, the E&Y study was designed for three primary uses.

   - to provide reliable information about portfolio characteristics,
   - to provide estimates on the probable performance of properties, assuming substantially reduced rental income (that is, how many properties would likely default, how many would emerge from mortgage restructuring in viable economic condition, and how many would be unable to cover operating expenses with market rents, etc.)

- to provide data relevant for use in HUD's budget models so that HUD can evaluate various policy alternatives for this stock of housing.

The Department believes that the purpose and, therefore, the limitations of the study could have been made more explicit in the GAO report.

Again, we wish to thank GAO for the opportunity to respond to its report and to offer comments and observations which will be clarifying to readers of the report. We look forward to working with GAO in the future on the Portfolio Reengineering initiative and, as always, welcome the feedback and guidance we receive from your agency and staff.

Sincerely,

Chris Greer
Deputy Assistant Secretary for
Multifamily Housing

The following are GAO's comments on the Department of Housing and Urban Development's (HUD) letter, received on September 16, 1996.

GAO Comments

1. Our report states that questions exist about Ernst & Young's estimates of the cost of deferred maintenance and that these estimates generally were significantly higher than those of the contract appraisers for the 10 case study properties we reviewed. We also report that the owners and property managers who reviewed Ernst & Young's estimates generally believed that the estimates were too high. However, the report also clearly states that the results of our 10 case studies cannot be generalized to the portfolio. For that reason, the report does not conclude that Ernst & Young's estimates of the cost of deferred maintenance are too high but rather that further analysis of the physical condition and related capital needs of the insured Section 8 portfolio is needed, given the uncertainties about the capital costs used in the study.

In addition, the report provides Ernst & Young's adjusted cost estimates of the properties' deferred maintenance needs. For these estimates, Ernst & Young revised its global assumption that investors or lenders would replace all major subsystems and components that have outlasted their estimated useful life, including those that are still functioning. While the adjusted estimates (which exclude the cost of replacing items that are still functioning) were generally closer to the contract appraisers' estimates than Ernst & Young's original estimates, 8 of the 10 adjusted estimates provided by Ernst & Young[1] are still higher than the contract appraisers' estimates. Furthermore, we continue to question the study's assumption that items functioning beyond their estimated useful life will be replaced even if they are still in good condition. For example, some properties are likely to be competitive in their local markets even if systems that are old, but still in good condition, are not replaced.

2. Our report recognizes and discusses the differences in the methodologies used by Ernst & Young and the contract appraisers that contribute to the differences in their respective estimates of capital needs. For example, the report states that Ernst & Young retained a firm to conduct engineering studies at the properties, whereas GAO's appraisers based their assessments on their reviews of previous physical inspections performed at the properties and their own physical inspections and were not tasked with performing engineering studies. The report also notes that

[1]Ernst & Young did not provide a revised estimate for one property which was inspected but subsequently dropped from the study.

because of these differences in approach, we provided the properties' owners and managers with Ernst & Young's estimates of capital needs and the assumptions underlying them to obtain their views on the estimates.

3. HUD does not provide any data and analysis supporting its statement that the impact of estimates based on a sample of apartment units selected by property managers is immaterial to the overall conclusions of the report. We continue to be concerned that for 7 of our 10 case study properties, Ernst & Young's inspectors examined fewer than 10 percent of the properties' units and that, for one property, Ernst & Young's estimate of the immediate deferred maintenance needs assumed that kitchen cabinets in all of the units would be replaced even though 92 of the 204 apartments are assisted living units without kitchens.

4. HUD states that any distortions in the estimates stemming from Ernst & Young's standard that improvements or planned repairs had to be "substantially complete" were "evened out in the total portfolio analysis." See comments 1 and 2. In addition, HUD's response suggests that in some cases the estimates were too high and in other cases too low, with a neutral impact overall. However, in our view, this assumption would tend to overstate the capital needs cost estimates by including the cost of work that is under way but not completed.

5. HUD's response indicates that the long-term capital needs identified in the study were estimated to provide information and that Ernst & Young used only short-term capital needs estimates to project properties' performance under portfolio reengineering. However, as discussed in the report, Ernst & Young's model assumes that the replacement reserve deposits included in the annual cash flows must cover the estimated annual replacement costs for all major property systems. As a result, these amounts are a factor in determining both the need for restructuring a property's debt and the amount of the write-down that would be required if the rents were set at market levels. As noted in the report, some replacement reserve items included in the study, such as walls and foundations, have useful lives of more than 50 years.

6. We gave the lenders with whom we spoke information on the full range of underwriting assumptions used by Ernst & Young, including the assumption that the current recipients of Section 8 project-based assistance would receive Section 8 tenant-based assistance. As stated in the report, these lenders indicated that (1) a transition period of 1 to 2 years is more reasonable than the 9-month period used in the model and

(2) an unstable period with lower income and higher costs is more likely during the transition than the incremental move towards stabilization over 9 months used in the model. We disagree with HUD that the length of the transition period as modeled by Ernst & Young is not of concern because Ernst & Young assumed that every Section 8 resident currently in the property would receive Section 8 assistance at whatever level was needed to meet the new market rent requirements. Given the study's assumption that project-based Section 8 assistance would be replaced with portable tenant-based assistance and that Section 8 assistance would not be provided to current residents who do not receive it, it is reasonable to assume that during a transition period, the vacancy rates at some properties might fall below the market vacancy rates used in the study. In addition, Ernst & Young's deferred maintenance estimates indicate that a substantial amount of work is needed at many properties. It is, therefore, reasonable to assume that at such properties more than 9 months may be needed to complete this work and that higher vacancy rates may occur while apartment units are off-line during construction. Accordingly, we continue to believe that the concerns raised by lenders about the transition period are reasonable.

7. Lenders also questioned other financing terms used by Ernst & Young, including the debt service coverage ratios and loan-to-value ratios used in the study. The effects of alternative financing terms on Ernst & Young's results were factored into the sensitivity analyses we performed.

8. As stated in the report, the data we present on the cost of restructuring HUD's multifamily portfolio are intended to reflect the results of Ernst & Young's financial model, including the assumptions used by Ernst & Young. We recognize that the cost estimates do not conform with federal budget rules and scoring methodology and do not reflect all aspects of HUD's current portfolio reengineering proposal. Both of these points were clearly stated in the copy of the draft report provided to HUD for comment.

9. Our discussion of the Section 8 cost estimates generated by Ernst & Young's financial model does include properties with below-market rents as well as those with above-market rents, since both types of properties were included in Ernst & Young's study. However, our report also discusses the effect of including properties with below-market rents on the model's Section 8 cost savings estimates, notes that the changes HUD has made in its portfolio reengineering proposal offer the potential for additional Section 8 savings, and estimates the cost savings that would occur if only the properties with above-market rents were reengineered.

10. The report indicates that for properties that could not cover operating expenses at market rents, HUD proposed alternative strategies, including demolition. The report does not state that this alternative represented a "preferred option" for dealing with such properties.

11. HUD says that Ernst & Young's study was not intended to evaluate the portfolio reengineering proposal and that our use of the study in this manner goes beyond the study's original design. We note that Ernst & Young's "HUD Mark to Market - Overview of Field Work (Revised as of 8/31/95)" states that the objective of Ernst & Young's "engagement" was to assist HUD in understanding the effects of the mark-to-market initiative on HUD's portfolio of loans, programs, and housing stock. Furthermore, as HUD's letter notes, a major section of Ernst & Young's May 2, 1996, report focuses on how properties are likely to be affected by HUD's proposal. We recognize, nonetheless, that some aspects of HUD's current portfolio reengineering proposal are not reflected in the study's results, and we identified this limitation in both our draft and our final report.

Major Contributors to This Report

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Related GAO Products

Multifamily Housing: HUD's Portfolio Reengineering Proposal: Cost and Management Issues (GAO/T-RCED-96-232, July 30, 1996).

Housing and Urban Development: Comments on HUD's FY 1997 Budget Request (GAO/T-RCED-96-194 and GAO/T-RCED-96-205, June 17, 1996).

Housing and Urban Development: Limited Progress Made on HUD Reforms (GAO/T-RCED-96-112, Mar. 27, 1996).

Multifamily Housing: HUD's Mark-to-Market Proposal (GAO/T-RCED-95-230, June 15, 1995).

HUD Management: FHA's Multifamily Loan Loss Reserves and Default Prevention Efforts (GAO/RCED/AIMD-95-100, June 5, 1995).

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