United States General Accounting Office

GAO

Report to the Chairman, Subcommittee on Housing and Community Opportunity, Committee on Banking and Financial Services, House of Representatives

October 1997

HOMEOWNERSHIP

Information on Foreclosed FHA-Insured Loans and HUD-Owned Properties in Six Cities

GAO/RCED-98-2

GAO

United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-276286

October 8, 1997

The Honorable Rick A. Lazio
Chairman, Subcommittee on Housing
and Community Opportunity
Committee on Banking
and Financial Services
House of Representatives

Dear Mr. Chairman:

Through its Federal Housing Administration (FHA), the Department of Housing and Urban Development (HUD) provides federally backed mortgage insurance to hundreds of thousands of homeowners annually. However, each year, lenders foreclose on a portion of the FHA-insured mortgages that go into default and file insurance claims with HUD for their losses. With few exceptions, HUD takes ownership of the foreclosed properties, which generally remain vacant until HUD sells them. Critics of FHA contend that the unsound underwriting of FHA-insured loans in low-income urban communities has contributed to large numbers of foreclosures and vacant HUD-owned homes in these areas. They further contend that these homes remain vacant for long periods, attracting crime, reducing local property values, and contributing to neighborhood blight.

To provide some insights into the concerns raised by FHA's critics, we examined "early foreclosures"—those occurring within 18 months of the loan endorsement date.[1] As agreed with your office, we did not attempt to evaluate the soundness of mortgage underwriting decisions or the impact of vacant homes on neighborhood conditions because of the methodological difficulties that a broad examination of these issues would present.

We looked at early foreclosures because, according to FHA, they are an indicator of potentially unsound underwriting practices (e.g., lending to unqualified borrowers), whereas foreclosures occurring later are more likely to result from unforeseen circumstances that impair the ability of

[1]After making a loan to a borrower, a lender seeks FHA's approval to insure the loan. The date when FHA formally approves mortgage insurance for the loan is termed the "loan endorsement date."

borrowers to make mortgage payments (e.g., job loss).[2] In addition, we examined the length of time HUD-owned single-family properties remained unsold. To provide perspective on the types of neighborhoods where early foreclosures and unsold properties may be of greatest concern, we made comparisons across low-, medium-, and high-income areas. You requested that we include Chicago, Illinois, and Washington, D.C., in our analysis, and we selected four additional cities—Atlanta, Georgia; Baltimore, Maryland; Dallas, Texas; and San Bernadino, California—because they provided geographic diversity and had relatively high levels of FHA loan activity during the past few years.[3]

Specifically, you asked us to (1) compare early foreclosure rates on FHA-insured single-family loans made in low-, medium-, and high-income areas nationwide and in the six cities; (2) compare across income areas the proportion of loans made in the six cities by FHA-approved mortgage lenders with and without early foreclosures; (3) identify factors that influence early foreclosure rates; and (4) compare the length of time HUD-owned single-family properties remained unsold in low-, medium-, and high-income areas in the six cities.

Results in Brief

Our analysis of the FHA-insured single-family loans made during calendar years 1992 through 1994 nationwide and in the six cities showed that early foreclosures occurred infrequently but that early foreclosure rates were higher for low-income areas than for either medium- or high-income areas.[4] The early foreclosure rate for low-income areas nationwide was 0.45 percent (i.e., 4.5 early foreclosures occurring for every 1,000

[2]For this report, we considered an early foreclosure to be both a loan on which the lender foreclosed within 18 months of the loan endorsement date and a loan on which the lender did not actually foreclose but on which HUD paid an insurance claim to the lender within 18 months of the loan's endorsement. The latter accounted for about 33 percent of the early foreclosures in our data set and were part of HUD's mortgage assignment program, which was terminated in 1996. This program gave a borrower who defaulted on an FHA-insured loan the opportunity to avoid foreclosure by petitioning HUD to take assignment (i.e., ownership) of the loan and provide forbearance to the borrower. In taking assignment of a loan, HUD paid the mortgage debt and assumed responsibility for servicing the loan.

[3]The nationwide data reflect loans made in all of the metropolitan statistical areas (MSA), which include central cities and surrounding suburbs, while the data for the six cities reflect loans made within the formal boundaries of these cities but not loans made in the surrounding suburbs. We defined an area's income level as "low" if the per capita income was at or below 80 percent of the per capita income for the MSA/city, "medium" if the per capita income was greater than 80 percent but at or below 120 percent of the MSA's/city's level, and "high" if the per capita income was greater than 120 percent of MSA's/city's level.

[4]We examined loans made during calendar years 1992 through 1994 because HUD's database did not have complete demographic information for loans made before 1992 and because 1994 was the last full year we could include in an analysis examining the performance of loans over an 18-month period. Approximately 32 percent of the loans for the six cities were taken out to refinance existing mortgages. Comparable data for loans insured by private mortgage insurers were not available.

mortgages insured) compared with 0.30 percent and 0.21 percent for medium- and high-income areas, respectively. Although this pattern prevailed in the six cities, there were also differences from one city to another. For example, among the six cities, the early foreclosure rates for low-income areas ranged from 0.47 percent in Washington, D.C., to 1.45 percent in Dallas.[5]

For four of the cities—Atlanta, Baltimore, Dallas, and Washington, D.C.—lenders with early foreclosures[6] made a larger proportion of their loans for properties in low- and medium-income areas and a smaller proportion of their loans for properties in high-income areas than did lenders that did not experience early foreclosure. In San Bernadino, however, lenders with early foreclosures made a smaller proportion of their loans for properties in low-income areas and a larger proportion of their loans for properties in high-income areas than lenders without early foreclosures. Also, in Chicago, lenders with early foreclosures made a smaller share of their loans in medium-income areas than lenders without early foreclosures.

Various factors influence the probability of early foreclosure. Our analysis of the FHA-insured loans made in calendar years 1992 through 1994 in the six cities indicated that loans made for homes in poorer census tracts, smaller loans, and loans with higher loan-to-value ratios[7] or higher interest rates were associated with higher probabilities of early foreclosure.

As of December 31, 1996, HUD held a total of 1,374 properties in its inventory in the six cities we reviewed. Our analysis did not identify a pattern in the median time that these properties remained in HUD's inventory in different income areas.[8] For example, in Atlanta the median time in inventory was higher in low-income areas than in high-income areas, while in Chicago the median time in inventory was about the same in both of these income areas. However, in five of the six cities and for the six cities combined, the proportion of properties that had been in inventory for more than 6 months was greater in low-income areas than in either medium- or high-income areas.

[5]The statements made in this report reflect what we observed in HUD's data on loans approved during calendar years 1992 through 1994 nationwide and in the six cities. The foreclosure patterns we observed may be different from the patterns we might have observed for loans from a different time period or under different economic conditions.

[6]We defined lenders with early foreclosures as lenders with one or more early foreclosures during the time periods we reviewed.

[7]This indicator expresses the amount of the loan as a percentage of the property's value.

[8]The median is a value in an ordered set of values below and above which the number of values is equal.

Background

Lenders usually require mortgage insurance when a home buyer has a down payment of less than 20 percent of the value of the home because foreclosures are more likely on these loans than on those with higher down payments. As the principal provider of federally backed mortgage insurance, FHA insured 32 percent of the insured mortgages originated in 1995. However, FHA fulfills an even larger role in providing insurance for some groups of borrowers, particularly low-income home buyers, minorities, and central city residents.

FHA provides most of its single-family mortgage insurance through the Section 203(b) program, which covers loans for purchasing a new or existing one- to four-family home. The 203(b) program, among other programs, is supported by the Mutual Mortgage Insurance Fund (MMI Fund), which is funded by revenue from insurance premiums and foreclosed property sales. By law, the fund must meet or endeavor to meet statutory capital ratio requirements: that is, it must contain sufficient reserves to cover the estimated future payments of claims on foreclosed mortgages and other costs. Other FHA insurance programs for single-family home loans include the Section 203(k) program, for purchasing or refinancing and rehabilitating a home at least 1 year old, and the Section 234(c) program, for purchasing a unit in a condominium project.

A mortgage loan is commonly considered "in default" when the borrower misses three consecutive monthly payments and a fourth payment is due. At that point, foreclosure proceedings against the borrower become a serious possibility. In the case of FHA-insured loans, once the foreclosure process is completed, the lender files an insurance claim with HUD for its losses (unpaid mortgage balance and interest, along with the costs of foreclosure and other expenses). After the claim is paid, the lender transfers the title to the home to HUD, which is responsible for managing and selling the property. HUD-owned properties generally remain vacant until they are resold.

At the end of fiscal year 1996, HUD had about 24,700 single-family properties in its inventory. The purpose of HUD's property disposition program is to reduce the inventory of acquired property in a manner that expands homeownership opportunities, strengthens neighborhoods and communities, and ensures a maximum return to the mortgage insurance fund. Although FHA has always received enough in premiums from borrowers and other revenues to cover the costs of foreclosed MMI Fund loans, losses totaled about $12.8 billion in 1994 dollars, or about $24,400

for each foreclosed and subsequently sold single-family home over the 19-year period ending in 1993.

To mitigate losses to FHA and hold lenders accountable for the quality of the loans they make, FHA performs several activities related to the approval, monitoring, and recertification of mortgage lenders participating in FHA's programs. For example, FHA monitors, by mortgage lender, the percentage of loans in default or on which FHA has paid the lender a claim. FHA also conducts on-site reviews of the loan origination and servicing practices of selected lenders. In addition, in 1996, FHA issued guidelines intended to promote the use of special forbearance plans, mortgage modifications, and other tools to help FHA borrowers in default remain in their homes whenever possible and to mitigate losses to FHA resulting from loan foreclosures.

Early Foreclosure Rates Were Highest in Low-Income Areas

Nationwide, early foreclosures did not occur for 99.68 percent of the FHA-insured single-family loans made during calendar years 1992 through 1994.[9] However, early foreclosure rates were higher for low-income areas than for either medium- or high-income areas.[10] Nationwide, the early foreclosure rate for low-income areas was 0.45 percent (i.e., 4.5 early foreclosures occurring for every 1,000 mortgages insured) compared with 0.30 percent and 0.21 percent for medium- and high-income areas, respectively. Federal regulations require FHA to monitor the performance of FHA-insured loans by mortgage lender but not by income area. Consequently, FHA does not have criteria for determining what would constitute excessively high early foreclosure rates for low-, medium-, or high-income areas nationwide or in a specific geographic region.

Consistent with the nationwide pattern, early foreclosure rates in the six cities were highest for low-income areas, but these rates and the proportion of early foreclosures occurring in each income area varied by city. Within 18 months, foreclosures occurred on 254 of the 50,323 loans made in the six cities, for an early foreclosure rate of 0.50 percent. For the six cities combined, the early foreclosure rates for low-, medium-, and high-income areas were 0.80 percent, 0.45 percent, and 0.30 percent, respectively.

[9]Early foreclosures also represent a small share of the foreclosures that will eventually occur. For example, Price Waterhouse has forecasted that foreclosures will eventually occur on 6.97 percent of the 30-year fixed-rate mortgages made in fiscal year 1994 that are supported by FHA's MMI Fund.

[10]We calculated the number of early foreclosures by identifying loans on which the lender had foreclosed and/or on which FHA had paid a claim within 18 months of the loan endorsement date. We divided this number by the total number of loans to arrive at an early foreclosure rate.

Among the individual cities, the early foreclosure rates for low-income areas ranged from 0.47 percent in Washington, D.C., to 1.45 percent in Dallas. For medium-income areas, they ranged from 0.15 percent in Chicago to 1.02 percent in San Bernadino, and for high-income areas, they ranged from zero percent in Washington, D.C., to 0.86 percent in San Bernadino. San Bernadino had the highest early foreclosure rate (1.05 percent) for all income areas combined. According to HUD and San Bernadino city officials, job losses associated with military base closings and corporate downsizing have been a primary cause of foreclosures on FHA-insured mortgages in San Bernadino. Chicago had the lowest early foreclosure rate (0.26 percent) for all income areas combined. Table 1 shows early foreclosure rates in the six cities by income areas.

Table 1: Early Foreclosure Rates for FHA-Insured Loans Made in Calendar Years 1992-94 in Six Cities, by Income Areas

	Income level of areas[a]			
City	Low	Medium	High	All
Atlanta	1.40	0.41	0.23	0.63
Baltimore	0.78	0.73	0.59	0.66
Chicago	0.48	0.15	0.12	0.26
Dallas	1.45	0.79	0.17	0.63
San Bernadino	1.14	1.02	0.86	1.05
Washington, D.C.	0.47	0.21	0	0.28
Six cities combined	0.80	0.45	0.30	0.50

[a]We defined an area's income level as "low" if the per capita income was at or below 80 percent of the per capita income for the city, "medium" if the per capita income was greater than 80 percent but at or below 120 percent of the city level, and "high" if the per capita income was greater than 120 percent of city level.

Source: GAO's analysis of data from HUD and the Bureau of the Census.

For the six cities combined, the percentage of early foreclosures occurring for low-income areas was disproportionately high relative to the percentage of loans made for homes in these areas. As shown in appendix I, for the six cities combined, low-income areas accounted for 44.5 percent (113 of 254) of the early foreclosures, compared with 27.9 percent (14,050 of 50,323) of the loans made.[11]

This pattern also held true for the six cities individually. Among the six cities, the proportion of early foreclosures occurring for low-income areas ranged from 8.9 percent (5 of 56 early foreclosures) in Baltimore to

[11]Seventy-one early foreclosures—42 fewer than actually occurred—would have represented a proportionate number of early foreclosures.

66.7 percent (6 of 9 early foreclosures) in Washington, D.C., while the corresponding proportions of loans made for properties in these areas were 7.5 percent and 39.4 percent, respectively.

In two of the six cities—Baltimore and Dallas—the percentage of early foreclosures for medium-income areas was disproportionately high relative to the percentage of loans made for homes in these areas. For example, in Baltimore, medium-income areas accounted for 46.4 percent of the early foreclosures, compared with 42.2 percent of the loans made. In high-income areas in each of the six cities, the percentage of early foreclosures was smaller than the percentage of loans made for properties in these areas.

Appendix I provides additional details on early foreclosure rates in the six cities.

Lenders With Early Foreclosures Made a Larger Share of Their Loans in Low- and Medium-Income Areas Than Lenders Without Early Foreclosures

For the six cities combined, lenders with early foreclosures made a larger percentage of their loans for properties in low- and medium-income areas and a smaller percentage of their loans for properties in high-income areas than lenders without early foreclosures. Lenders with early foreclosures made 30.3, 43.1, and 26.6 percent of their loans for properties in low-, medium-, and high-income areas, respectively, while the corresponding figures for lenders without early foreclosures were 24.7, 40.7, and 34.5 percent. This pattern also prevailed in four of the individual cities—Atlanta, Baltimore, Dallas, and Washington, D.C. In San Bernadino, however, lenders with early foreclosures made a smaller proportion of their loans for properties in low-income areas and a larger proportion of their loans for properties in high-income areas than lenders without early foreclosures. Also, in Chicago, lenders with early foreclosures made a smaller share of their loans in medium-income areas than lenders without early foreclosures. The relative proportions of loans made for properties in the different income areas of each city by lenders with and without early foreclosures are shown in table 2.

Table 2: Proportion of FHA-Insured Loans Made in Calendar Years 1992-94 for Properties in Low-, Medium-, and High-Income Areas in Six Cities, by Lenders With and Without Early Foreclosures

		Income level of areas[a]		
City	Type of lender	Low	Medium	High
Atlanta	With early foreclosures	34.9	45.0	20.1
	Without early foreclosures	24.1	41.5	34.3
Baltimore	With early foreclosures	8.4	43.1	48.5
	Without early foreclosures	6.1	41.0	52.9
Chicago	With early foreclosures	36.3	46.7	17.0
	Without early foreclosures	26.8	47.7	25.6
Dallas	With early foreclosures	24.2	35.3	40.5
	Without early foreclosures	15.4	28.5	56.0
San Bernadino	With early foreclosures	46.8	39.0	14.3
	Without early foreclosures	49.6	38.6	11.8
Washington, D.C.	With early foreclosures	40.5	47.5	12.1
	Without early foreclosures	39.0	43.8	17.2
Six cities combined	With early foreclosures	30.3	43.1	26.6
	Without early foreclosures	24.7	40.7	34.5

[a]We defined an area's income level as "low" if the per capita income was at or below 80 percent of the per capita income for the city, "medium" if the per capita income was greater than 80 percent but at or below 120 percent of the city's level, and "high" if the per capita income was greater than 120 percent of the city's level.

Note: Percentages may not add to 100 because of rounding.

Source: GAO's analysis of data from HUD and the Bureau of the Census.

Additional details about differences in lending patterns among lenders with and without early foreclosures appear in appendix II.

Several Factors Were Associated With Early Foreclosures

For FHA-insured loans made during calendar years 1992 through 1994 in the six cities we reviewed, we found that the following factors were associated with early foreclosure rates: (1) the relative income level of the census tract where the property was located (expressed as the ratio of the per capita income for the census tract to the per capita income for the city), (2) the loan amount, (3) the loan-to-value ratio, (4) the loan interest rate, and (5) the city where the property was located.[12] Other things being equal, loans made for properties in poorer census tracts, smaller loans, loans with higher loan-to-value ratios, and loans with higher interest rates were associated with higher probabilities of early foreclosure. Our analysis also showed that loans made for homes in San Bernadino were associated with higher probabilities of early foreclosure, possibly reflecting the loss of military and defense industry jobs in the San Bernadino area.

Our analysis also showed that loans made in poorer census tracts tended to be smaller and to have higher loan-to-value ratios and higher interest rates—all factors that increased the probability of early foreclosure. The relationship between lower incomes and loans with these characteristics may partially explain why early foreclosure rates were higher in low-income areas than in either medium- or high-income areas. Nonetheless, the association between census tract incomes and early foreclosure rates was statistically significant even after controlling for these other factors.

We tested additional factors but did not find them to have statistically significant associations with early foreclosure rates after accounting for the factors listed above. These factors were the race (white or minority) of the borrower, the age of the borrower, the year of the loan's origination, and the FHA loan program used (203(b) or other loan program).

Appendix III provides additional information on the results of our statistical analysis.

[12]We identified these associations by performing a logistic regression analysis, a technique used to estimate the individual influence of each factor while controlling for the influence of the others. The associations were significant at the 95-percent confidence level.

Length of Time That HUD-Owned Properties Remained Unsold

As of December 31, 1996, HUD held 1,374 single-family properties in its inventory in the six cities combined. Among the six cities, the number of properties in HUD's inventory that remained unsold ranged from 65 in Atlanta to 471 in Chicago.[13] Our analysis did not disclose a pattern in the median time that these properties remained in HUD's inventory in different income areas. As shown in table 3, while in Atlanta and Washington the median time in inventory was higher in low-income areas than in high-income areas, in Baltimore, Chicago, and San Bernadino, the median time in inventory was about the same in these areas. In Dallas, the median time in inventory was higher in high-income areas than in low-income areas. According to HUD officials, the length of time properties remain in HUD's inventory is greatly affected by the economic conditions in each city.

Table 3: Median Months in Inventory for Single-Family Properties in Six Cities That Remained Unsold as of December 31, 1996, by Income Areas

	Income level of areas[a]			
City	Low	Medium	High	All
Atlanta	3.7	3.8	0.8	3.7
Baltimore	4.8	4.5	4.8	4.6
Chicago	5.0	4.3	4.9	4.8
Dallas	1.8	3.2	3.0	3.0
San Bernadino	4.5	2.4	4.5	3.5
Washington, D.C.	8.5	7.6	4.1	8.0

Note: We excluded from our analysis properties held off the market as of May 17, 1997 (the date our data file was created). HUD may hold properties off the market while carrying out certain administrative processes and programs for assisting the homeless, as well as for other reasons. However, we were unable to determine whether included properties had been held off the market for any time in the past. In addition, in some cases, we were either unable to identify the census tract where a property was located or HUD's data did not provide the date a property entered HUD's inventory. Therefore, we excluded these properties from our analysis. The percentage of properties in each city that we excluded from our analysis because of missing information on the census tract or time in inventory was as follows: Atlanta, 3 percent; Baltimore, 14 percent; Chicago, 4 percent; Dallas, 5 percent; San Bernadino, 20 percent; and Washington, D.C., 16 percent.

[a]We defined an area's income level as "low" if the per capita income was at or below 80 percent of the per capita income for the city, "medium" if the per capita income was greater than 80 percent but at or below 120 percent of the city's level, and "high" if the per capita income was greater than 120 percent of the city's level.

Source: GAO's analysis of data from HUD and the Bureau of the Census.

[13]We were able to match census tract information and valid time-in-inventory data with 1,232 of the 1,374 properties in HUD's inventory as of December 31, 1996. Therefore, we limited our analysis to these 1,232 properties. Appendix IV provides additional details on the number and percentage of properties for which this match was feasible.

For the six cities combined and for each of the individual cities except Dallas, the proportion of properties that had been in inventory for more than 6 months was greater in low-income areas than in either medium- or high-income areas. (See table 4.)

Table 4: Months in Inventory for Single-Family Properties in Six Cities That Remained Unsold as of December 31, 1996, by Income Areas

City	Months in inventory	Income level of areas[a]			
		Low	Medium	High	All
Atlanta	Less than or equal to 6	19 (61.3%)	20 (64.5%)	2 (66.7%)	41 (63.1%)
	Greater than 6	12 (38.7%)	11 (35.5%)	1 (33.3%)	24 (36.9%)
Baltimore	Less than or equal to 6	30 (51.7%)	52 (65.0%)	25 (58.1%)	107 (59.1%)
	Greater than 6	28 (48.3%)	28 (35.0%)	18 (41.9%)	74 (40.9%)
Chicago	Less than or equal to 6	161 (57.1%)	107 (64.1%)	15 (68.2%)	283 (60.1%)
	Greater than 6	121 (42.9%)	60 (35.9%)	7 (31.8%)	188 (39.9%)
Dallas	Less than or equal to 6	35 (87.5%)	56 (75.7%)	22 (71.0%)	113 (77.9%)
	Greater than 6	5 (12.5%)	18 (24.3%)	9 (29.0%)	32 (22.1%)
San Bernadino	Less than or equal to 6	61 (56.0%)	78 (88.6%)	23 (59.0%)	162 (68.6%)
	Greater than 6	48 (44.0%)	10 (11.4%)	16 (41.0%)	74 (31.4%)
Washington, D.C.	Less than or equal to 6	25 (30.5%)	17 (39.5%)	5 (55.6%)	47 (35.1%)
	Greater than 6	57 (69.5%)	26 (60.5%)	4 (44.4%)	87 (64.9%)
Six Cities Combined	Less than or equal to 6	331 (55.0%)	330 (68.3%)	92 (62.6%)	753 (61.1%)
	Greater than 6	271 (45.0%)	153 (31.7%)	55 (37.4%)	479 (38.9%)

Note: See note for table 3.

[a]We defined an area's income level as "low" if the per capita income was at or below 80 percent of the per capita income for the city, "medium" if the per capita income was greater than 80 percent but at or below 120 percent of the city's level, and "high" if the per capita income was greater than 120 percent of city's level.

Source: GAO's analysis of data from HUD and the Bureau of the Census.

Additional details about the amount of time HUD-owned properties remained unsold in the six cities appear in appendix IV.

Agency Comments

We provided HUD with a draft of this report for its review and comment. Officials who reviewed the report, including a representative from the Office of the Assistant Secretary for Housing-Federal Housing Commissioner, stated that they generally agreed with the report's findings. HUD also provided several clarifying comments, which we incorporated into the report as appropriate.

Scope and Methodology

In reporting information relating to early foreclosures on FHA-insured single-family loans endorsed during calendar years 1992 through 1994 in low-, medium-, and high-income areas nationwide, we relied on HUD's analysis of the number of loans made, the number of early foreclosures, and the early foreclosure rates in the three income areas. To determine early foreclosure rates for the same period in the six cities reviewed, we obtained data from HUD's database on loans insured by FHA in calendar years 1992 through 1994 and merged this information with 1990 census data.

To further analyze lending and early foreclosure patterns in the six cities, we divided the lenders into two groups—those with no early foreclosures and those with one or more early foreclosures during the periods we reviewed—and compared these groups with respect to the distribution of the loans they made across income areas. To obtain information on factors that contribute to differences in early foreclosure rates among income areas, we performed an analysis to show the extent to which certain variables were associated with differences in the probability of early foreclosure. Appendix III provides information on the model we built to estimate relationships between early foreclosures and factors that contribute to such foreclosures. To compare the length of time HUD-owned properties remained unsold in low-, medium-, and high-income areas in the six cities, we obtained data from HUD's Single-Family Accounting Management System (SAMS), which tracks properties acquired and sold by HUD. Our analysis focused on single-family properties that remained in HUD's inventory as of December 31, 1996.

While we did not independently verify the accuracy or test the reliability of FHA's data, we performed tests to check the internal consistency of the data and worked with agency officials to ensure that we interpreted the

data properly. Appendix V provides additional details on our scope and methodology.

We performed our work from December 1996 through September 1997 in accordance with generally accepted government auditing standards.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days after the date of this letter. At that time, we will provide copies to the Secretary of HUD and other interested parties. We will also make copies available to others upon request.

Please call me at (202) 512-7631 if you or your staff have any questions. Major contributors to this report are listed in appendix VI.

Sincerely yours,

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

Contents

Tables

Abbreviations

FHA	Federal Housing Administration
GAO	General Accounting Office
HUD	Department of Housing and Urban Development
MMI	Mutual Mortgage Insurance Fund
MSA	metropolitan statistical area
SAMS	Single-Family Accounting Management System

Early Foreclosure Rates on Loans Made in Calendar Years 1992-94, by Income Areas

Income level	Atlanta	Baltimore	Chicago	Dallas	San Bernadino	Washington, D.C.	Six cities combined
Low-income areas							
Number of loans	786	637	6,805	1,994	2,547	1,281	14,050
Percent of loans	27.5	7.5	33.0	20.3	48.0	39.4	27.9
Number of early foreclosures	11	5	33	29	29	6	113
Percent of early foreclosures	61.1	8.9	62.3	46.8	51.8	66.7	44.5
Early foreclosure rate	1.40	0.78	0.48	1.45	1.14	0.47	0.80
Medium-income areas							
Number of loans	1,219	3,578	9,691	3,176	2,061	1,457	21,182
Percent of loans	42.6	42.2	47.1	32.3	38.8	44.8	42.1
Number of early foreclosures	5	26	15	25	21	3	95
Percent of early foreclosures	27.8	46.4	28.3	40.3	37.5	33.3	37.4
Early foreclosure rate	0.41	0.73	0.15	0.79	1.02	0.21	0.45
High-income areas							
Number of loans	856	4,255	4,100	4,665	701	514	15,091
Percent of loans	29.9	50.2	19.9	47.4	13.2	15.8	30.0
Number of early foreclosures	2	25	5	8	6	0	46
Percent of early foreclosures	11.1	44.6	9.4	12.9	10.7	0.0	18.1
Early foreclosure rate	0.23	0.59	0.12	0.17	0.86	0.0	0.30
All income areas							
Number of loans	2,861	8,470	20,596	9,835	5,309	3,252	50,323
Percent of loans	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of early foreclosures	18	56	53	62	56	9	254
Percent of early foreclosures	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Early foreclosure rate	0.63	0.66	0.26	0.63	1.05	0.28	0.50

Source: GAO's analysis of data from HUD and the Bureau of the Census.

Data on Lenders With and Without Early Foreclosures on Loans Made in Calendar Years 1992-94, by Income Areas

	Income level of areas							
	Low		Medium		High		All	
City/ type of lender	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Atlanta								
With early foreclosures	310	34.9	400	45.0	179	20.1	889	100.0
Without early foreclosures	476	24.1	819	41.5	677	34.3	1,972	100.0
Baltimore								
With early foreclosures	432	8.4	2,203	43.1	2,480	48.5	5,115	100.0
Without early foreclosures	205	6.1	1,375	41.0	1,775	52.9	3,355	100.0
Chicago								
With early foreclosures	4,918	36.3	6,333	46.7	2,300	17.0	13,551	100.0
Without early foreclosures	1,887	26.8	3,358	47.7	1,800	25.6	7,045	100.0
Dallas								
With early foreclosures	1,317	24.2	1,926	35.3	2,208	40.5	5,451	100.0
Without early foreclosures	677	15.4	1,250	28.5	2,457	56.0	4,384	100.0
San Bernadino								
With early foreclosures	1,424	46.8	1,186	39.0	434	14.3	3,044	100.0
Without early foreclosures	1,123	49.6	875	38.6	267	11.8	2,265	100.0
Washington, D.C.								
With early foreclosures	365	40.5	428	47.5	109	12.1	902	100.0
Without early foreclosures	916	39.0	1,029	43.8	405	17.2	2,350	100.0
Six cities combined								
With early foreclosures	8,766	30.3	12,476	43.1	7,710	26.6	28,952	100.0
Without early foreclosures	5,284	24.7	8,706	40.7	7,381	34.5	21,371	100.0

Note: Percentages may not add to 100 because of rounding.

Source: GAO's analysis of data from HUD and the Bureau of the Census.

GAO's Econometric Model Used to Identify Factors Associated With Early Foreclosures

This appendix describes the econometric model we developed and the analysis we conducted to estimate the associations between early foreclosures and several explanatory variables. The explanatory variables we tested were the loan-to-value ratio, loan amount, contract interest rate, city where the property was located, and neighborhood income. The equation we estimated used all of the FHA-insured single-family loans endorsed in calendar years 1992 through 1994 in six cities—Atlanta, Georgia; Baltimore, Maryland; Chicago, Illinois; Dallas, Texas; San Bernadino, California; and Washington, D.C. We excluded loans made for properties within the metropolitan statistical area (MSA) but outside the city's boundaries. We relied on census data to determine the per capita income of the census tracts in the six cities. The data we used, our model, and the results we obtained are discussed in detail in the following sections.

Data Used in This Analysis

For our analysis, we combined FHA's computerized data from two separate[1] files of 2,945,252 mortgages endorsed in calendar years 1992, 1993, and 1994. We then merged the combined FHA data files for the selected cities with census data to obtain income information for the census tracts where the loans were made. From FHA's records, we obtained information on the initial characteristics of each loan, such as the year of its endorsement, state and city in which it was originated, loan-to-value ratio, loan amount, and loan interest rate. FHA's files contain information on all of the single-family loans that FHA insured, including loans for condominium units, loans made to refinance existing mortgages, rehabilitation loans, and loans covered under FHA's special risk insurance program. From the Bureau of the Census, we obtained data on the aggregate household income and total population for each of the six relevant MSAs. We computed the per capita income for each tract by dividing its aggregate household income[2] by its total population. We determined the per capita income for each city by dividing the aggregate household income for all of the census tracts within its borders by its total population.

[1]FHA's A-43 database provides current and historical information on the mortgage loans that FHA insures. FHA's F-42 database provides additional information on characteristics such as the age, race, and income of FHA borrowers.

[2]We excluded the income of persons in group quarters and institutions from our calculation of per capita income. For the six cities combined, about 97 percent of the census tracts did not have persons in group quarters and institutions, and such persons accounted for less than 10 percent of the population in 76 percent of the remaining census tracts. We determined that our classification of census tracts as low-, medium-, or high-income was not affected by our exclusion of the income of persons in group quarters and institutions.

Within the five states covered by our review (Illinois, Georgia, Texas, California, and Maryland) and the city of Washington, D.C., 859,128 loans were made during the 3-year period. We selected the loans originated in each of the six cities by first using the county codes[3] for the appropriate MSA and then identifying the census tracts that were within the city's borders according to the listing of tracts supplied to us by an official representative of each city. As indicated in table III.1, 399,011 loans were endorsed in the six MSAs that included the six cities during calendar years 1992 through 1994.

Table III.1: Number of Loans Made in Six MSAs and Number of Loans Matched With Census Data, Calendar Years 1992-94

MSA	Total number of loans in MSA	Number of loans matched	Number and percent of loans not matched	
			Number	Percent
Atlanta	83,320	67,091	16,229	19
Baltimore	54,612	43,468	11,144	20
Chicago	96,751	80,549	16,202	17
Dallas	114,534	101,521	13,013	11
San Bernadino	45,999	37,164	8,835	19
Washington, D.C.	3,795	3,252	543	14
Total	**399,011**	**333,045**	**65,966**	**17**

We were able to match FHA loans to census records for 83 percent of the loans (333,045) in the MSA, but not for the remaining 17 percent (65,966 loans). Because we used census tract codes to determine if the loans were within or outside a city, we were not able to determine what percentage of the 65,966 unmatched loans were within a city's borders. We matched 80 percent of the total number of loans with all six digits of the census tract code and an additional 3 percent with four digits of the census tract code. The four-digit match was necessary because of changes to the definitions of some metropolitan area tracts over time.

In general, each of the MSAs had hundreds of census tracts, but only a fraction of them were located within the city's borders. We excluded from our analysis 543 loans for properties in Washington, D.C., because invalid census tract codes made it difficult to obtain census tract income and population data. In addition, there were 65,423 loans endorsed in the remaining MSAs that we could not identify as being within one of the cities

[3]According to HUD officials, the codes for the state, county, and census tract are the most important because the metropolitan area can be identified from these codes (except for split tracts in New England). Of the 859,128 loans endorsed in the five states and Washington, D.C., 4,537 loans did not have an appropriate county code. Therefore, we could not tell if these loans were made in the six cities we reviewed.

because their census tract codes were invalid. Another 4,537 loans endorsed in the six states did not have valid county codes, and we were unable to determine if they should have been included within one of the MSAs.

As shown in table III.2, of the 333,045 loans we were able to match with census tracts, 50,323 were made for properties within the six cities' borders. We were able to find the valid census tract income for virtually all of the 50,323 loans. In other words, when we identified a loan as being for a property in one of the six cities, we were almost always able to determine the total population or aggregate income for that loan's census tract.

Table III.2: Number of Loans Made Within the Six Cities, Calendar Years 1992-94

City	Number of loans identified within the city's border
Atlanta	2,861
Baltimore	8,470
Chicago	20,596
Dallas	9,835
San Bernadino	5,309
Washington, D.C.	3,252
Total	**50,323**

Many FHA-insured loans were refinanced during calendar years 1992 through 1994. Refinanced mortgages[4] accounted for about 32 percent of the loans in the six cities during the 3-year period we examined. Of the loans that were refinanced, about 69 percent had a recorded loan-to-value ratio of zero, and nearly all of these were streamlined refinanced mortgages.[5] Because FHA does not require property appraisals for streamlined refinanced mortgages, the initial loan-to-value ratios for these loans are unknown.

[4]Borrowers often refinance mortgage loans to lower their monthly principal and interest payments when interest rates decline. Of the refinanced mortgages, 89 percent were "streamlined refinanced," meaning that the old FHA-insured mortgage loan was repaid from the proceeds of a new FHA-insured loan using the same property as security. Appraisals and credit checks are not required by FHA on these loans, and borrowers cannot obtain cash from the transaction except for minor adjustments not exceeding $250 at closing.

[5]FHA's data did not indicate whether there were any existing second mortgages on these properties.

Specification of the Model

A default on a home mortgage loan may be triggered by unemployment, divorce, death, or some other event. Such an event is not likely to trigger a foreclosure if the owner has positive equity in the home because the sale of the home with the realization of a profit is better than the loss of the home through foreclosure. However, if the property is worth less than the mortgage, such an event may trigger a foreclosure.

We hypothesized that the probability of early foreclosure is influenced by, among other things, the loan-to-value ratio, the size of the loan, the loan interest rate, income, and the property's location. Because the recorded value of the loan-to-value ratio for some loans was zero, we added a variable to our analysis to identify these loans. We used a logistic regression equation to explore how foreclosure rates on loans endorsed in calendar years 1992 through 1994 in the six cities varied for each of these factors. Logistic regression is a standard procedure for analyzing a dichotomous dependent variable, such as whether or not an early foreclosure occurred. We used the results of our logistic regression to estimate how the odds of early foreclosure are expected to change with unit changes in the explanatory factors. In the logistic regression, we used deviation coding for categorical variables, such as the city where the foreclosure occurred. Therefore, the effect for each category is compared to the average effect for all of the categories, rather than to an omitted (or reference) category.

We tested additional factors but did not find them to be significantly associated with early foreclosure rates after accounting for the factors listed above. These additional factors were the race of the borrower (white or other), the age of the borrower, the year of the loan's endorsement (1992, 1993, 1994), and the loan program used (the MMI Fund's 203(b) program or other loan program).[6]

We were not able to include all of the factors, such as unemployment rates, that might be related to the probability of early foreclosure in our analysis. This was generally because data were not available. If we had been able to include these other factors, our results with respect to the included factors might have been different. We and other researchers have estimated the probability of ultimate foreclosure and have found other

[6]In HUD's database the age of the borrower was recorded as zero—an invalid figure—for about 18 percent of the loans. To compensate for the missing data, we included in our analysis of age a dummy variable indicating whether or not the information on age was missing. Neither the coefficient for the continuous age variable nor the coefficient for the dummy variable was significant at the 0.05 level. The significance of the variables added were as follows: race, 0.38; endorsement year, 0.80; loan program, 0.46; age dummy variable, 0.41; age as a continuous variable, 0.18.

factors that have a significant impact on it. These factors include the borrower's equity and the prevailing interest rate at the time of default, lagged unemployment, the property's location (i.e., urban or rural), whether the borrower is a first-time homeowner, and the borrower's marital status. It is generally agreed that many life-changing events—such as the arrival of children, divorce, and death—may also be related to the probability of foreclosure. However, it should be noted that prior research has associated these other factors only to ultimate loan foreclosure, not to early foreclosure.

Income

To determine if early foreclosure rates were different in lower-income communities, we obtained information on the aggregate income and the total population for each census tract within the borders of the cities we studied. We computed the ratio of the per capita income for each of the tracts to the per capita income for the relevant city to obtain the tract-to-city income ratio. We anticipated that people living in lower-income tracts might have more difficulty meeting their mortgage payments than people in higher-income tracts and that the rate of early foreclosure would, then, be higher in the lower-income tracts than elsewhere. Factors associated with lower-income communities, such as higher unemployment rates and less stability in employment, could limit the ability of borrowers to meet their monthly mortgage payments. Other factors, such as the greater age of the housing stock or the slower appreciation of house prices in lower-income communities, could also affect early foreclosure rates.

Loan-to-Value Ratio

The ratio of the loan amount to the value of the property is an important determinant of whether a loan will end in foreclosure. The loan-to-value ratio on the property changes over time because property values can increase or decrease, and payments reduce the amount owed on a mortgage. Because we were examining foreclosures that occur within 18 months of the loan endorsement date, we anticipated that the change in the loan-to-value ratio within that time period would be so small that the initial loan-to-value ratio would be sufficient to capture the effect of the borrower's equity percentage on the probability of foreclosure, when the equity percentage is considered to be 1 minus the loan-to-value ratio. Research indicates that borrowers with small amounts of equity (and,

hence, higher loan-to-value ratios), especially those with negative equity, are more likely than other borrowers to default.[7]

FHA's data showed a value of zero for about 22 percent of the loans in the six cities. Although almost all of these loans were refinanced, another 10 percent of the loans were refinanced and had valid loan-to-value ratios. FHA does not require an appraisal for streamlined refinanced loans. When an appraisal is not performed, the loan-to-value ratio is unknown. We have reported that the probability of foreclosure for FHA-insured refinanced loans differs from that for other FHA-insured loans,[8] but we did not include a refinance indicator in the regression. We did, however, add a variable to indicate when a loan was missing a loan-to-value ratio. We did not separately take into account any further differences that may result from other characteristics of refinanced loans that did have valid loan-to-value ratios.

Interest Rate and Loan Amount

We included the interest rate on the mortgage as an explanatory variable in the early foreclosure equation. We expected a higher interest rate to be associated with a higher probability of early foreclosure because a higher interest rate causes a higher monthly payment.

To obtain insight into the differential effect of relatively larger loans on the probability of early foreclosure, we used the loan amount as an explanatory variable. In our previously cited report, we pointed out that, other things being equal, larger loans have lower probabilities of foreclosure than smaller loans. Different rates of appreciation in house prices in low- and higher-income communities may be one factor underlying this phenomenon. We know that larger loans are associated with higher-priced homes. By using the loan amount as a variable in our equation and holding income constant, we were testing the relationship between larger loans and the probability of early foreclosure.

City Where Property Is Located

We used variables to indicate the city where the property was located. We expected that the coefficients for these variables would pick up differences in economic conditions within the city that we could not model explicitly. Some of these differences may include changes in the

[7]When we discuss the likely effects of one of our explanatory variables, we are describing the marginal effects of that variable while holding the effects of other variables constant.

[8]Mortgage Financing: FHA Has Achieved Its Home Mortgage Capital Reserve Target (GAO/RCED-96-50, Apr. 12, 1996)

rates of unemployment, house price appreciation, net migration, and other unknown factors.

Estimation Results

The results of our analysis are summarized in table III.3. In general, our results are consistent with the economic reasoning that underlies our model.

Table III.3: Logistic Regression Summary Table

Variable	Significance level[a]	Odds change factor		
		Estimate	Confidence interval	
Intercept	0.00	0.00	0.00	0.00
City	0.00			
Atlanta	0.49	1.16	0.76	1.76
Baltimore	0.06	1.33	0.99	1.79
Chicago	0.00	0.47	0.35	0.62
Dallas	0.64	1.07	0.80	1.42
San Bernadino	0.00	2.02	1.51	2.71
Washington, D.C.	0.20	0.65	0.32	1.32
Income: ratio of the per-capita income for the tract to that for the city (ratio x 100)	0.00	0.99	0.98	0.99
Interest rate (percent)	0.02	1.16	1.02	1.32
Loan amount (dollars in thousands)	0.02	0.99	0.99	1.00
Loan-to-value ratio (ratio x 100)	0.00	1.06	1.03	1.09
Is the loan-to-value ratio provided in the data equal to zero?	0.00			
Yes	0.00	13.89	3.60	53.53
No	0.00	0.07	0.02	0.28
Number of observations				50,318

[a]We interpreted a value of less than 0.05 as indicating a statistically significant association between the odds of early foreclosure and the variable or characteristic. We did not conclude that a statistically significant association existed if the value was more than 0.05.

[b]In logistic regression, the coefficients of the variables are not easily interpretable. Therefore, we transformed the original coefficients into a more interpretable form that we termed the "odds change factor." Specifically, we raised the natural logarithm base, e, to the power equal to the value of the original coefficient to obtain the odds change factor. Odds change factors estimate the effect of each variable on the predicted odds of foreclosure. A value greater than 1 means that the odds of foreclosure are expected to increase, while a value less than 1 predicts a decrease in the odds of foreclosure. For example, the odds change factor for the interest rate variable is 1.16, which means that the odds of early foreclosure increase by 16 percent for each percentage point the interest rate increases. Confidence intervals were also calculated for the original logistic regression coefficients at the 95-percent confidence level and then transformed into the more interpretable form. This means that we would expect the lower and upper bound to include the true odds change factor 95 times out of 100.

We found statistically significant associations[9] between increased rates of early foreclosure and (1) a lower per capita income for a census tract, (2) higher loan-to-value ratios, (3) higher loan interest rates, (4) smaller loan amounts, and (5) loans made for properties located in San Bernadino. We also found that early foreclosure was less likely for loans made for properties in Chicago.

As the per capita income in the census tract in which the property was located increased relative to the per capita income in the entire city, the odds of early foreclosure decreased. For example, the odds of foreclosure for loans on properties located in areas whose per capita income was 91 percent of the citywide per capita income were about 1 percent lower than the odds for properties in areas whose per capita income was 90 percent of the citywide income. Larger mortgages were negatively correlated with the probability of early foreclosure. The odds of early foreclosure were estimated to decrease by about 1 percent for each additional $1,000 borrowed.

The loan-to-value ratio was significantly and positively correlated with the odds of early foreclosure. When the loan-to-value ratio increased by 1 percentage point, the odds of early foreclosure increased by about 6 percent. The odds of early foreclosure for loans with a loan-to-value ratio of zero—mostly streamlined financed loans—were about the same as the odds for loans with a loan-to-value ratio of 90 percent and were about 25 percent lower than the odds for loans with a loan-to-value ratio of 95 percent.[10]

Higher interest rates are associated with an increase in early foreclosures. Holding other things constant, an increase of 1 percentage point in the interest rate was found to increase the odds of early foreclosure by about 16 percent.

We also found that the odds of early foreclosure differed with the city being tested. For example, the odds of early foreclosure were lower than average for Chicago and about twice as high as the six-city average for San Bernadino. We did not obtain statistically significant results for Atlanta, Baltimore, Dallas, or Washington, D.C.

[9]We used the 95-percent level of confidence.

[10]We obtained these results by jointly considering the effects of the loan-to-value (LTV) ratio and the LTV-equals-zero indicator. Because the LTV ratio recorded in FHA's database determined the values for both of these variables, both coefficients must be considered.

Time in Inventory for Single-Family Properties in Six Cities That Remained Unsold as of December 31, 1996, by Income Areas

	Income level of areas							
	Low		Medium		High		All	
Months in inventory	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Atlanta								
Less than or equal to 6	19	61.3	20	64.5	2	66.7	41	63.1
Greater than 6, less than or equal to 12	9	29.0	8	25.8	0	0	17	26.2
Greater than 12, less than or equal to 24	1	3.2	0	0	0	0	1	1.5
Greater than 24	2	6.5	3	9.7	1	33.3	6	9.2
Total	**31**	**100.0**	**31**	**100.0**	**3**	**100.0**	**65**	**100.0**
Baltimore								
Less than or equal to 6	30	51.7	52	65.0	25	58.1	107	59.1
Greater than 6, less than or equal to 12	17	29.3	22	27.5	9	20.9	48	26.5
Greater than 12, less than or equal to 24	8	13.8	3	3.8	5	11.6	16	8.8
Greater than 24	3	5.2	3	3.8	4	9.3	10	5.5
Total	**58**	**100.0**	**80**	**100.0**	**43**	**100.0**	**181**	**100.0**
Chicago								
Less than or equal to 6	161	57.1	107	64.1	15	68.2	283	60.1
Greater than 6, less than or equal to 12	59	20.9	29	17.4	4	18.2	92	19.5
Greater than 12, less than or equal to 24	27	9.6	10	6.0	0	0	37	7.9
Greater than 24	35	12.4	21	12.6	3	13.6	59	12.5
Total	**282**	**100.0**	**167**	**100.0**	**22**	**100.0**	**471**	**100.0**
Dallas								
Less than or equal to 6	35	87.5	56	75.7	22	71.0	113	77.9
Greater than 6, less than or equal to 12	5	12.5	11	14.9	4	12.9	20	13.8
Greater than 12, less than or equal to 24	0	0	2	2.7	0	0	2	1.4
Greater than 24	0	0	5	6.8	5	16.1	10	6.9
Total	**40**	**100.0**	**74**	**100.0**	**31**	**100.0**	**145**	**100.0**
San Bernadino								
Less than or equal to 6	61	56.0	78	88.6	23	59.0	162	68.6
Greater than 6, less than or equal to 12	25	22.9	6	6.8	8	20.5	39	16.5
Greater than 12, less than or equal to 24	20	18.3	4	4.5	6	15.4	30	12.7
Greater than 24	3	2.8	0	0	2	5.1	5	2.1

(continued)

Appendix IV
Time in Inventory for Single-Family Properties in Six Cities That Remained Unsold as of December 31, 1996, by Income Areas

	Income level of areas							
	Low		Medium		High		All	
Months in inventory	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	**109**	**100.0**	**88**	**100.0**	**39**	**100.0**	**236**	**100.0**
Washington, D.C.								
Less than or equal to 6	25	30.5	17	39.5	5	55.6	47	35.1
Greater than 6, less than or equal to 12	24	29.3	10	23.3	2	22.2	36	26.9
Greater than 12, less than or equal to 24	15	18.3	7	16.3	1	11.1	23	17.2
Greater than 24	18	22.0	9	20.9	1	11.1	28	20.9
Total	**82**	**100.0**	**43**	**100.0**	**9**	**100.0**	**134**	**100.0**
Six cities combined								
Less than or equal to 6	331	55.0	330	68.3	92	62.6	753	61.1
Greater than 6, less than or equal to 12	139	23.1	86	17.8	27	18.4	252	20.5
Greater than 12, less than or equal to 24	71	11.8	26	5.4	12	8.2	109	8.8
Greater than 24	61	10.1	41	8.5	16	10.9	118	9.6
Total	**602**	**100.0**	**483**	**100.0**	**147**	**100.0**	**1,232**	**100.0**

Note: We excluded from our analysis properties held off the market as of May 17, 1997 (the date our data file was created); however, we were unable to determine whether included properties had been held off the market for any time in the past. In addition, in some cases, we were either unable to identify the census tract where a property was located or HUD's data did not provide the date a property entered HUD's inventory. Therefore, we excluded these properties from our analysis. The percentage of properties in each city that we excluded from our analysis because of missing information on the census tract or the time in inventory was as follows: Atlanta, 3 percent (2 of 67 properties); Baltimore, 14 percent (29 of 210 properties); Chicago, 4 percent (19 of 490 properties); Dallas, 5 percent (8 of 153 properties); San Bernadino, 20 percent (59 of 295 properties); and Washington, D.C., 16 percent (25 of 159 properties).

Source: GAO's analysis of data from HUD and the Bureau of the Census.

Objectives, Scope, and Methodology

Our objectives were to (1) compare early foreclosure rates on FHA-insured single-family loans made in low-, medium-, and high-income areas nationwide and in the six cities; (2) compare across income areas the proportion of loans made in the six cities by FHA-approved mortgage lenders with and without early foreclosures; (3) identify factors that influence early foreclosure rates; and (4) compare the length of time HUD-owned single-family properties remained unsold in low-, medium-, and high-income areas in the six cities.

In reporting information relating to early foreclosures on FHA-insured single-family loans endorsed during calendar years 1992 through 1994 in low-, medium-, and high-income areas nationwide, we relied on HUD's analysis of the number of loans made, the number of early foreclosures, and the early foreclosure rates in the three income areas. To determine early foreclosure rates for the same period in the six cities reviewed, we obtained data from HUD's database on loans insured by FHA in calendar years 1992 through 1994 and merged this information with 1990 census data. Detailed information on the data we used are provided in the section of appendix III that discusses the data used in this analysis.

We defined a census tract's income level as "low" if the per capita income was at or below 80 percent of the city's per capita income, "medium" if the per capita income was greater than 80 percent but at or below 120 percent of the city's level, and "high" if the per capita income was greater than 120 percent of the city's level. Although HUD usually uses the median family income to identify low-, medium-, and high-income census tracts, we were unable to compute the median family income for the six cities from the data we extracted from census records. We therefore used the per capita income as our income measure.

HUD computed early foreclosure rates by income level nationwide for this report using the average household income as the income measure for each MSA. As indicated above, we used the per capita income for each city as the income measure to calculate early foreclosure rates by income level for the six cities. Therefore, our classification of census tracts as low-, medium-, or high-income may differ from HUD's classification because (1) the average income for the MSA may differ from the per capita income for the city, and (2) the per capita income does not take into account differences in the average household size among the three income groups. While our classification of census tracts differed from HUD's classification, the relationship between early foreclosure rates and census tract income levels for both computations was similar.

We limited our analysis to early foreclosures, that is, to those occurring within 18 months of the loan endorsement date. To determine whether a foreclosure occurred within that time period, we measured the time elapsed between FHA's endorsement of the loan and the date the lender foreclosed on the loan. For this report, we included in our calculation of early foreclosure rates loans on which the lender did not actually foreclose but on which FHA paid an insurance claim to the lender within 18 months of the loan endorsement date. We excluded from our calculation of early foreclosure rates nonconveyance foreclosures, such as instances during which a foreclosure occurs but an insurance claim is not paid. In some cases, early foreclosures may not have been reflected in the data from HUD that we used because of the lag between the date of the actual foreclosure and the date it was recorded in HUD's database. As a result, our analysis may understate the number of early foreclosures by the number of these unrecorded cases.

To further analyze lending and early foreclosure patterns in the six cities, we divided the lenders into two groups—those with no early foreclosures and those with one or more early foreclosures during the periods reviewed—and compared these groups with respect to the distribution of the loans they made across income areas. We determined whether a lender had one or more early foreclosures on a city-by-city basis. Therefore, any lender that made loans in more than one of the six cities could be classified in the group of lenders with early foreclosures in one city and in the group of lenders without early foreclosures in another city.

To obtain information on factors that contribute to differences in early foreclosure rates among income areas, we performed an analysis to show the extent to which certain variables were associated with differences in the probability of early foreclosure. Appendix III provides information on the model we built to estimate relationships between early foreclosures and factors that contribute to such foreclosures. In addition, we reviewed the mortgage finance literature and interviewed officials from HUD's Office of Insured Single-Family Housing and HUD field office officials in each of the six cities. We also interviewed local government officials and nonprofit housing executives familiar with FHA's role in the real estate markets in each of the six cities.

To compare the length of time HUD-owned properties remained unsold in low-, medium-, and high-income areas in the six cities, we obtained data from HUD's Single-Family Accounting Management System (SAMS), which tracks properties acquired and sold by HUD. Our analysis focused on

single-family properties that remained in HUD's inventory as of December 31, 1996. We measured the time in inventory from the date that HUD acquired the property. We excluded properties held off the market as of May 17, 1997 (the date our data extract was created), but we were unable to determine if the remaining properties had been held off the market for any time in the past.

For the six cities reviewed, we matched (both electronically and manually) the property addresses in SAMS to the addresses in the Bureau of the Census' street address file to identify corresponding census tracts. When an exact match for the zip code and street address did not exist, we manually selected the closest reasonable match. When no reasonable match existed or multiple choices were possible, we excluded the property from our analysis. For the six cities combined, we were able to match about 90 percent (1,232 of 1,374) of the properties in HUD's inventory with a census tract and data on valid time in inventory.

Major Contributors to This Report

Resources, Community, and Economic Development Division, Washington, D.C.	Karen Bracey Barbara Johnson DuEwa Kamara Robert Procaccini Chuck Wilson
Chicago Field Office	Glenn G. Davis Dorothy Waniak Steven Westley

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. VISA and MasterCard credit cards are accepted, also. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 37050
Washington, DC 20013

or visit:

Room 1100
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000 or by using fax number (202) 512-6061, or TDD (202) 512-2537.

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to:

info@www.gao.gov

or visit GAO's World Wide Web Home Page at:

http://www.gao.gov

United States
General Accounting Office
Washington, D.C. 20548-0001

Bulk Rate
Postage & Fees Paid
GAO
Permit No. G100

Official Business
Penalty for Private Use $300

Address Correction Requested