the goals of 52 percent of eligible units financed in 2005, 53 percent in 2006, 55 percent in 2007, and 56 percent in 2008 are feasible. The Secretary is also establishing a subgoal of 45 percent for the GSEs' purchases of single-family-owner home purchase mortgages in metropolitan areas in 2005, increasing to 46 percent in 2006 and 47 percent in 2007 and 2008. The Secretary has considered the GSEs' ability to lead the industry as well as the GSEs' financial condition. The Secretary has determined that the proposed goals and the proposed subgoals are necessary and appropriate.

Appendix B—Departmental Considerations To Establish the Central Cities, Rural Areas, and Other Underserved Areas Goal

A. Introduction

1. Establishment of Goal

The Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (FHEFSSA) requires the Secretary to establish an annual goal for the purchase of mortgages on housing located in central cities, rural areas, and other underserved areas (the ''Underserved Areas Housing Goal'').

In establishing this annual housing goal, Section 1334 of FHEFSSA requires the Secretary to consider:

1. Urban and rural housing needs and the housing needs of underserved areas;
2. Economic, housing, and demographic conditions;
3. The performance and effort of the enterprises toward achieving the Underserved Areas Housing Goal in previous years;
4. The size of the conventional mortgage market for central cities, rural areas, and other underserved areas relative to the size of the overall conventional mortgage market;
5. The ability of the enterprises to lead the industry in making mortgage credit available throughout the United States, including central cities, rural areas, and other underserved areas; and
6. The need to maintain the sound financial condition of the enterprises.

Organization of Appendix. The remainder of Section A first defines the Underserved Areas Housing Goal for both metropolitan areas and nonmetropolitan areas. Sections B and C address the first two factors listed above, focusing on findings from the literature on access to mortgage credit in metropolitan areas (Section B) and in nonmetropolitan areas (Section C). Separate discussions are provided for metropolitan and nonmetropolitan (rural) areas because of differences in the underlying markets and the data available to measure them. Section D discusses the past performance of the GSEs on the Underserved Areas Housing Goal (the third factor) and Sections E-G report the Secretary's findings for the remaining factors. Section H presents the Department's rules relating to the definition of underserved areas in nonmetropolitan areas. Section I summarizes the Secretary's rationale for establishing a subgoal for single-family-owner home purchase mortgages and for setting the level for the Underserved Areas Housing Goal.

2. HUD's Underserved Areas Housing Goal

HUD's definition of the geographic areas targeted by this goal is basically the same as that used during 1996–2003. It is divided into a metropolitan component and a nonmetropolitan component. However, as explained below, switching to 2000 Census geography increases the number of census tracts defined as underserved, and this necessitates an adjustment of the goal level.

Metropolitan Areas. This rule provides that within metropolitan areas, mortgage purchases will count toward the goal when those mortgages finance properties that are located in census tracts where (1) median income of families in the tract does not exceed 90 percent of area (MSA) median income or (2) minorities comprise 30 percent or more of the residents and median income of families in the tract does not exceed 120 percent of area median income.

In this Rule, the underserved census tracts are defined in terms of the 2000 Census rather than the 1990 Census. As shown in Table B.1a, switching to 2000 Census data and re-specified MSA boundaries as of June 2003, increases the proportions of underserved census tracts, population, owner-occupied housing units, and population below the poverty line in metropolitan areas. The definition now covers 26,959 (51.3 percent) of the 52,585 census tracts in metropolitan areas, which include 48.7 percent of the population and 38.0 percent of the owner-occupied housing units in metropolitan areas.[1] The 1990-based definition covered 21,587 (47.5 percent) of the 45,406 census tracts in metropolitan areas, which included 44.3 percent of the population and 33.7 percent of the owner-occupied units in metropolitan areas.

The census tracts included in HUD's definition of underserved areas exhibit low rates of mortgage access and distressed socioeconomic conditions. Between 1999 and 2002, the unweighted average mortgage denial rate in these tracts was 17.5 percent, almost double the average denial rate (9.3 percent) in excluded tracts. The underserved tracts include 75.3 percent of the number of persons below the poverty line in metropolitan areas.

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[1] This analysis excludes Puerto Rico. In addition, tracts are excluded if median income is suppressed in the underlying census data. There are 379 such tracts. When reporting analysis of mortgage loan denial, origination, and application rates later in this appendix, tracts are excluded if there are no purchase or refinance applications. Tracts are also excluded if: (1) Group quarters constitute more than 50 percent of housing units or (2) there are less than 15 home purchase applications in the tract and the tract denial rates equal 0 or 100 percent. Excluded tracts account for a small percentage of mortgage loan applications (1.4 percent). These tracts are not excluded from HUD's underserved areas if they meet the income and minority thresholds. Rather, the tracts are excluded to remove the effects of outliers from the analysis.

Table B.1a

Changes in Socioeconomic Characteristics of Underserved Areas Between 1990 and 2000 in Metropolitan Areas

	Served Tracts	Underserved Tracts	Total
Census Tracts			
2000 Census (2003 MSAs)	25,614	26,957	52,571
	48.7%	51.3%	100.0%
2000 Census (Pre-2003 MSAs)	24,723	26,317	51,040
	48.4%	51.6%	100.0%
1990 Census	23,829	21,612	45,441
	52.4%	47.6%	100.0%
Population			
2000 Census (2003 MSAs)	119,230,406	113,105,527	232,335,933
	51.3%	48.7%	100.0%
2000 Census (Pre-2003 MSAs)	114,775,427	110,986,684	225,762,111
	50.8%	49.2%	100.0%
1990 Census	110,324,545	87,674,982	197,999,527
	55.7%	44.3%	100.0%
Number of Owner-Occupied Units			
2000 Census (2003 MSAs)	34,665,062	21,284,648	55,949,710
	62.0%	38.0%	100.0%
2000 Census (Pre-2003 MSAs)	33,297,060	20,864,783	54,161,843
	61.5%	38.5%	100.0%
1990 Census	28,281,852	14,364,406	42,646,258
	66.3%	33.7%	100.0%
Population Below Poverty Level Income			
2000 Census (2003 MSAs)	6,650,152	20,288,351	26,938,503
	24.7%	75.3%	100.0%
2000 Census (Pre-2003 MSAs)	6,331,654	19,755,363	26,087,017
	24.3%	75.7%	100.0%
1990 Census	6,333,124	17,083,068	23,416,192
	27.0%	73.0%	100.0%

Source: 1990 and 2000 Censuses. "2003 MSAs" are based on the Office of Management and Budget's specification of metropolitan area boundaries as of June, 2003. "Pre-2003 MSAs" and "1990 Census" are based on metropolitan area boundaries prior to their re-specification in 2003.

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HUD's establishment of this definition is based on a substantial number of studies of mortgage lending and mortgage credit flows conducted by academic researchers, community groups, the GSEs, HUD and other government agencies. As explained in the 2000 Rule, one finding stands out from the existing research literature on mortgage access for different types of neighborhoods: *High-minority and low-income neighborhoods continue to have higher mortgage denial rates and lower mortgage origination rates than other neighborhoods.* A neighborhood's minority composition and its level of income are highly correlated with access to mortgage credit.

Nonmetropolitan Areas. In nonmetropolitan areas, mortgage purchases count toward the Underserved Areas Housing Goal for properties which are located in counties where (1) median income of families in the county does not exceed 95 percent of the greater of (a) state nonmetropolitan median income or (b) nationwide nonmetropolitan median income, or (2) minorities comprise 30 percent or more of the residents and median income of families in the county does not exceed 120 percent of the greater of (a) state nonmetropolitan median income or (b) nationwide nonmetropolitan median income.

In 1995, two important factors influenced HUD's definition of nonmetropolitan underserved areas—lack of available data for measuring mortgage availability in rural areas and lenders' difficulty in operating mortgage programs at the census tract level in rural areas. Because of these factors, the 1995 Rule (as well as the 2000 Rule) used a more inclusive, county-based approach to designating underserved portions of rural areas. As discussed in a later section, HUD is now replacing the county-based definition with a tract-based definition.

As shown in Table B.1b, switching from 1990 to 2000 Census data and incorporating the June, 2003 specification of metropolitan areas causes a slight decrease in underserved proportions of counties, population, owner-occupied housing units, and poverty population in non-metropolitan areas. In terms of the 2000 Census geography and June 2003 metropolitan area specification, the definition covers 1,260 (61.4 percent) of the 2,052 counties in nonmetropolitan areas, which include 51.0 percent of the population, 50.7 percent of the owner-occupied housing units, and 64.3 percent of the population below the poverty level in non-metropolitan areas. The 1990-based definition covered 1,514 (65.5 percent) of the 2,311 counties in non-metropolitan areas, which included 54.6 percent of the population, 53.4 percent of the owner-occupied units, and 67.9 percent of the poor in non-metropolitan areas.[2]

[2] Kalawao County, Hawaii, which has a very small population, is excluded from the analysis for 1990 but included for 2000.

Table B.1b

Changes in Socioeconomic Characteristics of Underserved Areas Between 1990 and 2000 in Nonmetropolitan Areas

	Served Counties	Underserved Counties	Total
Counties			
2000 Census (2003 MSAs)	792	1,260	2,052
	38.6%	61.4%	100.0%
2000 Census (Pre-2003 MSAs)	824	1,488	2,312 *
	35.6%	64.4%	100.0%
1990 Census	797	1,514	2,311 *
	34.5%	65.5%	100.0%
Population			
2000 Census (2003 MSAs)	23,941,532	24,899,110	48,840,642
	49.0%	51.0%	100.0%
2000 Census (Pre-2003 MSAs)	25,447,120	29,991,636	55,438,756
	45.9%	54.1%	100.0%
1990 Census	22,838,739	27,467,972	50,306,711
	45.4%	54.6%	100.0%
Number of Owner-Occupied Units			
2000 Census (2003 MSAs)	6,831,437	7,035,123	13,866,560
	49.3%	50.7%	100.0%
2000 Census (Pre-2003 MSAs)	7,194,459	8,459,968	15,654,427
	46.0%	54.0%	100.0%
1990 Census	5,362,989	6,136,455	11,499,444
	46.6%	53.4%	100.0%
Population Below Poverty Level Income			
2000 Census (2003 MSAs)	2,479,803	4,475,024	6,954,827
	35.7%	64.3%	100.0%
2000 Census (Pre-2003 MSAs)	2,598,851	5,207,404	7,806,255
	33.3%	66.7%	100.0%
1990 Census	2,666,613	5,646,582	8,313,195
	32.1%	67.9%	100.0%

Source: 1990 and 2000 Censuses. "2003 MSAs" are based on the Office of Management and Budget's specification of metropolitan area boundaries as of June, 2003. "Pre-2003 MSAs" and "1990 Census" are based on metropolitan area boundaries prior to their re-specification in 2003.

*Includes 15 partial counties in New England that are split between metropolitan and non-metropolitan areas.

Data comparable to that in Table B.1b is presented in Table B.1c based on census tracts, rather than counties, in nonmetropolitan areas. As indicated, the tract-based definition includes 6,782 (54.9 percent) of the 12,359 nonmetropolitan census tracts in the country. These tracts contain 52.5 percent of the nonmetropolitan population (comparable to the 51.0 percent using a county-based definition) and 50.4 percent of owner-occupied housing units (close to the corresponding figure of 50.7 percent under the county-based approach). But the tract-based approach better targets families most in need, as shown, for example, by the fact that it includes 68.9 percent of the population in poverty, exceeding the corresponding figure of 64.3 percent under the county-based definition of nonmetropolitan underserved areas.

Table B.1c

Socioeconomic Characteristics of Tract-Based Underserved Areas in Non-Metropolitan Areas

	Served Tracts	Underserved Tracts	Total
Tracts			
2000 Census (2003 MSAs)	5,577	6,782	12,359
	45.1%	54.9%	100.0%
Population			
2000 Census (2003 MSAs)	23,181,465	25,659,177	48,840,642
	47.5%	52.5%	100.0%
Number of Owner-Occupied Units			
2000 Census (2003 MSAs)	6,874,464	6,992,096	13,866,560
	49.6%	50.4%	100.0%
Number of Poor			
2000 Census (2003 MSAs)	2,160,186	4,794,641	6,954,827
	31.1%	68.9%	100.0%

Source: 2000 Census and the Office of Management and Budget's specification of metropolitan area boundaries as of June, 2003.

GSE Performance. Table B.1d shows the increases in the GSEs' overall goals performance under the more expansive geography of the 2000 Census. During 2000, Fannie Mae's performance would have been an estimated 37.5 percent if underserved areas were defined in terms of 2000 Census geography, compared with 31.0 percent under 1990 Census geography. These results for Fannie Mae (adjusted to be comparable with the 2000 figures) are 35.7 percent and 30.4 percent for 2001; 35.0 percent and 30.2 percent for 2002; and 34.1 percent and 29.2 percent for 2003. The corresponding figures for Freddie Mac are 34.1 percent and 29.2 percent for 2000 performance; 32.5 percent and 28.2 percent for 2001 performance; 32.4 percent and 28.0 percent for 2002 performance; and 31.6 percent and 27.7 percent for 2003 performance. (The 2001–03 housing goals percentages in the table are adjusted to exclude the effects of the bonus points and Freddie Mac's Temporary Adjustment Factor, which became applicable in 2001 for scoring of loans toward the housing goals.)

Table B.1d

Underserved Areas Housing Goal Performance Under 1990 and 2000 Definitions

2000 Mortgage Acquisitions

	Fannie Mae			Freddie Mac		
	1990 Definition	2000 Definition	Difference	1990 Definition	2000 Definition	Difference
Eligible Units	2,195,320	2,203,666	8,346	1,600,684	1,604,588	3,904
Qualifying Units	680,765	827,185	146,420	466,857	546,488	79,631
Goal Percentage	31.0%	37.5%	6.5%	29.2%	34.1%	4.9%

2001 Mortgage Acquisitions

	Fannie Mae			Freddie Mac		
	1990 Definition	2000 Definition	Difference	1990 Definition	2000 Definition	Difference
Eligible Units	4,671,585	4,673,222	1,637	3,282,354	3,283,372	1,018
Qualifying Units	1,420,363	1,668,985	248,622	926,399	1,068,328	141,929
Goal Percentage	30.4%	35.7%	5.3%	28.2%	32.5%	4.3%

2002 Mortgage Acquisitions

	Fannie Mae			Freddie Mac		
	1990 Definition	2000 Definition	Difference	1990 Definition	2000 Definition	Difference
Eligible Units	6,023,704	6,024,497	793	4,297,594	4,320,526	22,932
Qualifying Units	1,816,281	2,108,766	292,485	1,204,929	1,416,443	211,514
Goal Percentage	30.2%	35.0%	4.9%	28.0%	32.8%	4.7%

2003 Mortgage Acquisitions

	Fannie Mae			Freddie Mac		
	1990 Definition	2000 Definition	Difference	1990 Definition	2000 Definition	Difference
Eligible Units	9,590,664	9,620,905	30,241	5,534,588	5,543,325	8,737
Qualifying Units	2,802,932	3,284,567	481,635	1,531,542	1,754,259	222,717
Goal Percentage	29.2%	34.1%	4.9%	27.7%	31.6%	4.0%

"1990 Definition" means determination of underserved areas based on 1990 census data and pre-2003 MSA definitions.
"2000 Definition" means determination of underserved areas based on 2000 census data, June 2003 MSA definitions, and census tracts as basis of determination in non-metropolitan areas.

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Goal and Subgoal Levels. The Department establishes the Underserved Areas Housing Goal as 37 percent of eligible units financed for 2005, 38 percent for 2006 and 2007, and 39 percent for 2008.

HUD is establishing a subgoal of 32 percent for the share of each GSE's total single-family-owner mortgage purchases that finance single-family-owner properties located in underserved census tracts of metropolitan areas for 2005, with this subgoal rising to 33 percent for 2006 and 2007 and 34 percent in 2008. In this case, subgoal performance for a particular calendar year would be calculated for each GSE by dividing (a) the number of mortgages purchased by the GSE that finance single-family-owner properties located in underserved areas (*i.e.*, census tracts) of metropolitan areas by (b) the number of mortgages purchased by the GSE that finance single-family-owner properties located in metropolitan areas. As explained in Section H, the purpose of this subgoal is to encourage the GSEs to lead the primary market in funding mortgages in underserved census tracts.

B. Consideration of Factors 1 and 2 in Metropolitan Areas: The Housing Needs of Underserved Urban Areas and Housing, Economic, and Demographic Conditions in Underserved Urban Areas

This section discusses differential access to mortgage funding in urban areas and summarizes available evidence on identifying those neighborhoods that have historically experienced problems gaining access to credit. Section B.1 provides an overview of the problem of unequal access to mortgage funding, focusing on discrimination and other housing problems faced by minority families and the communities where they live. Section B.2 examines mortgage access at the neighborhood level and discusses in some detail the rationale for the Underserved Areas Housing Goal in metropolitan areas. The most thorough studies available provide strong evidence that low-income and high-minority census tracts are underserved by the mortgage market. Section B.3 presents recent statistics on the credit characteristics and socioeconomic characteristics of underserved areas under HUD's definition. Readers are referred to the expansive literature on this issue, which is reviewed in some detail in Appendix B of HUD's 2000 Rule. This section focuses on some of the main studies and their findings.

Three main points are made in this section:

- Both borrowers and neighborhoods can be identified as currently being underserved by the nation's housing and mortgage markets. Appendix A provided evidence of racial disparities in the sale and rental of housing and in the provision of mortgage credit. Partly as a result of this, the homeownership rate for minorities is substantially below that for whites.
- The existence of substantial neighborhood disparities in mortgage credit is well documented for metropolitan areas. Research has demonstrated that census tracts with lower incomes and higher shares of minority population consistently have poorer access to mortgage credit, with higher mortgage denial rates and lower origination rates for mortgages. Thus, the income and minority composition of an area is a good measure of whether that area is being underserved by the mortgage market.
- Research supports a targeted neighborhood-based definition of underservice. Studies conclude that characteristics of mortgage loan applicants and the neighborhood where the property is located are the major determinants of mortgage denial rates and origination rates.

Once these characteristics are accounted for, other influences, such as location in a central city, play only a minor role in explaining disparities in mortgage lending.[3]

1. Discrimination in the Mortgage and Housing Markets—An Overview

The nation's housing and mortgage markets are highly efficient systems, where most homebuyers can put down relatively small amounts of cash and obtain long-term funding at relatively small spreads above the lender's borrowing costs, even though transactions costs are still too high and too bundled. Unfortunately, this highly efficient financing system does not work everywhere or for everyone. Studies have shown that access to credit often depends on improper evaluation of characteristics of the mortgage applicant and the neighborhood in which the applicant wishes to buy. In addition, though racial discrimination has become less blatant in the home purchase market, studies have shown that it is still widespread in more subtle forms. Partly as a result of these factors, the homeownership rate for minorities is substantially below that of whites. Appendix A provided an overview of the homeownership gaps and lending disparities faced by minorities. This section briefly reviews evidence on lending discrimination as well as a recent HUD-sponsored study of discrimination in the housing market.

Mortgage Denial Rates. A quick look at mortgage denial rates reported by Home Mortgage Disclosure Act (HMDA) data reveals that in 2002 minority denial rates were higher than those for white loan applicants. For lower-income borrowers, the denial rate for African Americans applying for conventional loans was 2.1 times the denial rate for white borrowers, while for higher-income borrowers, the denial rate for African Americans was 2.7 times the rate for white borrowers.[4]

Differentials in denial rates, such as those reported above, are frequently used to demonstrate the problems that minorities face obtaining access to mortgage credit. However, an important question is the degree to which variations in denial rates reflect lender bias against certain kinds of borrowers relative to the degree to which they reflect the credit quality of potential borrowers (as indicated by applicants' available assets, credit rating, employment history, etc.). Without fully accounting for the creditworthiness of the borrower, racial differences in denial rates cannot be attributed to lender bias. Some studies of credit disparities have attempted to control for credit risk factors that might influence a lender's decision to approve a loan.

Boston Fed Study. The best example of accounting for credit risk is the study of mortgage denial rates by researchers at the Federal Reserve Bank of Boston.[5] This landmark study found that racial differentials in mortgage denial rates cannot be fully explained by differences in credit risk. To control for credit risk, the Boston Fed researchers included 38 borrower and loan variables indicated by lenders to be critical to loan decisions. For example, the Boston Fed study included a measure of the borrower's credit history, which is a variable not included in other studies. The Boston Fed study found that minorities' higher denial rates could not be explained fully by income and credit risk factors. The denial rate for African Americans and Hispanics was 17 percent, compared with 11 percent for Whites with similar characteristics. That is, African Americans and Hispanics were about 60 percent more likely to be denied credit than Whites, even after controlling for credit risk characteristics such as credit history, employment stability, liquid assets, self-employment, age, and family status and composition. Although almost all highly-qualified applicants were approved, differential treatment was observed among borrowers with more marginal qualifications. That is, highly-qualified borrowers of all races seemed to be treated equally, but in cases where there was some flaw in the application, white applicants seemed to be given the benefit of the doubt more frequently than minority applicants. A subsequent refinement of the data used by the Federal Reserve Bank of Boston confirmed the findings of that study.[6]

The Boston Fed study, as well as reassessments of that study by other researchers, concluded that the effect of borrower race on mortgage rejections persists even after controlling for legitimate determinants of lenders' credit decisions.[7]

[3] In this appendix, the term ''central city'' is used to mean ''OMB-designated central city.''

[4] The actual denial rates were as follows: 23.6 percent for low-income (80% AMI or less) African Americans, 15.5 percent for upper-income (120% AMI or more) African Americans. 11.4 percent for low-income Whites, and 5.6 percent for upper-income Whites. The overall denial rate in the conventional conforming home purchase market was 9.7 percent in 2002. The data exclude applications to lenders that specialize in manufactured home lending.

[5] Alicia H. Munnell, Lynn E. Browne, James McEneaney, and Geoffrey M.B. Tootell, ''Mortgage Lending in Boston: interpreting HMDA Data,'' *American Economic Review,* March 1996.

[6] William C. Hunter, ''The Cultural Affinity Hypothesis and Mortgage Lending Decisions,'' WP–95–8, Federal Reserve Bank of Chicago, 1995. Hunter confirmed that race was a factor in denial rates of marginal applicants. While denial rates were comparable for borrowers of all races with ''good'' credit ratings, among those with ''bad'' credit ratings or high debt ratios, minorities were significantly more likely to be denied than similarly-situated whites. The study concluded that the racial differences in denial rates were consistent with a cultural gap between white loan officers and minority applicants, and conversely, a cultural affinity with white applicants.

[7] For a reassessment of the Boston Fed study, *see* Stephen Ross and John Yinger, *The Color of Credit,* MIT Press 2002, and other studies cited there.

Thus, these studies imply that variations in mortgage denial rates, such as those reported above, are not determined entirely by borrower risk, but reflect discrimination in the housing finance system. However, the independent race effect identified in these studies is still difficult to interpret. In addition to lender bias, access to credit can be limited by loan characteristics that reduce profitability[8] and by underwriting standards that have disparate effects on minority and lower-income borrowers and their neighborhoods.[9]

Paired-Testing Studies. As discussed in Appendix A, paired testing studies of the pre-qualification process have supported the findings of the Boston Fed study. Based on a review of paired tests conducted by the National Fair Housing Alliance, The Urban Institute concluded that differential treatment discrimination at the pre-application level occurred at significant levels in at least some cities. Minorities were less likely to receive information about loan products, received less time and information from loan officers, and were quoted higher interest rates in most of the cities where tests were conducted.[10] Another Urban Institute study used the paired testing methodology to examine the pre-application process in Los Angeles and Chicago. African Americans and Hispanics faced a significant risk of unequal treatment when they visited mainstream mortgage lending institutions to make pre-application inquiries.[11]

Sales and Rental Markets. In 2002, HUD released its third Housing Discrimination Study (HDS) in the sale and rental of housing. The study, entitled *Discrimination in Metropolitan Housing Markets: National Results from Phase I of the Housing Discrimination Study (HDS)*, was conducted by the Urban Institute.[12] The results of this HDS were based on 4,600 paired tests of minority and non-minority home seekers conducted during 2000 in 23 metropolitan areas nationwide. The report showed large decreases between 1989 and 2000 in the level of discrimination experienced by Hispanics and African Americans seeking to buy a home. There has also been a modest decrease in discrimination toward African Americans seeking to rent a unit. This downward trend, however, has not been seen for Hispanic renters, who now are more likely to experience discrimination in their housing search than are African American renters. But while generally down since 1989, the report found that housing discrimination still exists at unacceptable levels. The greatest share of discrimination for Hispanic and African American home seekers can still be attributed to being told units are unavailable when they are available to non-Hispanic whites and being shown and told about fewer units than a comparable non-minority. Although discrimination is down on most areas for African American and Hispanic homebuyers, there remain worrisome upward trends of discrimination in the areas of geographic steering for African Americans and, relative to non-Hispanic whites, the amount of help agents provide to Hispanics with obtaining financing. On the rental side, Hispanics are more likely in 2000 than in 1989 to be quoted a higher rent than their white counterpart for the same unit.

Another HUD-sponsored study asked respondents to a nationwide survey if they ''thought'' they had ever been discriminated against when trying to buy or rent a house or an apartment.[13] While the responses were subjective, they are consistent with the findings of the HDS. African Americans and Hispanics were considerably more likely than whites to say they have suffered discrimination—24 percent of African Americans and 22 percent of Hispanics perceived discrimination, compared to only 13 percent of whites.

Segregation in Urban Areas. Discrimination, while not the only cause, contributes to the pervasive level of segregation that persists between African Americans and Whites in our urban areas. The Census Bureau recently released one of the most exhaustive studies of residential segregation ever undertaken, entitled *Racial and Ethnic Residential Segregation in the United States: 1980–2000.*[14] The Census Bureau found that the United States was still very much racially divided. While African Americans have made modest strides, they remain the most highly segregated racial group. The authors said that residential segregation likely results from a variety of factors, including choices people make about where they want to live, restrictions on their choices, or lack of information. The fact that many mainstream lenders do not operate in segregated areas makes it even more difficult for minorities to obtain access to reasonable-priced mortgage credit.[15] Section C.8 of Appendix A cited several studies showing that these inner city neighborhoods are often served mainly by subprime lenders. In addition, there is evidence that denial rates are higher in minority neighborhoods regardless of the race of the applicant. The next section explores the issue of credit availability in neighborhoods in more detail.

2. Evidence About Access to Credit in Urban Neighborhoods—An Overview

HUD's Underserved Areas Housing Goal focuses on low-income and high-minority neighborhoods that are characterized by high loan application denial rates and low loan origination rates. As explained in Section B.3 below, the mortgage denial rate during 2001 in census tracts defined as underserved by HUD was twice the denial rate in excluded (or ''served'') tracts. In addition to such simple denial rate comparisons, there is a substantial economics literature justifying the targeted neighborhood definition that HUD has used to define underserved areas. Appendix B of the 1995 and 2000 GSE Rules reviewed that literature in some detail; thus, this section simply provides an overview of the main studies supporting the need to improve credit access to low-income and high-minority neighborhoods. Readers not interested in this overview may want to proceed to Section B.3, which examines the credit and socioeconomic characterizes of the census tracts included in HUD's underserved area definition.

As explained in HUD's 2000 Rule, the viability of neighborhoods—whether urban, rural, or suburban—depends on the access of their residents to mortgage capital to purchase and improve their homes. While neighborhood problems are caused by a wide range of factors, including substantial inequalities in the distribution of the nation's income and wealth, there is increasing agreement that imperfections in the nation's housing and mortgage markets are hastening the decline of distressed neighborhoods. Disparate denial of credit based on geographic criteria can lead to disinvestment and neighborhood decline. Discrimination and other factors, such as inflexible and restrictive underwriting guidelines, limit access to mortgage credit and leave potential borrowers in certain areas underserved.

Data on mortgage credit flows are far from perfect, and issues regarding the identification of areas with inadequate access to credit are both complex and controversial. For this reason, it is essential to define ''underserved areas'' as accurately as possible based on existing data and evidence. There are three sets of studies that provide the rationale for the Department's definition of underserved areas: (1) Studies examining racial discrimination against individual mortgage applicants; (2) studies that test whether mortgage redlining exists at the neighborhood level; and (3) studies that support HUD's targeted approach to measuring areas that are underserved by the mortgage market. In combination, these studies provide strong support for the definition of underserved areas chosen by HUD. The main studies of discrimination against individuals have already been summarized in Section B.1 above. Thus, this section focuses on the neighborhood-based

[8] Since upfront loan fees are frequently determined as a percentage of the loan amount, lenders are discouraged from making smaller loans in older neighborhoods, because such loans generate lower revenue and are less profitable to lenders.

[9] Traditional underwriting practices may have excluded some lower income families that are, in fact, creditworthy. Such families tend to pay cash, leaving them without a credit history. In addition, the usual front-end and back-end ratios applied to applicants' housing expenditures and other on-going costs may be too stringent for lower income households, who typically pay larger shares of their income for housing (including rent and utilities) than higher income households.

[10] Margery A. Turner and Felicity Skidmore, eds., *Mortgage Lending Discrimination: A Review of Existing Evidence.* The Urban Institute: Washington, DC, June 1999.

[11] Margery Austin Turner, *All Other Things Being Equal: A Paired Testing Study of Mortgage Lending Institutions*, The Urban Institute Press, April 2002.

[12] Margery Austin Turner, Stephen L. Ross, George Galster, and John Yinger, *Discrimination in Metropolitan Housing Markets,* The Urban Institute Press, November 2002.

[13] *How Much Do We Know? Public Awareness of the Nation's Fair Housing Laws,* prepared for HUD by Martin D. Abravanel and Mary K. Cunningham of the Urban Institute, April 2002.

[14] U.S. Bureau of the Census, August 2002. The co-authors of the study were John Iceland and Daniel H. Wienberg. For a summary of the study, see ''Residential Segregation Still Prevalent'', *National Mortgage News,* January 6, 2003, page 1.

[15] *See* Randall M. Scheessele, *Black and White Disparities in Subprime Mortgage Refinance Lending,* Housing Finance Working Paper No. HF–14, Office of Policy Development and Research, U.S. Department of Housing and Urban Development, April 2002.

studies in (2) and (3). As noted above, this brief overview of these studies draws from Appendix B of the 1995 GSE Rule; readers are referred there for a more detailed treatment of earlier studies of the issues discussed below.

a. Controlling for Neighborhood Risk and Tests of the Redlining Hypothesis

In its deliberations leading up to FHEFSSA, Congress was concerned about geographic redlining—the refusal of lenders to make loans in certain neighborhoods regardless of the creditworthiness of individual applicants. During the 1980s and early 1990s, a number of studies using HMDA data (such as that reported in Tables B.2 and B.3, below) attempted to test for the existence of mortgage redlining. Consistent with the redlining hypothesis, these studies found lower volumes of loans going to low-income and high-minority neighborhoods.[16] However, such analyses were criticized because they did not distinguish between demand, risk, and supply effects [17]—that is, they did not determine whether loan volume was low because families in high-minority and low-income areas were unable to afford homeownership and therefore were not applying for mortgage loans, or because borrowers in these areas were more likely to default on their mortgage obligations, or because lenders refused to make loans to creditworthy borrowers in these areas.[18], [19]

More Comprehensive Tests of the Redlining Hypothesis. Recent statistical studies have sought to test the redlining hypothesis by more completely controlling for differences in neighborhood risk and demand. In these studies, the explanatory power of neighborhood race is reduced to the extent that the effects of neighborhood risk and demand are accounted for; thus, they do not support claims of racially induced mortgage redlining. Many of these studies find that the race of the individual borrower is more important than the racial composition of the neighborhood. However, these studies cannot reach definitive conclusions about redlining because segregation in inner cities makes it difficult to distinguish the impacts of geographic redlining from the effects of individual discrimination. The following are two good examples of these studies.

Holmes and Horvitz examined variations in conventional mortgage originations across census tracts in Houston.[20] Their model explaining census-tract variations in mortgage originations included the following types of explanatory variables: (a) The economic viability of the loan, (b) characteristics of properties in and residents of the tract (*e.g.,* house value, income, age distribution and education level), (c) measures of demand (*e.g.,* recent movers into the tract and change in owner-occupied units between 1980 and 1990), (d) measures of credit risk (defaults on government-insured loans and change in tract house values between 1980 and 1990), and (e) the racial composition of the tract, as a test for the existence of racial redlining. Most of the neighborhood risk and demand variables were significant determinants of the flow of conventional loans in Houston. The coefficients of the racial composition variables were insignificant, which led Holmes and Horvitz to conclude that allegations of redlining in the Houston market could not be supported.

Schill and Wachter include several individual borrower and neighborhood characteristics to explain mortgage acceptance rates in Philadelphia and Boston.[21] They found that the applicant race variables—whether the applicant was African American or Hispanic—showed significant negative effects on the probability that a loan would be accepted. Schill and Wachter stated that this finding does not provide evidence of individual race discrimination because applicant race is most likely serving as a proxy for credit risk variables omitted from their model (*e.g.,* credit history, wealth and liquid assets). Schill and Wachter find that when their neighborhood risk proxies are included in the model along with the individual loan variables, the percentage of the census tract that was African American became insignificant. Thus, similarly to Holmes and Horvitz, Schill and Wachter stated that ''once the set of independent variables is expanded to include measures that act as proxies for neighborhood risk, the results do not reveal a pattern of redlining.''[22]

Other Redlining Studies. To highlight the methodological problems of single-equation studies of mortgage redlining, Fred Phillips-Patrick and Clifford Rossi developed a simultaneous equation model of the demand and supply of mortgages, which they estimated for the Washington, DC metropolitan area.[23] Phillips-Patrick and Rossi found that the supply of mortgages is negatively associated with the racial composition of the neighborhood, which led them to conclude that the results of single-equation models (such as the one estimated by Holmes and Horvitz) are not reliable indicators of redlining or its absence. However, Phillips-Patrick and Rossi noted that even their simultaneous equations model does not provide definitive evidence of redlining because important underwriting variables (such as credit history), which are omitted from their model, may be correlated with neighborhood race.

A few studies of neighborhood redlining have attempted to control for the credit history of the borrower, which is the main omitted variable in the redlining studies reviewed so far. Samuel Myers, Jr. and Tsze Chan, who studied mortgage rejections in the state of New Jersey in 1990, developed a proxy for bad credit based on the reasons that lenders give in their HMDA reports for denying a loan.[24] They found that 70 percent of the gap in rejection rates could not be explained by differences in Black and white borrower characteristics, loan characteristics, neighborhoods or bad credit. Myers and Chan concluded that the unexplained Black-white gap in rejection rates is a result of discrimination. With respect to the racial composition of the census tract, they found that Blacks are more likely to be denied loans in racially integrated or predominantly-white neighborhoods than in predominantly-Black neighborhoods. They concluded that middle-class Blacks seeking to move out of the inner city would face problems of discrimination in the suburbs.[25]

Geoffrey Tootell has authored two papers on neighborhood redlining based on the

[16] These studies, which were conducted at the census tract level, typically involved regressing the number of mortgage originations (relative to the number of properties in the census tract) on characteristics of the census tract including its minority composition. A negative coefficient estimate for the minority composition variable was often interpreted as suggesting redlining. For a discussion of these models, see Eugene Perle, Kathryn Lynch, and Jeffrey Horner, ''Model Specification and Local Mortgage Market Behavior,'' *Journal of Housing Research,* Volume 4, Issue 2, 1993, pp. 225–243.

[17] For critiques of the early HMDA studies, see Andrew Holmes and Paul Horvitz, ''Mortgage Redlining: Race, Risk, and Demand,'' *The Journal of Finance,* Volume 49, No. 1, March 1994, pp. 81–99; and Michael H. Schill and Susan M. Wachter, ''A Tale of Two cities: Racial and Ethnic Geographic Disparities in Home Mortgage Lending in Boston and Philadelphia,'' *Journal of Housing Research,* Volume 4, Issue 2, 1993, pp. 245–276.

[18] Like early HMDA studies, an analysis of deed transfer data in Boston found lower rates of mortgage activity in minority neihborhoods. The discrepancies held even after controlling for income, house values and other economic and non-racial factors that might explain differences differences in demand and housing market activity. The study concluded that ''the housing market and the credit market together are functioning in a way that has hurt African American neighborhoods in the city of Boston.'' Katherine L. Bradbury, Karl E. Case, and Constance R. Dunham, ''Geographic Patterns of Mortgage Lending in Boston, 1982–1987,'' *New England Economic Review,* September/October 1989, pp. 3–30.

[19] Using an analytical approach similar to that of Bradbury, Case, and Dunham, Anne Shlay found evidence of fewer mortgage loans originated in black census tracts in Chicago and Baltimore. See Anne Shlay, ''Not in That Neighborhood: The Effects of Population and Housing on the Distribution of Mortgage Finance within the Chicago SMSA,'' *Social Sciene Research,* Volume 17, No. 2, 1988, pp. 137–163; and ''Financing Community: Methods for Assessing Residential Credit Disparities, Market Barriers, and Institutional Reinvestment Performance in the Metropolis,'' *Journal of Urban Affiars,* Volume 11, No. 3, 1989, pp. 201–223.

[20] Holmes and Horvitz, *op. cit.*

[21] Schill and Wachter, *op. cit.*

[22] Schill and Wachter, page 271. Munnell, *et al.* reached similar conclusions in their study of Boston. They found that the race of the individual mattered, but that once individual characteristics were controlled, racial composition of the neighborhood was insignificant.

[23] Fred J. Phillips-Patrick and Clifford V. Rossi, ''Statistical Evidence of Mortgage Redlining? A Cautionary Tale'', *The Journal of Real Estate Research*, Volume 11, Number 1, 1996, pp.13–23.

[24] Samuel L. Myers, Jr. and Tsze Chan, ''Racial Discrimination in Housing Markets: Accounting for Credit Risk'', *Social Science Quarterly*, Volume 76, Number 3, September 1995, pp. 543–561.

[25] For another study that uses HMDA data on reasons for denial to construct a proxy for bad credit, see Steven R. Holloway, ''Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio'', *Annals of the Association of American Geographers*, Volume 88, Number 2, 1998, pp. 252–276. Holloway finds that mortgage denial rates are higher for black applicants (particularly those who are making large loan requests) in all-white neighborhoods than in minority neighborhoods, while the reverse is true for white applicants making small loan requests.

mortgage rejection data from the Boston Fed study.[26] Tootell's studies are important because they include a direct measure of borrower credit history, as well as the other underwriting, borrower, and neighborhood characteristics that are included in the Boston Fed data base; thus, his work does not have the problem of omitted variables to the same extent as previous redlining studies.[27] Tootell found that lenders in the Boston area did not appear to be redlining neighborhoods based on the racial composition of the census tract or the average income in the tract. Consistent with the Boston Fed and Schill and Wachter studies, Tootell found that it is the race of the applicant that mostly affects the mortgage lending decision; the location of the applicant's property appears to be far less relevant. However, he did find that the decision to require private mortgage insurance (PMI) depends on the racial composition of the neighborhood. Tootell suggested that, rather than redline themselves, mortgage lenders may rely on private mortgage insurers to screen applications from minority neighborhoods. Tootell also noted that this indirect form of redlining would increase the price paid by applicants from minority areas that are approved by private mortgage insurers.

In a 1999 paper, Stephen Ross and Geoffrey Tootell used the Boston Fed data base to take a closer look at both lender redlining and the role of private mortgage insurance (PMI) in neighborhood lending.[28] They had two main findings. First, mortgage applications for properties in low-income neighborhoods were more likely to be denied if the applicant did not apply for PMI. Ross and Tootell concluded that their study provides the first direct evidence based on complete underwriting data that some mortgage applications may have been denied based on neighborhood characteristics that legally should not be considered in the underwriting process. Second, mortgage applicants were often forced to apply for PMI when the housing units were in low-income neighborhoods. Ross and Tootell concluded that lenders appeared to be responding to CRA by favoring low-income tracts once PMI has been received, and this effect counteracts the high denial rates for applications without PMI in low-income tracts.

Studies of Information Externalities. Another group of studies related to redlining and the credit problems facing low-income and minority neighborhoods focus on the ''thin'' mortgage markets in these neighborhoods and the implications of lenders not having enough information about the collateral and other characteristics of these neighborhoods. The low numbers of house sales and mortgages originated in low-income and high-minority neighborhoods result in individual lenders perceiving these neighborhoods to be more risky. It is argued that lenders do not have enough historical information to project the expected default performance of loans in low-income and high-minority neighborhoods, which increases their uncertainty about investing in these areas.

This recent group of studies that focus on economies of scale in the collection of information about neighborhood characteristics has implications for the identification of underserved areas and understanding the problems of mortgage access in low-income and minority neighborhoods. William Lang and Leonard Nakamura argue that individual home sale transactions generate information which reduce lenders' uncertainty about property values, resulting in greater availability of mortgage financing.[29] Conversely, appraisals in neighborhoods where transactions occur infrequently will tend to be more imprecise, resulting in greater uncertainty to lenders regarding collateral quality, and more reluctance by them in approving mortgage loans in neighborhoods with thin markets. As a consequence, ''prejudicial practices of the past may lead to continued differentials in lending behavior.''

If low-income or minority tracts have experienced relatively few recent transactions, the resulting lack of information available to lenders will result in higher denial rates and more difficulty in obtaining mortgage financing, independently of the level of credit risk in these neighborhoods. A number of empirical studies have found evidence consistent with the notion that mortgage credit is more difficult to obtain in areas with relatively few recent sales transactions. Some of these studies have also found that low transactions volume may contribute to disparities in the availability of mortgage credit by neighborhood income and minority composition. Paul Calem found that, in low-minority tracts, higher mortgage loan approval rates were associated with recent sales transactions volume, consistent with the Lang and Nakamura hypothesis.[30] While this effect was not found in high-minority tracts, he concludes that ''informational returns to scale'' contribute to disparities in the availability of mortgage credit between low-minority and high-minority areas. Empirical research by David Ling and Susan Wachter found that recent tract-level sales transaction volume does significantly contribute to mortgage loan acceptance rates in Dade County, Florida, also consistent with the Lang and Nakamura hypothesis.[31]

Robert Avery, Patricia Beeson, and Mark Sniderman found significant evidence of economies associated with the scale of operation of individual lenders in a neighborhood.[32] They concluded that ''The inability to exploit these economies of scale is found to explain a substantial portion of the higher denial rates observed in low-income and minority neighborhoods, where the markets are generally thin.'' Low-income and minority neighborhoods often suffer from low transactions volume, and low transactions volume represents a barrier to the availability of mortgage credit by making mortgage lenders more reluctant to approve and originate mortgage loans in these areas.

b. Geographic Dimensions of Underserved Areas—Targeted Versus Broad Approaches

HUD's definition of metropolitan underserved areas is a targeted neighborhood definition, rather than a broad definition that would encompass entire cities. It also focuses on those neighborhoods experiencing the most severe credit problems, rather than neighborhoods experiencing only moderate difficulty obtaining credit. During the regulatory process leading to the 1995 rule, some argued that underserved areas under this goal should be defined to include all parts of all central cities, as defined by OMB. HUD concluded that such broad definitions were not a good proxy for mortgage credit problems—to use them would allow the GSEs to focus on wealthier parts of cities, rather than on neighborhoods experiencing credit problems. Appendix B of the 1995 and 2000 Rules reviewed findings from academic researchers that support defining underserved areas in terms of the minority and/or income characteristics of census tracts, rather than in terms of a broad definition such as all parts of all central cities. This section briefly reviews two of the studies. The targeted nature of HUD's definition is also examined in Section B.3 below, which describes the credit and socioeconomic characteristics of underserved census tracts.

Shear, Berkovec, Dougherty, and Nothaft conducted an analysis of mortgage flows and application acceptance rates in 32 metropolitan areas that supports a targeted definition of underserved areas.[33] They

[26] *See* Geoffrey M. B. Tootell, ''Redlining in Boston: Do Mortgage Lenders Discriminate Against Neighborhoods?'', *Quarterly Journal of Economics*, 111, November, 1996, pp. 1049–1079; and ''Discrimination, Redlining, and Private Mortgage Insurance'', unpublished manuscript, October 1995.

[27] Tootell notes that both omitted variables and the strong correlation between borrower race and neighborhood racial composition in segregated cities have made it difficult for previous studies to distinguish the impacts of geographic redlining from the effects of individual borrower discrimination. He can unravel these effects because he includes a direct measure of credit history and because over half of minority applicants in the Boston Fed data base applied for mortgages in predominately white areas.

[28] Stephen L. Ross and Geoffrey M. B. Tootell, ''Redlining, the Community Reinvestment Act, and Private Mortgage Insurance'', unpublished manuscript, March 1999.

[29] William W. Lang and Leonard I. Nakamura, ''A Model of Redlining,'' *Journal of Urban Economics*, Volume 33, 1993, pp. 223–234.

[30] Paul S. Calem, ''Mortgage Credit Availability in Low- and Moderate-Income Minority Neighborhoods: Are Information Externalities Critical?'' *Journal of Real Estate Finance and Economics*, Volume 13, 1996, pp. 71–89.

[31] David C. Ling and Susan M. Wachter, ''Information Externalities and Home Mortgage Underwriting,'' *Journal of Urban Economics*, Volume 44, 1998, pp. 317–332.

[32] Robert B. Avery, Patricia E. Beeson, and Mark S. Sniderman, ''Neighborhood Information and Home Mortgage Lending,'' *Journal of Urban Economics*, Volume 45, 1999, pp. 287–310.

[33] William Shear, James Berkovec, Ann Dougherty, and Frank Nothaft, ''Unmet Housing Needs: The Role of Mortgage Markets,'' *Journal of Housing Economics*, Volume 4 , 1996, pp. 291–306. These researchers regressed the number of mortgage originations per 100 properties in the census tract on several independent variables that were intended to account for some of the demand and supply (*i.e.*, credit risk) influences at the census tract level. See also Susan Wharton Gates, ''Defining the Underserved,'' *Secondary Mortgage Markets*,

Continued

found: (a) Low-income census tracts and tracts with high concentrations of African American and Hispanic families had lower rates of mortgage applications, originations, and acceptance rates; and (b) once census tract influences were accounted for, central city location had only a minimal effect on credit flows. These authors recognized that it is difficult to interpret their estimated minority effects—the effects may indicate lender discrimination, supply and demand effects not included in their model but correlated with minority status, or some combination of these factors. Still, they conclude that income and minority status are better indicators of areas with special needs than central city location.

Avery, Beeson, and Sniderman of the Federal Reserve Bank of Cleveland specifically addressed the issue of underserved areas in the context of the GSE legislation.[34] Their study examined variations in application rates and denial rates for all individuals and census tracts included in the 1990 and 1991 HMDA data base. These authors found that the individual applicant's race exerts a strong influence on mortgage application and denial rates. African American applicants, in particular, had unexplainably high denial rates. Once individual applicant and other neighborhood characteristics were controlled for, overall denial rates for purchase and refinance loans were only slightly higher in minority census tracts than non-minority census tracts. For white applicants, on the other hand, denial rates were significantly higher in minority tracts. That is, minorities had higher denial rates wherever they attempted to borrow, but whites faced higher denials when they attempt to borrow in minority neighborhoods. In addition, Avery *et al.* found that home improvement loans had significantly higher denial rates in minority neighborhoods. Given the very strong effect of the individual applicant's race on denial rates, the authors noted that since minorities tend to live in segregated communities, a policy of targeting minority neighborhoods may be warranted. They also found that the median income of the census tract had strong effects on both application and denial rates for purchase and refinance loans, even after other variables were accounted for. Avery, Beeson and Sniderman concluded that a tract-level definition is a more effective way to define underserved areas than using the list of OMB-designated central cities as a proxy.

c. Conclusions from the Economics Literature about Urban Underserved Areas

The implications of studies by HUD and others for defining underserved areas can be summarized briefly. First, the existence of large geographic disparities in mortgage credit is well documented. Low-income and high-minority neighborhoods receive substantially less credit than other neighborhoods and fit the definition of being underserved by the nation's credit markets.

Second, researchers are testing models that more fully account for the various risk, demand, and supply factors that determine the flow of credit to urban neighborhoods. The studies by Holmes and Horvitz, Schill and Wachter, and Tootell are examples of this research. Their attempts to test the redlining hypothesis show the analytical insights that can be gained by more rigorous modeling of this issue. However, the fact that urban areas are highly segregated means that the various loan, applicant, and neighborhood characteristics currently being used to explain credit flows are often highly correlated with each other, which makes it difficult to reach definitive conclusions about the relative importance of any single variable such as neighborhood racial composition. Thus, their results are inconclusive, and the need continues for further research on the underlying determinants of geographic disparities in mortgage lending.[35]

Finally, much research strongly supports a targeted definition of underserved areas. Studies by Shear, *et al.* and Avery, Beeson, and Sniderman conclude that characteristics of both the applicant and the neighborhood where the property is located are the major determinants of mortgage denials and origination rates—once these characteristics are controlled for, other influences such as central city location play only a minor role in explaining disparities in mortgage lending.

HUD recognizes that the mortgage origination and denial rates forming the basis for the research mentioned in the preceding paragraph, as well as for HUD's definition of underserved areas, are the result of the interaction of individual risk, demand and supply factors that analysts have yet to fully disentangle and interpret. The need continues for further research addressing this problem.

3. Characteristics of HUD's Underserved Areas

a. Credit Characteristics

HMDA data provide information on the disposition of mortgage loan applications (originated, approved but not accepted by the borrower, denied, withdrawn, or not completed) in metropolitan areas. HMDA data include the census tract location of the property being financed and the race and income of the loan applicant(s). Therefore, this is a rich data base for analyzing mortgage activity in urban neighborhoods. HUD's analysis using HMDA data for 2003 shows that high-minority and low-income census tracts have both relatively high loan application denial rates and relatively low loan origination rates.

Table B.2 presents mortgage denial and origination rates by the minority composition and median income of census tracts in metropolitan areas. Two patterns are clear:

- Census tracts with higher percentages of minority residents have higher mortgage denial rates and lower mortgage origination rates than all-white or substantially-white tracts. For example, in 2003 the denial rate for census tracts that are over 90 percent minority (20.6 percent) was 2.3 times that for census tracts with less than 10 percent minority (9.0 percent).
- Census tracts with lower incomes have higher denial rates and lower origination rates than higher income tracts. For example, in 2003 mortgage denial rates declined from 23.2 percent to 7.2 percent as tract income increased from less than 40 percent of area median income to more than 150 percent of area median income.

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1994 Mortgage Market Review Issue, 1995, pp. 34–48.

[34] *See* Avery, *et al.*

[35] Methodological and econometric challenges that researchers will have to deal with are discussed in Mitchell Rachlis and Anthony Yezer, ''Serious Flaws in Statistical Tests for Discrimination in Mortgage Markets,'' *Journal of Housing Research,* Volume 4, 1993, pp. 315–336.

Table B.2

Origination and Denial Rates for Conventional Mortgages

Minority Percentage	Originations Per 100 Owner-Occupied Units (Purchases and Refinances)					Denial Rates (Home Purchases)				
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
Less than 10%	10.4	7.6	15.5	18.7	26.1 (25.5)	10.0 %	11.1 %	9.3 %	8.4 %	9.0 % (9.2) %
10-20	10.7	8.0	16.0	19.7	27.9 (27.5)	10.6	11.2	9.3	8.5	9.4 (9.5)
20-30	10.9	8.4	16.4	20.4	28.9 (28.6)	11.8	12.5	10.3	9.6	10.5 (10.5)
30-40	10.4	8.3	15.8	19.8	27.9 (27.4)	13.7	14.2	11.8	10.6	11.8 (11.9)
40-50	9.9	8.0	14.8	18.7	26.9 (26.3)	15.1	16.1	13.4	12.1	13.1 (13.2)
50-60	9.9	8.1	14.6	18.5	26.1 (25.5)	16.7	17.5	15.0	13.2	14.7 (14.8)
60-70	9.6	8.0	14.2	18.0	25.7 (25.4)	17.9	19.1	16.5	14.5	15.6 (15.7)
70-80	9.2	7.7	13.1	16.9	24.4 (24.2)	19.5	21.1	18.2	16.0	16.6 (16.6)
80-90	8.7	7.1	11.7	15.2	22.3 (22.2)	20.7	22.3	19.6	16.9	17.8 (17.8)
90-100	7.0	6.0	8.1	9.8	14.0 (13.7)	24.8	26.9	24.2	20.2	20.6 (20.5)
All Tracts	10.2	7.8	15.0	18.5	26.1 (25.6)	12.7	13.8	11.6	10.5	11.4 (11.5)

Tract Income Relative to MSA Median	Originations Per 100 Owner-Occupied Units (Purchases and Refinances)					Denial Rates (Home Purchases)				
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
Less than 20%	12.0	11.3	16.6	21.0	34.6 (36.5)	30.1 %	28.5 %	21.2 %	19.3 %	16.5 % (16.6) %
20-30	8.7	7.8	8.9	9.6	12.2 (12.8)	27.8	29.6	26.7	21.6	24.6 (23.3)
30-40	8.6	7.7	9.0	10.5	13.2 (13.6)	26.9	29.8	27.1	22.7	23.2 (23.3)
40-50	8.5	7.5	9.6	11.2	14.6 (14.9)	25.9	28.0	26.4	21.6	22.5 (22.6)
50-60	8.5	7.4	10.3	12.2	16.2 (15.8)	23.2	25.2	23.0	19.1	20.5 (20.7)
60-70	8.5	7.1	10.8	12.8	17.0 (16.4)	21.1	22.0	19.9	17.0	18.2 (18.4)
70-80	8.8	7.2	11.9	14.1	19.2 (18.3)	18.4	19.4	17.0	14.9	15.9 (16.3)
80-90	9.2	7.3	12.8	15.4	21.2 (20.1)	16.1	17.2	14.9	13.0	14.0 (14.4)
90-100	9.6	7.4	13.9	16.7	23.2 (22.4)	14.1	15.0	12.9	11.5	12.5 (12.8)
100-110	10.2	7.7	15.2	18.6	26.0 (25.5)	12.1	13.1	11.1	10.0	11.0 (11.3)
110-120	10.9	8.1	16.9	21.0	29.7 (28.9)	10.4	11.2	9.2	8.6	9.5 (9.7)
120-150	11.6	8.6	18.2	22.9	33.0 (32.7)	9.0	9.6	7.8	7.4	8.2 (8.2)
150+	11.1	7.9	17.2	22.3	32.6 (32.8)	7.8	8.3	6.8	6.6	7.2 (7.1)
All Tracts	10.2	7.8	15.0	18.5	26.1 (25.7)	12.7	13.7	11.6	10.5	11.4 (11.5)

Source: HUD analysis of 1999, 2000, 2001, 2002 and 2003 HMDA and 2000 Census Data. Metropolitan area boundaries are prior to their re-specification by the Office of Management and Budget in June, 2003. For the 2003 value in parenthesis, metropolitan area boundaries are as of June, 2003. Denial rate data exclude loans of lenders that primarily originate manufactured housing loans. Origination data exclude loans of subprime lenders.

• Table B.3 illustrates the interaction between tract minority composition and tract income by aggregating the data in Table B.2 into nine minority and income combinations. The low-minority (less than 30 percent minority), high-income (over 120 percent of area median) group had a denial rate of 7.2 percent and an origination rate of 32.4 loans per 100 owner occupants in 2003. The high-minority (over 50 percent), low-income (under 90 percent of area median) group had a denial rate of 19.3 percent and an origination rate of only 17.8 loans per 100 owner occupants. The other groupings fall between these two extremes.

Table B.3

Mortgage Denial and Origination Rates By Minority and Income Characteristics of the Census Tract

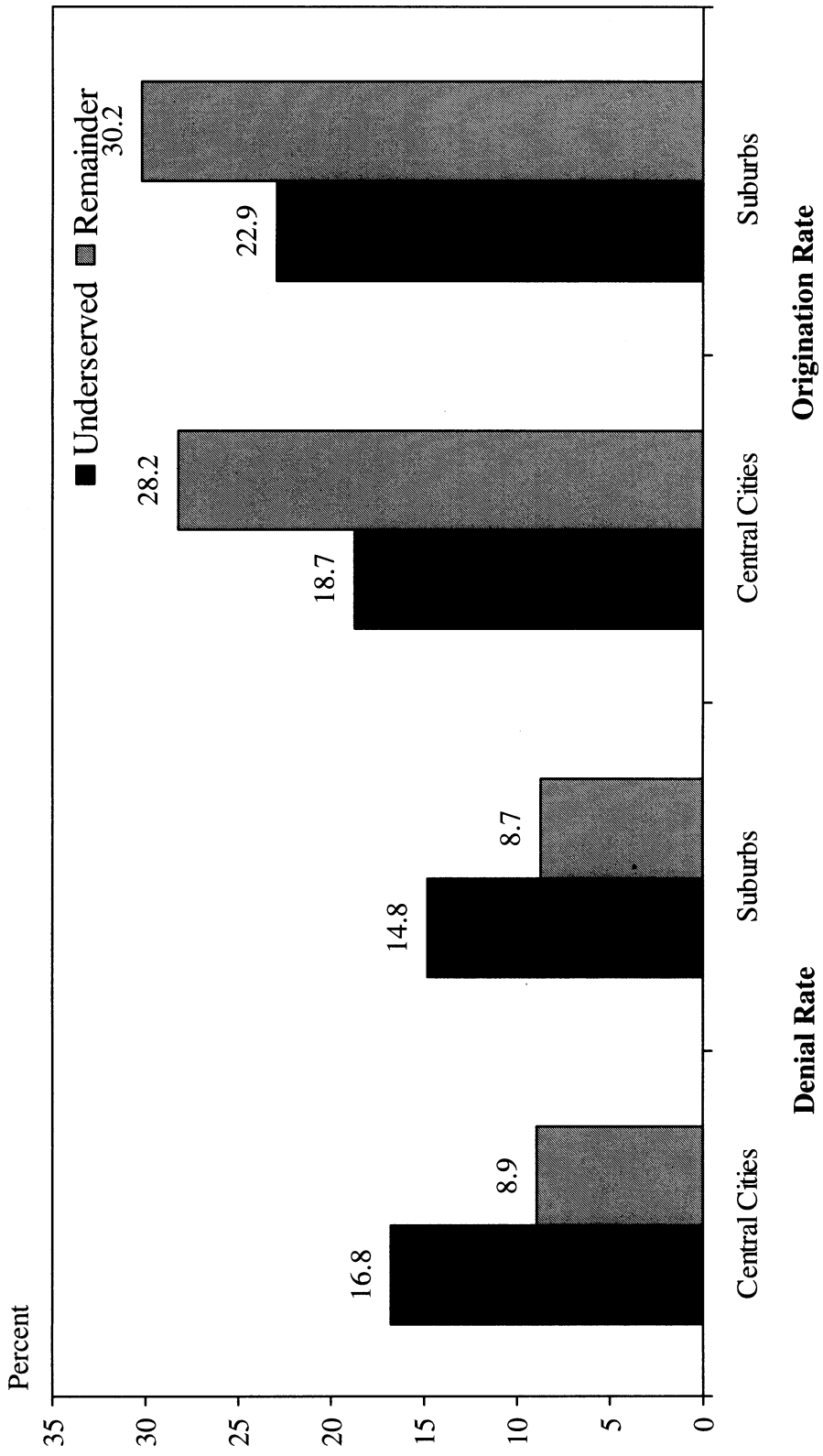
Denial Rates (Purchase Mortgages Only)				
	Minority Composition			
Tract Income	< 30%	30-50%	50-100%	Total
Less Than 90%	14.5%	15.6%	19.3%	16.9%
90-120%	10.5%	11.9%	14.9%	11.3%
120+	7.2%	9.7%	11.4%	7.8%
Total	9.6%	12.4%	17.2%	11.5%
Origination Rates per 100 Owner Occupants (Purchase and Refinance Mortgages)				
	Minority Composition			
Tract Income	< 30%	30-50%	50-100%	Total
Less Than 90%	17.8	19.9	17.8	18.1
90-120%	25.0	27.6	25.4	25.4
120+	32.4	37.4	29.7	32.7
Total	26.7	26.9	20.8	25.6

Source: HUD analysis of 2003 HMDA and 2000 Census Data, metropolitan area boundaries as of June, 2003. Data on denial rates exclude loans of subprime lenders and lenders that primarily originate manufactured housing loans.

The advantages of HUD's underserved area definition can be seen by examining the minority-income combinations highlighted in Table B.3. The sharp differences in denial rates and origination rates between the underserved and remaining served categories illustrate that HUD's definition delineates areas that have significantly less success in receiving mortgage credit. In 2003 underserved areas had over one and a three-fourths times the average denial rate of served areas (15.9 percent versus 8.9 percent) and two-thirds the average origination rate per 100 owner occupants (20.1 versus 29.1). HUD's definition does not include high-income (over 120 percent of area median) census tracts even if they meet the minority threshold. The average denial rate (10.3 percent) for high-income tracts with a minority share of population over 30 percent is much less than the denial rate (15.9 percent) in underserved areas as defined by HUD.

Figure B.1 compares underserved and served areas within central cities and suburbs. First, Figure B.1 shows that HUD's definition targets central city neighborhoods that are experiencing problems obtaining mortgage credit. The 16.8 percent denial rate in these neighborhoods in 2003 was almost twice the 8.9 percent denial rate in the remaining areas of central cities. A broad, inclusive definition of ''central city'' that includes all areas of all central cities would include these ''remaining'' portions of cities. Figure B.1 shows that these areas, which account for approximately 36 percent of the population in central cities, appear to be well served by the mortgage market. As a whole, they are not experiencing problems obtaining mortgage credit.

Figure B.1
2003 Denial And Origination Rates for Underserved Areas and Remainder By Central Cities and Suburbs



Second, Figure B.1 shows that HUD's definition also targets underserved census tracts in the suburbs as well as in central cities. The average denial rate in underserved suburban areas (14.8 percent) is 1.7 times that in the remaining served areas of the suburbs (8.7 percent), and is almost as large as the average denial rate (16.8 percent) in underserved central city tracts. Low-income and high-minority suburban tracts appear to have credit problems similar to their central city counterparts. These suburban tracts, which account for 34 percent of the suburban population, are included in HUD's definition of other underserved areas.

b. Socioeconomic Characteristics

The targeted nature of HUD's definition can be seen from the data presented in Table B.4, which show that families living in tracts within metropolitan areas that are underserved based on HUD's definition experience much more economic and social distress than families living in served areas. For example, the poverty rate in underserved census tracts is 18.5 percent, or over three times the poverty rate (5.7 percent) in served census tracts. The unemployment rate and the high-school dropout rate are also higher in underserved areas. In addition, there are nearly three times more female-headed households with children in underserved areas (30.0 percent) than in served areas (13.2 percent). Three-fourths of units in served areas are owner-occupied, while only one-half of units in underserved areas are owner-occupied.

Table B.4

Socioeconomic Characteristics of Served and Underserved Tracts in Metropolitan Areas

	Served Tracts	Underserved Tracts	Total
Census Tracts	25,626	26,959	52,585
Households	45,637,698	41,147,058	86,784,756
Population	119,230,406	113,104,203	232,334,609
Unemployment Rate	3.7%	8.0%	5.6%
Poverty Rate*	5.7%	18.5%	11.9%
School Dropout Rate**	10.9%	27.8%	18.8%
Percent Female Households With Children***	13.2%	30.0%	21.2%
Percent African-American	3.9%	22.2%	12.8%
Percent Minority	14.7%	53.5%	33.6%
Homeownership Rate	76.0%	51.8%	64.5%
Percent Renter	24.0%	48.2%	35.5%

Source: 2000 Census.

* Poverty rate is based on population for which poverty rate was determined.

** Dropout rate is for population 25 years and older.

*** Percent female households with children is based on households with own children under the age of 18 years.

C. Consideration of Factors 1 and 2 in Nonmetropolitan Areas: The Housing Needs of Underserved Rural Areas and the Housing, Economic, and Demographic Conditions in Underserved Rural Areas

Based on discussions with rural lenders in 1995, the definition of underserved rural areas was established at the county level, since such lenders usually do not make distinctions on a census tract basis. A nonmetropolitan county is classified as an underserved area if median income of families in the county does not exceed 95 percent of the greater of state nonmetropolitan or national nonmetropolitan median income, or minorities comprise 30 percent or more of the residents and the median income of families in the county does not exceed 120 percent of the greater of state nonmetropolitan or national nonmetropolitan median income. For nonmetropolitan areas the median income component of the underserved definition is broader than that used for metropolitan areas. While tract income is compared with area income for metropolitan areas, in rural counties income is compared with the greater of state nonmetropolitan income and national nonmetropolitan income. This is based on HUD's analysis of 1990 census data, which indicated that comparing county nonmetropolitan income only to state nonmetropolitan income would lead to the exclusion of many lower-income low-minority counties from the definition, especially in Appalachia. Based on 1990 census geography, underserved counties account for 57 percent (8,091 of 14,419) of the census tracts and 54 percent of the population in rural areas. By comparison, the definition of metropolitan underserved areas encompassed 47 percent of metropolitan census tracts and 44 percent of metropolitan residents.

The purchasing of loans from underserved areas by the GSEs is intended to induce greater homeownership among moderate, low, very low income, and poor families and minorities. For various reasons, including creditworthiness and lending discrimination, these groups experience greater difficulty in securing loans under fair and reasonable terms and in buying decent and affordable housing, and it is for them that the geographic goals were designed. The geographic goals, then, are meant to target places where these ''underserved'' populations live in order to stimulate local mortgage lending and, it is hoped, the availability of credit to those families who reside there who, otherwise, will have difficulty securing credit. This section addresses the basic question of whether and the extent to which HUD's definition of underservice in nonmetropolitan areas effectively targets areas that encompass large populations of socially and economically disadvantaged families.

Table B.5 shows data on demographic and socioeconomic conditions of underserved and served nonmetropolitan areas based on HUD's definition applied at the county level using Census 2000 data. (A later section considers the effects of applying the definition of the census tract level.) Several variables are used to describe area demographic and socioeconomic conditions.

Table B.5

Socioeconomic and Housing Characteristics of Served and Underserved Counties in Nonmetropolitan Areas

	Served Counties	Underserved Counties	Total
Counties	792	1,260	2,052
Households	9,274,968	9,465,054	18,740,022
% Owner-Occupied:	73.7%	74.3%	74.0%
Excluding manufactured housing	73.2%	73.3%	73.2%
Population	23,941,532	24,899,110	48,840,642
% African American	3.3%	13.4%	8.4%
% Hispanic/Latino	3.4%	7.3%	5.4%
% Minority	9.3%	25.8%	17.7%
Unemployment rate	5.2%	7.3%	6.2%
Poverty rate	7.5%	14.5%	11.1%
School dropout rate	18.7%	28.1%	23.5%
Migration rate	8.0%	7.4%	7.7%
Median family income	$45,000	$35,421	$40,100
Median housing value	$88,099	$67,358	$78,756
Purchase affordability	178	183	177
Owner-occupied vacancy rate	2.3%	2.6%	2.4%
Median rent	$475	$375	$425
Rental affordability	197	197	197
Rental vacancy rate	8.8%	10.0%	9.4%
Lacking complete plumbing	1.7%	3.2%	2.5%
Lacking complete kitchen facilities	1.8%	3.2%	0.8%
More than one occupant per room	2.3%	4.3%	3.3%

Source: 2000 Census.

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On the national level, a few key results show that the 1995 definition of underservice captures a potentially disadvantaged segment of the population. In examining the minority composition, one can see that the percentage of African Americans, Hispanics/Latinos, and total minority population is higher in underserved nonmetropolitan areas as compared to served nonmetropolitan areas. Overall, the minority population of underserved areas is 25.8 percent as compared with 9.3 percent in served areas. Other supporting results include median family income, poverty rate, unemployment rate, school dropout rate, and in-migration rate. Specifically we find:

- Median income is approximately $10,000 less in underserved areas than in served areas. This represents an average gap of 25 percent.
- Poverty in underserved areas is twice the rate in served areas (14.5 vs. 7.5 percent).
- Unemployment is 7.3 percent in underserved areas and 5.2 percent in served areas.
- The school dropout rate is 28.1 percent in underserved areas and 18.7 percent in served areas.
- Migration into underserved areas is somewhat lower than in served areas: 7.4 vs. 8.0 percent.

Table B.5 also includes data on homeownership rates, housing affordability, housing quality, and overcrowding. On several of these dimensions, housing conditions and needs in underserved areas are not substantially worse than in served areas. Although housing quality and crowding appear to be marginally worse in underserved areas, homeownership in the two areas is about the same and owning a home actually appears to be more affordable in underserved areas than in served areas. Specific findings include the following:

- Homeownership is slightly higher in underserved than in served nonmetropolitan counties: 74.3 percent vs. 73.7 percent. Removing manufactured homes lowers ownership rates slightly, because ownership of such homes is relatively high, but this does not affect the basic result.
- Owner-occupied and rental vacancy rates are both somewhat higher in underserved areas.
- Median housing unit values are significantly lower in underserved areas: $67,358 vs. $88,099.
- The value of a housing affordability index for owner-occupied housing is slightly higher in underserved areas.[36] On average, median income is 1.83 times higher than income required to qualify to buy a home of median value in underserved areas. The comparable factor for served areas is 1.78.
- Rental affordability is approximately the same in underserved and served areas.
- While nearly all housing in served and underserved areas have complete plumbing and kitchens, the percentage of units with incomplete facilities in underserved is twice the percentage in served areas.
- Crowded units are a small share of all housing in nonmetropolitan areas, but the rate is higher for underserved areas: 4.3 vs. 2.3 percent.

Mikesell[37] found using the 1995 American Housing Survey that while the rate of homeownership in nonmetropolitan areas is higher than metropolitan areas, the quality of housing is lower as compared to metropolitan areas. Results based on the 2000 Census show that the homeownership rate for nonmetropolitan areas was 74 percent (73 percent without manufactured homes), and for metropolitan areas it was 64 percent, but both metropolitan and nonmetropolitan areas had approximately 97.5 percent of units with complete plumbing and 99 percent with complete kitchens.

D. Factor 3: Previous Performance and Effort of the GSEs in Connection With the Central Cities, Rural Areas and Other Underserved Areas Goal

Section D.1 reports the past performance of each GSE with regard to the Underserved Areas Housing Goal. Section D.2 then examines the role that the GSEs are playing in funding single-family mortgages in underserved urban neighborhoods based on HUD's analysis of GSE and HMDA data. That section also discusses an underserved area subgoal for home purchase loans. Section D.3 concludes this section with an analysis of the GSEs' purchases in rural (nonmetropolitan) areas.

The increased coverage of the Underserved Areas Housing goal due to switching to 2000 census geography is discussed throughout this section.

1. Past Performance of the GSEs

This section discusses each GSE's performance under the Underserved Areas Housing Goal over the 1996–2003 period.[38] As explained in Appendix A, the data presented are ''official HUD results'' which, in some cases, differ from goal performance reported by the GSEs in the Annual Housing Activities Reports (AHARs) that they submit to the Department.

The main finding of this section is that Fannie Mae surpassed the Department's Underserved Areas Housing Goals for each of the seven years during this period. Freddie Mac surpassed the goal in six of the seven years, falling slightly short in 2002. Specifically:

- The goal was set at 21 percent for 1996; Fannie Mae's performance was 28.1 percent and Freddie Mac's performance was 25.0 percent.
- The goal was set at 24 percent for 1997–2000. Fannie Mae's performance was 28.8 percent in 1997, 27.0 percent in 1998, 26.8 percent in 1999, and 31.0 percent in 2000; and Freddie Mac's performance was 26.3 percent in 1997, 26.1 percent in 1998, 27.5 percent in 1999, and 29.2 percent in 2000.
- In the October 2000 rule, the underserved areas goal was set at 31 percent for 2001–03. As of January 1, 2001, several changes in counting requirements came into effect for the undeserved areas goal, as follows: ''bonus points'' (double credit) for purchases of goal-qualifying mortgages on small (5–50 unit) multifamily properties and, above a threshold level, mortgages on 2–4 unit owner-occupied properties; a ''temporary adjustment factor'' (1.20 units credit, subsequently increased by Congress to 1.35 units credit) for Freddie Mac's purchases of goal-qualifying mortgages on large (more than 50-unit) multifamily properties; and eligibility for purchases of certain qualifying government-backed loans to receive goal credit. These changes are explained below. Fannie Mae's performance was 32.6 percent in 2001, 32.4 percent in 2002, and 32.1 percent in 2003; and Freddie Mac's performance was 31.7 percent in 2001, slightly less than 31 percent in 2002, and 32.7 percent in 2003, thus Fannie Mae surpassed this higher goal in all three years and Freddie Mac surpassed the goal in 2001 and 2003, but fell slightly short in 2002. This section discusses the October 2000 counting rule changes in detail below, and provides data on what goal performance would have been in 2001–03 without these changes.[39]

a. Performance on the Underserved Areas Housing Goal in 1996–2003

HUD's December 1995 rule specified that in 1996 at least 21 percent of the number of units financed by each of the GSEs that were eligible to count toward the Underserved Areas Goal should qualify as units in properties located in underserved areas, and at least 24 percent should qualify in 1997–2000. HUD's October 2000 rule made various changes in the goal counting rules, as discussed below, and increased the Underserved Areas Goal to 31 percent for 2001–03.

Table B.6 shows performance on the underserved areas goal over the 1996–2003 period, based on HUD's analysis. The table shows that Fannie Mae surpassed the goals by 7.1 percentage points and 4.8 percentage points in 1996 and 1997, respectively, while Freddie Mac surpassed the goals by narrower margins, 4.0 and 2.3 percentage points. In 1998 Fannie Mae's performance fell by 1.8 percentage points, while Freddie Mac's performance fell only slightly, by 0.2 percentage point. Freddie Mac showed a gain in performance to 27.5 percent in 1999, exceeding its previous high by 1.2 percentage points. Fannie Mae's performance in 1999 was 26.8 percent, which, for the first time, slightly lagged Freddie Mac's performance in that year.

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[36] The purchase affordability index assesses the extent to which a family with the median income of a given area would be able to afford a housing unit that carries the median purchase price of that area. For example, a purchase affordability index number less than 100 means that a family with the median income would not qualify for a mortgage on a unit with the median value; a purchase affordability index equal to 100 means that a family with the median income has exactly the level of income needed to qualify for a mortgage on a unit with the median value; and an index number greater than 100 means that a family with the median income has 20 percent more than the level of income needed to qualify for a mortgage on a unit with the median value. The rental affordability index is similarly constructed.

[37] J.J. Mikesell, ''Housing Problems across Types of Rural Households'', *Rural Conditions and Trends,* Volume 9, Number 2, pp. 97–101, 1999.

[38] Performance for the 1993–95 period was discussed in the October 2000 rule.

[39] To separate out the effects of changes in counting rules that took effect in 2001, this section also compares performance in 2001 to estimated performance in 2000 if the 2001 counting rules had been in effect in that year.

Table B.6

GSEs' Performance on Underserved Areas Goal, 1996-2003

	1996	1997	1998	1999	2000	2001*	2002*	2003*
Level of Goal	21%	24%	24%	24%	24%	31%	31%	31%
Fannie Mae:								
Units Eligible to Count Toward Goal	1,891,896	1,765,346	3,546,302	2,956,155	2,195,320	4,671,585	6,023,704	9,590,664
Underserved Areas Units	532,434	508,746	958,232	791,593	680,765	1,522,726	1,973,735	3,080,535
Percent in Underserved Areas	28.1%	28.8%	27.0%	26.8%	31.0%	32.6%	32.8%	32.1%
Freddie Mac:								
Units Eligible to Count Toward Goal	1,325,900	1,180,515	2,658,556	2,245,086	1,600,684	3,282,354	4,297,594	5,534,588
Underserved Areas Units	331,494	310,572	693,747	618,384	466,857	1,042,111	1,332,165	1,811,101
Percent in Underserved Areas	25.0%	26.3%	26.1%	27.5%	29.2%	31.7%	31.0% **	32.7%

* Performance in 2001-2003 not directly comparable with performance in 1996-2000 due to changes in goal counting rules, as discussed in text, and shown in Table B.7. Freddie Mac's goal performance in 2002 has been revised due to the double-counting of loans in 2001 and 2002, as discussed in HUD's press release No. 04-105, October 14, 2004.

** As discussed in the preamble to this Final Rule, Freddie Mac's performance on this goal was 30.998%, thus it fell slightly short of the goal of 31%.

Both GSEs exhibited sharp gains in goal performance in 2000—Fannie Mae's performance increased by 4.2 percentage points, to a record level of 31.0 percent, while Freddie Mac's performance increased somewhat less, by 1.7 percentage points, which also led to a record level of 29.2 percent. Fannie Mae's performance was 32.6 percent in 2001, 32.4 percent in 2002, and 32.1 percent in 2003; Freddie Mac's performance was 31.7 percent in 2001, slightly less than 31 percent in 2002, and 32.7 percent in 2003. However, as discussed below, using consistent accounting rules for 2000–03, under one method each GSE's performance in 2001–03 was below its performance in 2000.

Fannie Mae's performance on the underserved areas goal surpassed Freddie Mac's in every year through 1998. This pattern was reversed in 1999, as Freddie Mac surpassed Fannie Mae in goal performance for the first time, though by only 0.7 percentage point. This improved relative performance of Freddie Mac was due to its increased purchases of multifamily loans, as it re-entered that market, and to increases in the goal-qualifying shares of its single-family mortgage purchases. However, Fannie Mae's performance once again exceeded Freddie Mac's performance in 2000, 31.0 percent to 29.2 percent. Fannie Mae's official performance also exceeded Freddie Mac's official performance in 2001–02, despite the fact that Freddie Mac benefited from a difference in the counting rules applicable to the two GSEs as enacted by Congress; if the same counting rules were applied to both GSEs, Fannie Mae's performance would have exceeded Freddie Mac's performance. In fact, Freddie Mac would have just attained the goal, at 31.4 percent in 2003, and fallen short of the goal in 2001 and 2002.

b. Changes in the Goal Counting Rules for 2001–03

Several changes in the counting rules underlying the calculation of underserved areas goal performance took effect beginning in 2001. These also applied to the low- and moderate-income goal and are discussed in Appendix A; only brief summaries of those changes are given here:[40] Bonus points for multifamily and single-family rental properties. Each qualifying unit in a small multifamily property counted as two units in the numerator in calculating performance on all of the goals for 2001–03. And, above a threshold equal to 60 percent of the average number of qualifying rental units financed in owner-occupied properties over the preceding five years, each unit in a 2–4 unit owner-occupied property also counted as two units in the numerator in calculating goal performance.

Freddie Mac's Temporary Adjustment Factor. Freddie Mac received a ''Temporary Adjustment Factor'' of 1.35 units of credit for each qualifying unit financed in ''large'' multifamily properties (*i.e.*, those with 51 or more units) in the numerator in calculating its performance on the housing goals for 2001–03.[41] This factor did not apply to units in large multifamily properties in underserved areas whose mortgages were financed by Fannie Mae during this period.

Purchases of certain government-backed loans. Prior to 2001, purchases of government-backed loans were not taken into account in determining performance on the GSEs' low- and moderate-income and underserved area housing goals. As discussed in Appendix A, the 2000 rule established eligibility for FHA-insured home equity conversion mortgages (HECMs) for mortgagors in underserved areas, purchases of mortgages on properties on tribal lands insured under FHA's Section 248 program or HUD's Section 184 program, and purchases of mortgages under the Rural Housing Service's Single Family Housing Guaranteed Loan Program to count toward the underserved area goal.

c. Effects of Changes in the Counting Rules on Goal Performance

Because of the changes in the underserved areas goal counting rules that took effect in 2001, direct comparisons between official goal performance in 2000 and 2001–03 are somewhat of an ''apples-to-oranges comparison.'' For this reason, the Department has calculated what performance would have been in 2000 under the 2001–03 rules; this may compared with official performance in 2001–03—an ''apples-to-apples comparison.'' HUD has also calculated what performance would have been in 2001–03 under the 1996–2000 rules; this may be compared with official performance in 2000—an ''oranges-to-oranges comparison.'' These comparisons are presented in Table B.7a.

[40] Unlike the low- and moderate-income and special affordable goals, there is no exclusion of units from the denominator for units with missing information about the area in which a property is located. That is, such units are counted in the denominator, but not in the numerator, in determining underserved areas goal performance.

[41] *See* Congressional Record, December 15, 2000, pp. H12295–96.

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Table B.7a

Effects of Counting Rule Changes on the GSEs' Performance on the Underserved Areas Goal

GSE	Year	Baseline A*	Technical Changes[1]	Baseline B*	Bonus Points		Technical Adjustment Factor (TAF)[4]	Baseline C*
					Small MF[2]	SF Rental[3]		
Fannie Mae	1999	**26.8%**	0.0%	26.8% (31.6%)	0.2%	1.0%	NA	28.1%
	2000	**31.0%**	0.0%	31.0% (37.5%)	0.2%	1.1%	NA	32.3%
	2001	30.4%	0.0%	30.4% (35.7%)	0.5%	1.7%	NA	**32.6%**
	2002	30.2%	0.0%	30.2% (35.0%)	0.8%	1.8%	NA	**32.8%**
	2003	29.2%	0.0%	29.2% (34.1%)	1.2%	1.7%	NA	**32.1%**
Freddie Mac	1999	**27.5%**	0.0%	27.6% (31.6%)	0.1%	0.9%	1.0%	29.6%
	2000	**29.2%**	0.0%	29.2% (34.1%)	0.1%	0.8%	1.2%	31.4%
	2001	28.2%	0.0%	28.2% (32.5%)	1.3%	1.1%	1.1%	**31.7%**
	2002	28.0%	0.0%	28.0% (32.8%)	0.5%	1.6%	0.9%	**31.0%**
	2003	27.7%	0.0%	27.7% (31.6%)	2.9%	0.9%	1.3%	**32.7%**

Details may not add to total due to rounding.

*Note: Baseline A represents performance under 1996-2000 scoring, thus figures for 1999-2000 in bold are official performance in those years. Baseline B adjusts Baseline A for technical changes in counting rules. Baseline B figures in parentheses are based on 2000 Census data on area median incomes and minority concentrations, the June 2003 specification of metropolitan areas, and tract-based non-metropolitan served and underserved areas. Baseline C represents performance under 2001-03 scoring, thus figures for 2001-03 in bold are official performance in those years. Except for Baseline B figures in parentheses, scoring of loans in this table is based on 1990 census data, pre-2003 MSAs, and county-based non-metropolitan served and underserved areas.

[1] *Technical changes* include credit for purchases of certain qualifying government-backed loans.

[2] *Small multifamily bonus points*: For 2001-03, every qualifying unit in a 5-50 unit multifamily property counts as two units in the numerator in calculating goal performance.

[3] *Single-family rental bonus points*: Above a threshold, every qualifying unit in a 2-4 unit property in which one unit is owner-occupied and the other units are rental counts as two units in the numerator in calculating goal performance for 2001-03.

[4] *Temporary adjustment factor (TAF)*: In December 2000 Congress enacted a provision whereby every qualifying unit in a large (> 50 unit) multifamily property counts as 1.35 units in calculating goal performance for Freddie Mac for 2001-03. This provision does not apply to goal performance for Fannie Mae.

Specifically, Table B.7a shows performance under the underserved areas goal in three ways. Baseline A represents the counting rules in effect in 1996–2000. Baseline B incorporates the one minor technical change in counting rules pertaining to the underserved areas goal—eligibility of certain government-backed loans for goals credit. Baseline C incorporates in addition to that technical change the bonus points and, for Freddie Mac, the temporary adjustment factor. Boldface figures under Baseline A for 1999–2000 and under Baseline C for 2001–02 indicate official goal percentages based on the counting rules in effect in those years—*e.g.*, for Freddie Mac, 27.5 percent in 1999, 29.2 percent in 2000, 31.7 percent in 2001, slightly less than 31 percent in 2002, and 32.7 percent in 2003.

Performance on the Underserved Areas Goal under 1996–2000 Counting Rules Plus Technical Changes. If the ''Baseline B'' counting approach had been in effect in 2000–03 and the GSEs'' had purchased the same mortgages that they actually did purchase in those years, Fannie Mae would have just matched the underserved areas goal in 2000 and fallen short in 2001–03, while Freddie Mac would have fallen short of the goal in all four years, 2000–03. Specifically, Fannie Mae's performance would have been 31.0 percent in 2000, 30.4 percent in 2001, 30.2 percent in 2002, and 29.2 percent in 2003. Freddie Mac's performance would have been 29.2 percent in 2000, 28.2 percent in 2001, 28.0 percent in 2002, and 27.7 percent in 2003.

Performance on the Underserved Areas Goal under 2001–2003 Counting Rules. If the 2001–03 counting rules had been in effect in 2000–02 and the GSEs had purchased the same mortgages that they actually did purchase in those years (*i.e.*, abstracting from any behavioral effects of ''bonus points,'' for example), both GSEs would have surpassed the underserved areas goal in all four years, and both GSEs' performance figures would have increased from 2000 to 2002. Specifically, Fannie Mae's ''Baseline C'' performance would have been 32.3 percent in 2000, 32.6 percent in 2001, 32.4 percent in 2002, and 32.1 percent in 2003. Freddie Mac's performance would have been 31.4 percent in 2000, 31.7 percent in 2001, slightly less than 31.0 percent in 2002, and 32.7 percent in 2003. Measured on this consistent basis, then, Fannie Mae's performance increased by 0.3 percentage point in 2001, fell by 0.7 percentage points in 2002, and increased by 1.3 percentage points in 2003. These increases were the effect of increased purchases of mortgages eligible to receive bonus points between 2000 and 2001–03.

Details of Effects of Changes in Counting Rules on Goal Performance in 2001. As discussed above, counting rule changes that took effect in 2001 had significant impacts on the performance of both GSEs on the underserved areas goal in that year—2.2 percentage points for Fannie Mae, and 3.5 percentage points for Freddie Mac. This section breaks down the effects of these changes on goal performance for both GSEs; results are shown in Table B.7a along with figures for other years.

Freddie Mac. The largest impact of the counting rule changes on Freddie Mac's goal performance was due to bonus points for purchases of mortgages on small multifamily properties; this added 1.3 percentage points to goal performance in 2001, 0.5 percentage point in 2002, and 2.9 percentage points in 2003, as shown in Table B.7a. The application of the temporary adjustment factor for purchases of mortgages on large multifamily properties enacted by Congress added 0.9 percentage points to goal performance in 2002 and 1.3 percentage points in 2003. Bonus points for purchase of mortgages on owner-occupied 2–4 unit rental properties also added 1.1 percentage points to performance in 2001, 1.6 percentage points in 2002, and 0.9 percentage point in 2003. Credit for purchases of qualifying government-backed loans played a minor role in determining Freddie Mac's goal performance.

Fannie Mae. The temporary adjustment factor which applied to Freddie Mac's goal performance did not apply to Fannie Mae, thus overall counting rule changes had less impact on its performance than on Freddie Mac's performance in 2001–03. The largest impact of the counting rule changes on Fannie Mae's goal performance was due to the application of bonus points for purchases of mortgages on owner-occupied 2–4 unit rental properties, which added 1.7 percentage points to performance in 2001, 1.8 percentage points in 2002, and 1.7 percentage points in 2003, and for purchases of mortgages on small multifamily properties, which added 0.5 percentage point to performance in 2001, 0.8 percentage point in 2002, and 1.2 percentage points in 2003. Credit for purchases of qualifying government-backed loans also played a minor role in determining Fannie Mae's goal performance.

d. Bonus Point Incentives for the GSEs' Purchases in Underserved Areas

The Department established ''bonus points'' for 2001–03 to encourage the GSEs to step up their activity in two segments of the mortgage market—the small (5–50 unit) multifamily mortgage market, and the market for mortgages on 2–4 unit properties where 1 unit is owner-occupied and 1–3 units are occupied by renters.

Bonus points for small multifamily properties. Each unit financed in a small multifamily property that qualified for any of the housing goals was counted as two units in the denominator (and one unit in the numerator) in calculating goal performance for that goal.

Fannie Mae financed 37,389 units in small multifamily properties in 2001 that were eligible for the underserved areas goal, an increase of more than 400 percent from the 7,196 units financed in 2000. Further increases were recorded in 2002, to 77,382 units, and in 2003, to 230,290 units. As explained in Appendix A, small multifamily properties also accounted for a greater share of Fannie Mae's multifamily business in 2001—7.4 percent of total multifamily units financed, up from 2.5 percent in 2000, with this share rising to 16.8 percent in 2002 and 28.9 percent in 2003. However, HUD's Housing Goals 2000 Final Rule cited a Residential Finance Survey finding that small multifamily properties account for 37 percent of total units in multifamily mortgaged properties, thus Fannie Mae is still somewhat less active in this market than in the market for large multifamily properties.[42]

Within the small multifamily market, there was some evidence that Fannie Mae targeted properties in underserved areas to a greater extent in 2001 than in 2000. That is, 56 percent of Fannie Mae's small multifamily units qualified for the underserved areas goal in 2000, but this rose to 64 percent in 2001. The share of Fannie Mae's small multifamily units that qualified for the underserved areas goal was 65 percent in 2002 and 50 percent in 2003.

Freddie Mac financed 50,211 units in small multifamily properties in 2001 that were eligible for the underserved areas goal, an increase of more than 1500 percent from the small base of 2,985 units financed in 2000. Financing of such units actually fell in 2002, to 22,195 units, but rebounded to 181,126 units in 2003. Small multifamily properties also accounted for a significantly greater share of Freddie Mac's multifamily business in 2001—16.1 percent of total multifamily units financed, up from 1.8 percent in 2000, with this share amounting to 7.1 percent in 2002 and 30.5 percent in 2003.

Within the small multifamily market, there was some evidence that Freddie Mac targeted properties in underserved areas to a greater extent in 2001 than in 2000. That is, 61 percent of Freddie Mac's small multifamily units qualified for the underserved areas goal in 2000; this rose to 86 percent in 2001. The share of Freddie Mac's small multifamily units that qualified for the underserved areas goal was 88 percent in 2002 and 87 percent in 2003.

Bonus points for single-family rental properties. Above a threshold, each unit financed in a 2–4 unit property with at least one owner-occupied unit (referred to as ''OO24s'' below) that qualified for any of the housing goals was counted as two units in the denominator (and one unit in the numerator) in calculating goal performance for that goal in 2001–03. The threshold was equal to 60 percent of the average number of such qualifying units over the previous five years. For example, Fannie Mae financed an average of 47,100 underserved area units in these types of properties between 1996 and 2000, and 105,946 such units in 2001. Thus in 2001 Fannie Mae received 77,688 bonus points in this area in 2001—that is, 105,946 minus 60 percent of 47,100. So 183,629 units were entered in the numerator for these properties in calculating underserved area goal performance.

Single-family rental bonus points thus encouraged the GSEs to play a larger role in this market, and also to purchase mortgages on such properties in which large shares of the units qualify for the housing goals. As for small multifamily bonus points, some evidence on the effects of such bonus points on the GSEs' operations may be gleaned from the data provided to HUD by the GSEs for 2001–2003.

[42] 65 FR 65141 & n. 145 (2000).

Fannie Mae financed 177,872 units in OO24s in 2001 that were eligible for the underserved areas goal, an increase of 116 percent from the 82,464 units financed in 2000. Further increases were recorded in 2002, to 231,581 units, and in 2003, to 353,916 units. However, as a result of the refinance boom Fannie Mae's total single-family business increased at approximately the same rate as its OO24 business in 2001–03, thus the share of its business accounted for by OO24s was the same in 2001 as in 2000—4 percent, with this share also amounting to 4 percent in 2002 and 2003.

Within the OO24 market, there was no evidence that Fannie Mae targeted affordable properties to a greater extent in 2001 than in 2000. That is, approximately 60 percent of Fannie Mae's OO24 units qualified for the underserved area goal in both 2000 and 2001. The share of Fannie Mae's OO24 units that qualified for the underserved areas goal was 62 percent in 2002 and 60 percent in 2003.

Freddie Mac financed 96,983 units in OO24s in 2001 that were eligible for the underserved areas goal, an increase of 91 percent from the 50,868 units financed in 2000. Further increases were recorded in 2002, to 146,502 units, and in 2003, to 154,924 units. However, with the refinance boom, Freddie Mac's total single-family business increased at approximately the same rate as its OO24 business in 2001–03, thus the share of its business accounted for by OO24s was the same in 2001 as in 2000—3 percent, with this share amounting to 3.7 percent in 2002 and 3.1 percent in 2003.

As for Fannie Mae, within the OO24 market there was no evidence that Freddie Mac targeted affordable properties to a greater extent in 2001 than in 2000. That is, 60 percent of Fannie Mae's OO24 units qualified for the underserved areas goal in both 2000 and 2001. The share of Freddie Mac's OO24 units that qualified for the underserved areas goal was 61 percent in 2002 and 50 percent in 2003.

e. Effects of 2000 Census on Scoring of Loans Toward the Underserved Areas Housing Goal

Background. Scoring of housing units under the Underserved Areas Housing Goal is based on decennial census data used to identify underserved areas, as follows: For properties in MSAs scoring is based on the median income of the census tract where the property is located, the median income of the MSA, and the percentage minority population in the census tract where the property is located. For properties located outside of MSAs scoring is based on the median income of the county, the median income of the non-metropolitan portion of the State in which the property is located or of the non-metropolitan portion of the United States, whichever has the larger median income, and the percentage minority population in the county where the property is located. Thus, scoring loans under the Underserved Areas Housing Goal requires decennial census data on median incomes for metropolitan census tracts, MSAs, non-metropolitan counties, the non-metropolitan portions of States, and the non-metropolitan portion of the United States. The determination has been based on 1990 census data through 2004, and beginning in 2005 will be based on 2000 census data.[43, 44] Under this rule, the basis for the determination outside of MSAs will change from counties to census tracts beginning in 2005.

2005 Procedure. Relative to the above procedure, Underserved Areas Housing Goals performance percentages for loans purchased by the GSEs in and after 2005 will be affected by three factors. First, 2000 census data on median incomes and minority populations replace 1990 census data. Second, the Office of Management and Budget in June, 2003, respecified MSA boundaries based on analysis of 2000 census data. Third, the Department's re-specification of the Underserved Areas goal in terms of census tracts rather than counties in non-metropolitan areas will come into effect.[45] Thus, for properties located outside of MSAs the basis of determination for non-metropolitan areas will be changed for properties located outside of MSAs to: The median income of the census tract where the property is located; the median income of the non-metropolitan portion of the State in which the property is located or of the non-metropolitan portion of the United States, whichever is larger; and the percentage minority population in the census tract where the property is located.

Analysis. HUD used 2000 census data to generate underserved area designations for census tracts as defined for the 2000 census with 2003 MSA designations. Because Fannie Mae and Freddie Mac geocoded the mortgages they purchased prior to 2003 based on census tract boundaries as established for the 1990 census, GSE mortgages purchased prior to 2003 can be directly identified as being from a served or underserved area only where the property is located in a 1990-defined census tract whose area consists entirely of whole 2000-defined census tracts, or portions of such tracts, which are all designated either as served or as underserved. In the situation where the area of a 1990-defined census tract includes whole 2000-defined census tracts, or portions of such tracts, some of which are served and some underserved, HUD calculated an ''underservice factor'' defined as the underserved percentage of the 1990-defined tract's population, based on population data from the 2000 census.[46] These factors were used in estimating underservice percentages for aggregated GSE purchases in and before 2003 based on the 2000 census.

The resulting underserved areas file was used to re-score loans purchased by the GSEs between 1999 and 2003, and was used further in estimating the share of loans originated in metropolitan areas that would be eligible to score toward the Underserved Areas Housing Goal, from HMDA data. The results of the retrospective GSE analysis are provided in Table B.7b The results of the GSE–HMDA comparative analysis are presented in the next section.

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[43] In New England, MSAs were defined through mid-2003 in terms of Towns rather than Counties, and the portion of a New England county outside of any MSA is regarded as equivalent to a county in establishing metropolitan or non-metropolitan location of a property. The MSA definitions established by the Office of Management and Budget (OMB) in June, 2003 defined MSAs in New England in terms of counties.

[44] The procedure used to generate estimated rents in connection with the Low- and Moderate Income and Special Affordable Housing Goals, as mentioned in Appendixes A and C, uses similar data series.

[45] HUD has deferred application of the 2000 census data and 2003 MSA designations to 2005, pending completion of the present rulemaking process.

[46] 8,717 tracts included both served and underserved area, out of a total of 61,493 tracts that could be classified as served or underserved or assigned an underservice factor.

Table B.7b

Effects of 2000 Census on Scoring Toward Underserved Areas Housing Goal

	1999	2000	2001	2002	2003
Fannie Mae:					
Benchmark*	26.8%	31.0%	30.4%	30.2%	29.2%
With 2000 Census Data	32.5%	38.1%	36.6%	35.9%	34.1%
Adding 2003 MSAs	32.3%	38.2%	36.4%	35.7%	34.3%
Tracts rather than Counties**	31.6%	37.5%	35.7%	35.0%	34.1%
Freddie Mac:					
Benchmark*	27.6%	29.2%	28.2%	28.0%	27.7%
With 2000 Census Data	32.6%	35.1%	33.5%	33.3%	31.6%
Adding 2003 MSAs	32.4%	34.8%	33.3%	33.1%	31.6%
Tracts rather than Counties**	31.6%	34.1%	32.5%	32.4%	31.6%

* Baseline B in Table B.7a.

** Baseline B figures in parentheses in Table B.7a with tract-based determination of non-metropolitan served and underserved areas.

Table B.7b shows four sets of estimates for each GSE, based respectively on the counting rules in place in 2001–2003 (but disregarding the bonus points and Temporary Adjustment Factor), on shifting from 1990 to 2000 census data on median incomes and minority concentrations, on the further addition 2003 MSA specification, and finally on shifting from counties to tracts as the basis for scoring loans in non-metropolitan areas.

2. GSEs' Mortgage Purchases in Metropolitan Neighborhoods

Metropolitan areas accounted for about 85 percent of total GSE purchases under the Underserved Areas Housing Goal in 2001 and 2002. This section uses HMDA and GSE data for metropolitan areas to examine the neighborhood characteristics of the GSEs' mortgage purchases. In subsection 2.a, the GSEs' performance in underserved neighborhoods is compared with the overall market. This section therefore expands on the discussion in Appendix A, which compared the GSEs' funding of affordable loans with the overall conventional conforming market. A subgoal that the Department is establishing for each GSE's acquisitions of home purchase loans financing properties in the underserved census tracts of metropolitan areas is also discussed subsection 2a. In subsection 2.b., the characteristics of the GSEs' purchases within underserved areas are compared with those for their purchases in served areas.

a. Comparisons With the Primary Market

Market Comparisons Based on 1990 Census Geography. Section E.8–10 in Appendix A provided detailed information on the GSEs' funding of mortgages for properties located in underserved neighborhoods for the years 1993 to 2003. To take advantage of historical data going back to 1993, these comparisons were first made using 1990 Census tract geography. The findings with respect to the GSEs' funding of underserved neighborhoods are similar to those reported in Appendix A regarding the GSEs' overall affordable lending performance in the single-family-owner market. While both GSEs improved their performance, they historically lagged the conventional conforming market in providing affordable loans to underserved neighborhoods. The two GSEs themselves engaged in very different patterns of funding—Freddie Mac was less likely than Fannie Mae to fund home loans in underserved neighborhoods, as the following percentage shares for home purchase loans indicate:

Year	Freddie Mac (percent)	Fannie Mae (percent)	Market (w/o B&C) (percent)
1996–2003	22.0	24.0	25.7
1999–2003	23.1	24.7	26.2
2001–2003	24.1	26.0	26.4

Between 1996 and 2003, 22.0 percent of Freddie Mac's purchases financed properties in underserved neighborhoods, compared with 24.0 percent of Fannie Mae's purchases and 25.7 percent of home purchase loans originated in the conventional conforming market (excluding B&C loans). Thus, Freddie Mac performed at only 86 percent of the market (22.0 divided by 25.7), while Fannie Mae performed at 93 percent of the market. Freddie Mac's recent performance has been slightly closer to the market. Over the past three years (2001 to 2003), Freddie Mac performed at 91 percent of the market (24.1 percent for Freddie Mac compared at 26.4 percent for the market). (See Tables A.13 to A.16 in Appendix A for complete data going back to 1993.)

Fannie Mae has funded underserved areas at a higher level than Freddie Mac, as indicated above. And during 2001 and 2003, Fannie Mae average performance was only slightly below the market. In 2003, the share of Fannie Mae's purchases going to underserved areas was 26.8 percent, compared with a market level of 27.6 percent. Like Freddie Mac, Fannie Mae's longer-term performance (since 1993 or 1996) as well as its recent average performance (1999 to 2003) has consistently been below market levels. Still, it is encouraging that Fannie Mae significantly improved its 2001–2003 performance and closed its gap with the market during the first three years of HUD's higher housing goal levels.

Market Comparisons Based on 2000 Census Geography. As explained in Section A.2 of this appendix, HUD will be defining underserved areas based on 2000 Census data beginning in 2005. The number of census tracts in metropolitan areas covered by HUD's definition will increase from 21,587 tracts (based on 1990 Census) to 26,959 tracts (based on 2000 Census and new OMB metropolitan area specifications). The increase in the number of tracts defined as underserved means that both GSE performance and the market estimates will be higher than reported above. This section provides an analysis of the performance of the GSEs in the single-family-owner market based on 2000 census tract geography. For the years 1999, 2000, 2001, and 2002, HUD used the apportionment technique to re-allocate 1990-based GSE and HMDA data into census tracts as defined by the 2000 Census. GSE and HMDA data for 2003 were already expressed in terms of 2000 Census geography.

The main results are provided in Table B.8, which compares the GSEs to the market using both the 1990 Census geography and the 2000 Census geography. Switching to the 2000-based tracts increases the underserved area share of market originations by about five percentage points. Between 1999 and 2003, 31.4 percent of home purchase mortgages (without B&C loans) were originated in underserved tracts based on 2000 geography, compared with 26.2 percent based on 1990 geography—a differential of 5.2 percentage points. As also shown in Table B.8, the underserved areas share of Fannie Mae's purchases rises by 5.3 percentage points, and the underserved areas share of Freddie Mac's purchases rises by 5.2 percentage points. Thus, the conclusions reported above and in Appendix A about the GSEs' performance relative to the market about remain the same when the analysis is conducted based on 2000 Census geography.

Table B.8

Underserved Area Share of GSE Purchases and Mortgage Market Based on 1999-2003 HMDA Data in Metropolitan Areas Under 1990 and 2000 Geography Definitions

	Freddie Mac			Fannie Mae			Conventional Conforming Market W/O B&C Loans		
	1990-Based	2000-Based	Difference	1990-Based	2000-Based	Difference	1990-Based	2000-Based	Difference
Home Purchase Loans									
1999	20.9	25.6	4.7	20.4	25.3	4.9	25.2	30.2	5.0
2000	22.0	27.3	5.3	23.4	29.0	5.6	26.2	31.7	5.5
2001	22.3	27.3	5.0	24.4	29.8	5.4	25.2	30.7	5.5
2002	25.8	31.7	5.9	26.7	32.3	5.6	26.3	31.8	5.5
2003	24.0	29.0	5.0	26.8	32.0	5.2	27.6	32.5	4.9
1999-03	23.1	28.3	5.2	24.7	30.0	5.3	26.2	31.4	5.2
1996-03 (Estimate)	22.0	27.2	5.2	24.0	29.3	5.3	25.7	30.9	5.2
2000-03	23.6	28.9	5.3	25.5	30.9	5.4	26.4	31.7	5.3
2001-03	24.1	29.4	5.3	26.0	31.4	5.4	26.4	31.7	5.3
Total (Home Purchase and Refinance) Loans									
1999	23.3	27.8	4.5	21.7	26.5	4.8	26.9	31.9	5.0
2000	24.6	29.6	5.0	25.2	30.6	5.4	28.7	34.2	5.5
2001	22.5	27.2	4.7	24.2	29.3	5.1	24.9	30.0	5.1
2002	22.9	28.2	5.3	24.0	29.1	5.1	24.2	29.4	5.2
2003	20.1	24.6	4.5	23.7	28.4	4.7	24.5	29.2	4.7
1999-03	22.1	26.9	4.8	23.8	28.7	4.9	25.2	30.3	5.1
1996-03 (Estimate)	21.8	26.6	4.8	23.4	28.3	4.9	25.2	30.3	5.1
2000-03	21.9	26.8	4.9	24.0	29.0	5.0	25.0	30.0	5.0
2001-03	21.6	26.5	4.9	23.9	28.8	4.9	24.5	29.5	5.0

Source: GSE and HMDA data.

It is interesting to repeat the earlier 1990-based analysis of home purchase loans but this time based on the 2000 Census geography. The following results are obtained for home purchase loans from Table B.8:

Year	Freddie Mac (percent)	Fannie Mae (percent)	Market (w/o B&C) (percent)
1999	25.6	25.3	30.2
2000	27.3	29.0	31.7
2001	27.3	29.8	30.7
2002	31.7	32.3	31.8
2003	29.0	32.0	32.5
1996–2003 (estimate)	27.2	29.3	30.9
1999–2003 (average)	28.3	30.0	31.4
2001–2003 (average)	29.4	31.4	31.7

Between 1999 and 2003, 28.3 percent of Freddie Mac's purchases and 30.0 percent of Fannie Mae's purchases financed properties in underserved neighborhoods, compared with 31.4 percent home purchase loans originated in the conventional conforming market (excluding B&C loans). Thus, Freddie Mac performed at 90 percent of the market level, while Fannie Mae performed at 96 percent of the market level—both results similar to those reported above for underserved areas based on 1990 Census geography. The 2000 Census data show that the Fannie Mae has been much closer to the market during the recent 2001–2003 period. The share of Fannie Mae's purchases going to underserved areas was 31.4 during 2001–2003, which placed it close to the market level of 31.7 percent. However, the 2000-based results show that, like Freddie Mac, Fannie Mae's longer-term performance (since 1996) as well as its recent average performance (1999 to 2003) have consistently been below market levels. (Note that the 1996–2003 averages reported above are estimated by adding the following 2000-Census versus 1990-Census differentials calculated for 1999–2003: 5.2 percentage points for Freddie Mac, 5.3 for Fannie Mae, and 5.2 for the market.)

Underserved Area Subgoal for Home Purchase Loans. The Department is establishing a subgoal of 32 percent for each GSE's acquisitions of home purchase loans financing single-family-owner properties located in the underserved census tracts of metropolitan areas for 2005, with this subgoal rising to 33 percent for 2006 and 2007, and to 34 percent in 2008. If the GSEs meet the 2008 subgoal, they will be leading the primary market by over two percentage points, based on historical data. This *home purchase* subgoal will encourage the GSEs to provide additional credit and capital to urban neighborhoods that historically have not been adequately served by the mortgage industry—but in the future may be the very neighborhoods where the growing population of immigrants and minorities choose to live. As detailed in Section I.5 of this appendix, there are four specific reasons for establishing this subgoal: (1) The GSEs have the expertise, resources, and ability to lead the single-family-owner market, which is their ''bread and butter'' business; (2) the GSEs have been lagging the primary market in underserved areas, not leading it; (3) the GSEs can help reduce troublesome neighborhood disparities in access to mortgage credit; and (4) there are ample opportunities for the GSEs to expand their purchases in low-income and high-minority neighborhoods. Sections E.9 and G of Appendix A provide additional information on the opportunities for an enhanced GSE role in underserved area segment of the home purchase market and on the ability of the GSEs to lead that market.

As discussed above, underserved areas accounted for an average of approximately 31.5 percent of home purchase loans originated in the conventional conforming market of metropolitan areas (computed over 1999–2003 or over 2001–2003). To reach the 34-percent subgoal for 2008, both GSEs will have to improve over their earlier peak performances—Freddie Mac by 2.3 percentage points over its previous peak performance of 31.7 percent in 2002, and Fannie Mae by 1.7 percentage points over its previous peak performance of 32.3 percent in 2003. To meet the 2008 subgoal, Freddie Mac will have to improve by 2.6 percentage points over its 2002–2003 average (unweighted) performance of 30.4 percent, while Fannie Mae will have to improve by 1.8 percentage points over its 2002–2003 average performance of 32.2 percent.

The subgoal applies only to the GSEs' purchases in metropolitan areas because the HMDA-based market benchmark is only available for metropolitan areas. HMDA data for non-metropolitan counties are not reliable enough to serve as a market benchmark. The Department is also setting home purchase subgoals for the other two goals-qualifying categories, as explained in Appendices A and C.

b. Characteristics of GSEs' Purchases of Mortgages on Properties in Metropolitan Underserved Areas

Several characteristics of loans purchased in 2003 by the GSEs in metropolitan underserved areas are presented in Table B.9. As shown, borrowers in underserved areas are more likely than borrowers in served areas to be first-time homebuyers, all female, all male and younger than 40. And, as expected, borrowers in underserved areas are more likely to have below-median income and to be members of minority groups. For example, first-time homebuyers make up 6.7 percent of the GSEs' mortgage purchases in underserved areas and 4.2 percent of their business in served areas. In underserved areas, 53.7 percent of borrowers had incomes below the area median, compared with 36.4 percent of borrowers in served areas.

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Table B.9

Loan and Borrower Characteristics of Single-Family Mortgages Purchased by the GSEs In Metropolitan Areas, 2003

Loan and Borrower Characteristics	Fannie Mae		Freddie Mac		Total	
	Served	Underserved	Served	Underserved	Served	Underserved
Number of Loans	5,583,629	1,738,056	3,254,122	825,566	8,837,751	2,563,622
Loan Purpose						
Home Purchase	21.8 %	27.4 %	18.3 %	24.6 %	20.5 %	26.5 %
Refinancing	78.2	72.6	81.7	75.4	79.5	73.5
Origination Year						
Current Year	16.7 %	18.9 %	12.8 %	16.0 %	15.2 %	18.0 %
Prior Years	83.3	81.1	87.2	84.0	84.8	82.0
Loan-to-Value Ratio						
Over 95%	33.0 %	26.3 %	33.1 %	26.0 %	33.1 %	26.2 %
91-95%	52.7	53.4	53.9	54.0	53.2	53.6
81-90%	8.0	10.3	7.8	11.4	7.9	10.6
61-80%	4.1	5.4	4.4	6.5	4.2	5.8
60% or Less	2.2	4.6	0.8	2.2	1.7	3.8
Income of Borrower(s)						
60% of Area Median or Below	10.8 %	20.5 %	8.6 %	17.6 %	9.9 %	19.6 %
61-100% of Median	27.5	34.3	24.6	33.7	26.4	34.1
Below Area Median	38.3	54.8	33.1	51.2	36.4	53.7
Over 100% of Median	61.7	45.2	66.9	48.8	63.6	46.3
First-time Home Buyer	4.6 %	7.2 %	3.6 %	5.5 %	4.2 %	6.7 %
Other	95.4	92.8	96.4	94.5	95.8	93.3
Race/National Origin of Borrower						
White	85.3 %	64.1 %	87.3 %	72.5 %	86.1 %	66.8 %
African American	2.9	8.7	2.1	6.5	2.6	8.0
Hispanic	4.9	16.7	3.5	11.6	4.4	15.1
Asian or Pacific Islander	5.1	8.3	4.3	6.2	4.8	7.6
American Indian or Alaskan Native	0.4	0.5	0.3	0.4	0.4	0.5
Other	1.4	1.7	2.5	2.7	1.8	2.0
Age of Borrower						
Under 30	5.1 %	6.9 %	6.4 %	8.8 %	5.6 %	7.6 %
30-39	27.5	28.1	26.5	26.9	27.0	27.6
40 and Over	67.4	65.1	67.1	64.3	67.3	64.8
Gender of Borrower(s)						
All Male	20.8 %	26.8 %	18.6 %	24.3 %	19.9 %	26.0 %
All Female	19.0	24.6	15.7	21.1	17.7	23.5
Male and Female	60.3	48.6	65.8	54.6	62.3	50.5

Source: HUD analysis of GSEs' loan-level data on mortgages on owner-occupied one-unit properties. In computing the percentages, missing data are excluded.

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Minorities' share of the GSEs' mortgage purchases in underserved areas (33.2 percent) was greater than two times their share in served areas (13.9 percent). And the pattern was even more pronounced for African Americans and Hispanics, who accounted for 23.1 percent of the GSEs' business in underserved areas, but only 7.0 percent of their purchases in served areas.

Other similarities in Fannie Mae and Freddie Mac purchases in served and underserved areas include the following. The GSEs are slightly more likely to purchase refinance loans in served areas than in underserved areas; mortgage purchases with loan-to-value ratios below 80 percent are more likely to be in underserved than in served areas; and seasoned mortgage purchases are more likely to be in underserved than in served areas.

3. GSE Mortgage Purchases in Nonmetropolitan Areas

There are numerous studies that have evaluated the impact of the GSEs' purchases on metropolitan areas, but few address the impact on nonmetropolitan areas; therefore, our understanding of the GSEs and the nonmetropolitan markets is very limited.

A study of the GSE market share in underserved counties [47] found that location has a role in the accessibility of credit for some people in nonmetropolitan areas (low income, minority, and first-time homebuyers). West North Central counties (Minnesota, Missouri, South Dakota, Iowa, Kansas, Nebraska, and North Dakota) have much lower GSE activity than all other geographic regions, suggesting that the 1995 definition of underservice does not capture the specific characteristics of this region, leading to limited GSE activity.

Additionally, The Urban Institute prepared a report for HUD that investigated the factors influencing GSE activity in nonmetropolitan areas.[48] The authors found that Fannie Mae and Freddie Mac have increased their lending to nonmetropolitan areas since 1993; however, there are still weak areas in terms of the percentage of affordable loans being offered.[49] They also established that GSE underwriting criteria was not a major barrier in nonmetropolitan areas.

In nonmetropolitan areas, the financial market is often made up of locally owned community banks, manufactured home lenders, and subprime lenders. Industry representatives contacted by the Urban Institute researchers assessed that the barriers nonmetropolitan lenders faced were in the areas of availability of sales comparables, technology, and the type and number of lenders in the area. They also believed that for the GSEs' market share to improve in underserved nonmetropolitan areas, the GSEs would have to begin to build relationships with the community lenders and provide education/training on how to sell loans directly to the GSEs rather than using intermediaries.

a. Effects of 2000 Census Geography

In order to compare served and underserved areas, either in terms of GSE performance or socioeconomic characteristics, it is first necessary to update current geographic (county) designations, which reflect 1990 census median income and minority population data, to reflect newly available 2000 census data. Table B.10 shows the impact on 2000, 2001, and 2002 GSE purchases. These are reported for total GSE purchases and separately for Fannie Mae and Freddie Mac. As above, the results also are shown separately for counties that change classification and those that do not. This analysis is limited to nonmetropolitan areas based on both the pre- and post-June, 2003 OMB metropolitan area designations.

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[47] Heather MacDonald, ''Fannie Mae and Freddie Mac in Nonmetropolitan Housing Markets: Does Space Matter?'' *Cityscape: A Journal of Policy Development and Research,* Volume 5, 2001, pp. 219–264.

[48] Jeanette Bradley, Noah Sawyer and Kenneth Temkin, *Factors Influencing GSE Service to Rural Areas,* The Urban Institute, prepared for U.S. Department of Housing and Urban Development, 2002.

[49] Affordable loans are defined as borrowers earning less than 80 percent the Area Median Income.

Table B.10

Effects of 2000 Census on Designation of Nonmetropolitan Counties as Served or Underserved

	Based on 1990 Census Data		Based on 2000 Census Data		Transition			
	Served	Underserved	Served	Underserved	Remain served	Served to Underserved	Underserved to Served	Remain Underserved
Counties	797	1,514	792	1,260	533	93	225	1,151
Percent	34.5	65.5	38.6	61.4	26.6	4.6	11.2	57.5
GSE Purchases, 2000:								
Fannie Mae	131,622	84,099	113,829	66,346	83,313	6,072	17,184	56,414
Percent	61.0	39.0	63.2	36.8	93.2	6.8	23.3	76.7
Freddie Mac	115,606	74,141	102,995	58,427	76,216	5,534	15,026	50,485
Percent	60.9	39.1	63.8	36.2	93.2	6.8	22.9	77.1
GSE Purchases, 2001:								
Fannie Mae	291,554	185,435	254,313	143,767	187,513	11,937	37,616	124,179
Percent	61.1	38.9	63.9	36.1	94.0	6.0	23.2	76.8
Freddie Mac	273,079	155,084	248,597	116,991	184,760	11,381	37,773	100,593
Percent	63.8	36.2	68.0	32.0	94.2	5.8	27.3	72.7
GSE Purchases, 2002:								
Fannie Mae	366,795	246,158	320,984	192,317	235,845	15,332	47,799	166,869
Percent	59.8	40.2	62.5	37.5	93.9	6.1	22.3	77.7
Freddie Mac	347,716	197,949	319,437	148,797	236,643	14,255	47,675	127,740
Precent	63.7	36.3	68.2	31.8	94.3	5.7	27.2	72.8

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Applying 2000 census median income and minority population data results in a slight drop in the proportion of counties that are classified as underserved. Out of a total of 2,493 counties, 1,514 (65.5 percent) are underserved based on 1990 data, and 1,260 (61.4 percent) based on 2000 data. This small net change disguises a somewhat larger shift of counties, as about 11.2 percent of currently underserved counties are reclassified as served counties and 4.6 percent of currently served counties are reclassified as underserved.

Comparing underserved and served nonmetropolitan areas in Table B.10, it is apparent that underserved nonmetropolitan areas make up a larger percentage of nonmetropolitan areas as a whole than do served nonmetropolitan areas, as shown by the number of counties (1,260 for underserved (61.4%); 792 for served (38.6%)). These relationships hold true also for the number of households (9.5 million for underserved (50.5%); 9.3 million for served (49.5%)), and the population (24.9 million for underserved (51%); 23.9 million for served (49%)) as shown in Table B.5.

Table B.10 shows that Fannie Mae's performance in 2002 (40.2 percent) was somewhat higher than Freddie Mac's (36.3 percent). This gap widens slightly (1.8 percent) in applying 2000 census income and minority data and 2003 metropolitan area definitions.

b. Characteristics of GSEs' Purchases of Mortgages on Properties in Nonmetropolitan Underserved Areas

Nonmetropolitan mortgage purchases made up 12.6 percent of the GSEs' total mortgage purchases in 2003. Mortgages in underserved counties made up 38.6 percent of the GSEs' business in nonmetropolitan areas.[50]

[50] Underserved areas make up about 56 percent of the census tracts in nonmetropolitan areas and 47 percent of the census tracts in metropolitan areas. This is one reason why underserved areas comprise a larger portion of the GSEs' single-family mortgages in nonmetropolitan areas (39 percent) than in metropolitan areas (23 percent).

Unlike the underserved areas definition for metropolitan areas, which is based on census tracts, the rural underserved areas definition is based on counties. Rural lenders argued that they identified mortgages by the counties in which they were located rather than the census tracts; and therefore, census tracts were not an operational concept in rural areas. Market data on trends in mortgage lending for metropolitan areas are provided by HMDA; however, no comparable data source exists for rural mortgage markets. The absence of rural market data is a constraint for evaluating credit gaps in rural mortgage lending and for defining underserved areas.

One concern is whether the broad definition overlooks differences in borrower characteristics in served and underserved counties that should be included. Table B.11 compares borrower and loan characteristics for the GSEs' mortgage purchases in served and underserved areas.

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Table B.11

Loan and Borrower Characteristics of Single-Family Mortgages Purchased by the GSEs In Nonmetropolitan Counties, 2003

Loan and Borrower Characteristics	Fannie Mae		Freddie Mac		Total	
	Served	Underserved	Served	Underserved	Served	Underserved
Number of Loans	568,499	374,525	439,401	258,181	1,007,900	632,706
Loan Purpose						
Home Purchase	22.1 %	24.4 %	18.0 %	19.8 %	20.3 %	22.5 %
Refinancing	77.9	75.6	82.0	80.2	79.7	77.5
Origination Year						
Current Year	14.7 %	15.2 %	11.5 %	12.2 %	13.3 %	14.0 %
Prior Years	85.3	84.8	88.5	87.8	86.7	86.0
Loan-to-Value Ratio						
Over 95%	26.7 %	22.4 %	27.7 %	24.8 %	27.2 %	23.4 %
91-95%	54.6	55.0	55.8	55.9	55.1	55.4
81-90%	10.3	12.4	9.8	11.5	10.1	12.0
61-80%	5.1	6.3	5.8	6.8	5.4	6.5
60% or Less	3.2	3.8	0.8	1.1	2.2	2.7
Income of Borrower(s)						
60% of Area Median or Below	12.6 %	11.1 %	10.6 %	9.6 %	11.7 %	10.5 %
61-100% of Median	28.6	25.2	26.9	24.5	27.9	24.9
Below Area Median	41.2	36.3	37.5	34.0	39.6	35.4
Over 100% of Median	58.8	63.7	62.5	66.0	60.4	64.6
First-time Home Buyer	4.3 %	4.6 %	3.4 %	3.3 %	3.9 %	4.1 %
Other	95.7	95.4	96.6	96.7	96.1	95.9
Race/National Origin of Borrower						
White	95.7 %	91.5 %	96.2 %	91.4 %	95.9 %	91.4 %
African American	0.9	2.4	0.6	1.5	0.8	2.0
Hispanic	1.8	3.2	1.4	4.9	1.6	3.9
Asian or Pacific Islander	0.6	1.5	0.6	0.9	0.6	1.3
American Indian or Alaskan Native	0.4	0.7	0.3	0.5	0.3	0.6
Other	0.6	0.7	0.9	1.0	0.7	0.8
Age of Borrower						
Under 30	8.9	8.9	8.1	7.9	8.6	8.5
30-39	26.2	24.9	24.5	23.5	25.5	24.3
40 and Over	64.9	66.2	67.4	68.6	66.0	67.2
Gender of Borrower(s)						
All Male	19.9	20.5	17.0	17.8	18.6	19.4
All Female	15.2	15.0	13.0	13.2	14.2	14.3
Male and Female	64.9	64.5	70.0	69.0	67.2	66.3

Source: HUD analysis of GSEs' loan-level data on mortgages on owner-occupied one-unit properties. In computing the percentages, missing data are excluded.

Note: Average median family income in 1990 was $30,977 in served nonmetro counties and $23,573 in underserved nonmetro counties. These figures were adjusted to 2003 in order to compare them with borrower income in 2003. Because of the differences in median incomes between served and underserved nonmetro counties, borrower income distributions are not readily comparable for served and underserved counties.

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Fannie Mae is slightly more likely and Freddie Mac is less likely to purchase loans for first-time homebuyers in underserved areas than in served areas. Mortgages to first-time homebuyers accounted for 4.3 percent of Fannie Mae's mortgage purchases in served counties, compared with 4.6 percent of its purchases in underserved counties. For Freddie Mac the corresponding figures are 3.4 percent in served counties and 3.3 percent in underserved counties.

The GSEs are more likely to purchase mortgages for high-income borrowers in underserved than in served counties. Surprisingly, borrowers in served counties were more likely to have incomes below the median than in underserved counties (39.6 percent compared to 35.4 percent). These findings lend some support to the claim that, in rural underserved counties, the GSEs purchase mortgages for borrowers that probably encounter few obstacles in obtaining mortgage credit.

The following similarities in Fannie Mae and Freddie Mac purchases in served and underserved counties in nonmetropolitan areas mirror those found for the GSEs in served and underserved census tracts in metropolitan areas. The GSEs are slightly more likely to purchase refinance loans in served than in underserved counties; mortgage purchases with loan-to-value ratios below 80 percent are more likely to be in underserved than in served counties; and seasoned mortgage purchases are more likely to be in underserved than in served counties.

E. Factor 4: Size of the Conventional Conforming Mortgage Market for Underserved Areas

HUD estimates that underserved areas account for 35–39 percent of the conventional conforming mortgage market. The analysis underlying this estimate is detailed in Appendix D.

F. Factor 5: Ability to Lead the Industry

This factor is the same as the fifth factor considered under the goal for mortgage purchases on housing for low- and moderate-income families. Accordingly, see Section G of Appendix A for a discussion of this factor, as well as Section I.5 of this Appendix, which describes the home purchase subgoal which is designed to place the GSEs in a leadership role in the underserved market.

G. Factor 6: Need to Maintain the Sound Financial Condition of the Enterprises

HUD has undertaken a separate, detailed economic analysis of this rule, which includes consideration of (a) the financial returns that the GSEs earn on loans in underserved areas and (b) the financial safety and soundness implications of the housing goals. Based on this economic analysis and reviewed by the Office of Federal Housing Enterprise Oversight, HUD concludes that the goals raise minimal, if any, safety and soundness concerns.

H. Defining Nonmetropolitan Underserved Areas

1. Whether to Adopt a Tract-Based Definition of Underserved Areas

The current county-based definition for targeting GSE purchases to underserved nonmetropolitan areas was adopted in 1995 over alternative narrower definitions, such as census tracts, despite the use of census tracts in metropolitan areas. In the 1995 Final Rule, HUD found the merits of a county-based system of targeting outweighed a tract-based system. Now, with seven years of experience under a county-based system, the release of Census 2000 data, and improvements in information technology and systems, HUD can reexamine whether to switch to census tracts for defining underserved nonmetropolitan areas. This section compares impacts of the potential shift in definition for both served and underserved populations as determined by tract-based and county-based definitions using a number of common industry variables as focal points for analysis.

The rationale for choosing counties in 1995 rested primarily on perceived shortcomings of census tracts.[51] In particular, rural lenders did not perceive their market areas in terms of census tracts, but rather, in terms of counties. Another concern was a perceived lack of reliability in geocoding 1990 census tracts. At the same time, HUD found merit in using a tract-based geography for nonmetropolitan areas. Because tracts encompass more homogeneous populations than counties, they permit more precise targeting of underserved populations. In other words, more homogeneous geographic areas increase the potential for targeting the GSE mortgage purchases into areas where borrowers are more likely to face obstacles and other challenges in securing mortgage credit.

The criteria used for this analysis include the following:

7. Do tracts provide a sharper delineation of served and underserved areas? Specifically, are underserved nonmetropolitan populations more clearly differentiated by adopting tracts vs. counties? Could service to the underserved nonmetropolitan populations be more comprehensive under tract-based definitions?

8. What is the impact on GSE purchasing patterns if underserved areas are defined by tract?

9. Applying the current criteria for identifying underserved areas to tracts would result in reclassifying approximately 23 percent of all tracts, with 28 percent of tracts in served counties being redesignated as underserved and 19 percent of tracts in underserved counties being redesignated as served. Overall, roughly the same percentage of families (and population) would be reclassified. However, because underserved tracts are somewhat less densely populated than served tracts, the corresponding proportions of families that shift from served and underserved counties are closer: 25 vs. 21 percent.

a. Do Census Tracts Allow a Sharper Delineation of Served and Underserved Areas?

This section compares the differences in housing need and economic, demographic, and housing conditions in served and underserved nonmetropolitan areas classified on, respectively, counties and tracts. Additionally, the ''efficiency'' with which counties and tracts cover the target populations is compared. That is, does tract-based targeting do a better job of capturing lower income households and excluding higher income households than county-based targeting?

Table B.12 presents several indicators of socioeconomic and housing condition in served and underserved areas under both a tract-based and a county-based definition. In addition, served and underserved counties are subdivided into their served and underserved tract components. This allows a closer examination of the population and housing characteristics of the tracts that are reclassified (*i.e.*, served to underserved or visa versa) under tract-based targeting. Thus, area characteristics of housing need and housing, economic, and demographic conditions can be compared, for the following four groups of tracts: (1) Tracts in served counties that would remain ''served'' classified as tracts; (2) tracts that remain ''underserved''; (3) tracts that shift from served to underserved; and (4) tracts that shift from underserved to served. In addition, we provide counts of tracts falling into each of these groups. If a tract-based classification of underserved areas improves geographic targeting, the regrouping of tracts would be more similar to one another than to the other tracts in their respective counties: *e.g.*, formerly underserved areas that become served should be more similar to tracts that were and remain served than to underserved (unchanged).

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[51] 60 FR 61,925–58 (1995) (Appendix B).

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Table B.12

Effects of Changing to Tract-Level Nonmetropolitan Underservice Definition On Socioeconomic and Housing Characteristics of Served and Underserved Tracts

	Tract Designations Based on County-Level Data		Tract Designations Based on Tract-Level Data		Analysis			
	Served	Underserved	Served	Underserved	Remain Served	Served to Underserved	Underserved to Served	Remain Underserved
Tracts	5,945	6,414	5,577	6,782	4,333	1,612	1,244	5,170
Percent	48.1%	51.9%	45.1%	54.9%	35.1%	13.0%	10.1%	41.2%
% owner-occupied	73.7%	74.0%	76.6%	71.6%	76.4%	65.2%	77.4%	73.5%
Excluding manufactured homes	73.2%	73.3%	76.4%	70.0%	76.2%	63.7%	77.2%	72.2%
Population	23,941,532	24,899,110	23,181,465	25,659,177	18,054,745	5,886,787	5,126,720	19,772,390
% African American	3.3%	13.4%	3.1%	13.2%	2.2%	6.6%	6.4%	15.2%
% Hispanic/Latino	3.4%	7.3%	3.1%	7.5%	2.9%	5.2%	3.7%	8.2%
% Minority	9.3%	25.8%	8.6%	25.9%	7.3%	15.4%	13.4%	29.1%
Poverty rate	7.5%	14.5%	6.6%	15.3%	6.1%	12.0%	8.4%	16.2%
Unemployment rate	5.2%	7.3%	4.8%	7.6%	4.6%	7.1%	5.4%	7.8%
School dropout rate	18.7%	28.1%	17.7%	28.9%	17.0%	24.1%	20.2%	30.1%
Migration rate	8.0%	7.4%	7.9%	7.5%	7.8%	8.6%	8.0%	7.2%
Median family income	$45,000	$35,421	$46,769	$34,025	$47,589	$36,601	$43,919	$33,230
Median housing value	$88,099	$67,358	$91,996	$63,744	$93,744	$69,140	$85,418	$62,103
Purchase affordability	178	183	177	186	177	184	179	186
Owner occupied vacancy rate	2.3%	2.6%	2.2%	2.7%	2.1%	2.8%	2.4%	2.7%
Median rent	$475	$375	$475	$425	$475	$475	$425	$375
Rental affordability	197	197	205	167	209	161	215	185
Rental vacancy rate	8.8%	10.1%	8.8%	9.9%	8.4%	9.5%	10.4%	10.0%
Without complete plumbing	1.7%	3.2%	1.6%	3.2%	1.6%	2.1%	1.9%	3.6%
Without complete kitchen facilities	1.8%	3.2%	1.7%	3.2%	1.6%	2.3%	2.0%	3.5%
More than one occupant per room	2.3%	4.3%	2.2%	4.3%	2.1%	3.2%	2.7%	4.7%

Note: Current underservice definition applied to tracts, based on 2000 Census.

Socioeconomic and Demographic Conditions. Table B.12 shows that in important socioeconomic and demographic characteristics, tract-based targeting would more effectively distinguish underserved populations. Median family income, poverty, unemployment, school dropout rates, and minority population all exhibit greater differences between served and underserved areas using tracts. For example, the difference in median income between served and underserved counties is $9,579, or alternatively, between served and underserved tracts, the difference is $12,744. Similarly, there is a 7-percentage point gap in poverty rates (7.5 vs. 14.5 percent poverty) using counties, which widens to 8.6 percentage points (6.6 vs. 15.3 percent) using tracts. Minority population also is captured somewhat better with tracts, with the served/underserved gap increasing from 16.5 to 17.3 percentage points. In all cases, the levels of the indicators for underserved areas move in a direction consistent with targeting lower income households and areas with higher minority populations.

The 4-way breakdown of served and underserved counties reveals some significant differences between the two component groups. In most respects, ''underserved tracts'' (*i.e.*, those meeting the underserved criteria), whether located in an underserved or served county, are more alike than they are like served tracts. Using median income again to illustrate, the effect of reclassifying areas by tract characteristics is to put together two groups of underserved tracts: Tracts that were in previously underserved counties and are not reclassified and tracts that were in served counties but meet the underserved criteria. A new group of served tracts is similarly formed. In both cases, the difference in median incomes of the constituent groups is about $3,500. In contrast, the served and underserved counties now encompass ''served'' and ''underserved'' groups of tracts whose respective median incomes differ by almost $11,000. Combined with the fact that a fairly large number of tracts are affected overall (*i.e.*, switch), these results support an assessment that counties are relatively crude for targeting underserved populations.

Housing Needs and Conditions. Table B.12 shows that tract-based targeting would produce modest gains in focusing GSE purchases on areas with relatively greater housing needs and conditions as measured by low owner-occupancy, higher vacancy rates, and crowding. For each of these indicators, measured need increases in underserved areas and the gap between served and underserved areas widens when tracts are used to classify areas. Most notably, the percent of owner-occupied housing units switches from being higher in underserved than served counties to being significantly lower among underserved tracts. With a shift to tracts overall ownership drops in underserved areas, from 74 to 72 percent, and increases in served areas from 74 to 77 percent. In contrast, the homeownership rate for tracts located in served counties that would be deemed underserved if judged separately is only 65 percent. In fact, this rate is much lower even than underserved tracts in underserved counties. Shifting these tracts from served to underserved largely accounts for the switching of homeownership rates.

Results for other indicators of housing need and conditions are less clear-cut. No definitive patterns are apparent for two, admittedly weak, measures of housing quality—units with complete plumbing and units with complete kitchen facilities, as well as for crowding. Purchase affordability, as measured by the ratio of median housing value to the income necessary to qualify for a loan for the median valued unit, is higher in underserved areas than in served areas. However, the measure of purchase affordability presented here is influenced by many market and other economic factors, some of which do not relate to housing need. For example, a low affordability ratio may reflect abundant supply, but it may also reflect low demand stemming from, *e.g.*, limited availability of credit or high interest rates.

Coverage Efficiency. The coverage efficiency index measures the effect of adopting tract-based targeting. This index can be used to indicate how well underserved areas encompass populations deemed to be underserved (''sensitivity'') and to exclude populations that are deemed to be served (''specificity''). The index is computed for median income as the difference in two percentages: (1) The proportion of all families in nonmetropolitan areas that meet the applicable income threshold who live in underserved tracts minus (2) the proportion of all families in nonmetropolitan areas that do not meet the applicable underserved income threshold who live in underserved areas. This difference can range from 1 (perfect) to −1 (bad; perverse). For example, a coverage efficiency index equal to 1 implies that every family in need is living in an underserved area while there are no families who are not in need living in an underserved area; a coverage efficiency index equal to −1 implies that none of the families in need live in an underserved area, or equivalently, all families in underserved areas are not in need.

Comparing coverage efficiency for counties and tracts indicates that tracts do a better job; capturing a higher percentage of nonmetropolitan families whose income falls below the applicable income threshold and excluding more families whose income exceeds the threshold.[52] Overall, the efficiency index rises from 0.22 to 0.274.

Given income thresholds that are not far away from median income in most places and the degree of income variation even with census tract boundaries, it should not come as a great surprise that neither the levels of coverage efficiency (0.22–0.27) nor improvement produced in applying tracts (5 percentage points) are not more dramatic. Nevertheless, tracts do produce better tracking of lower income, very low income, and minority families.

b. Does GSE Performance Vary Between Served and Underserved Tracts Within Underserved Counties?

A similar analytical approach is used to examine how a shift to tracts would impact GSE purchases. Having applied income and minority thresholds from the 2000 census and updating census tract geography, Table B.13 compares, respectively, 2000, 2001, and 2002 GSE purchases for served and underserved counties and tracts and also for the served and underserved tracts within county boundaries. On net there would be somewhat more tracts classified as underserved under a tract-based system than currently: 6,782 vs. 6,414. As noted above, however, 23.1 percent of all tracts are reclassified. Moving to tracts also would have a significant effect on the relative performance of the GSEs. In 2002, Fannie Mae's performance would drop 2.1 percentage points to 35.4 percent, while Freddie Mac's performance would increase by 0.9 percent to 32.7 percent.

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[52] In areas with 30 percent or greater minority population, all families with income in excess of 120 percent of the greater of State or national median income are counted as qualifying as ''in need'' for these computations. Similarly, in areas with less than 30 percent minority, those minority (headed) families with income between 95 and 120 percent of the applicable median income are not classified as ''in need.''

Table B.13

Effects of Changing to Tract-Level Nonmetropolitan Underservice Definition On GSE Underserved Percentages, 2000-2002

	Tract Designations Based on County-Level Data		Tract Designations Based on Tract-Level Data		Analysis			
	Served	Underserved	Served	Underserved	Remain served	Served to Underserved	Underserved to Served	Remain Underserved
Tracts	5,945	6,414	5,577	6,782	4,333	1,612	1,244	5,170
Percent	48.1	51.9	45.1	54.9	35.1	13.0	10.1	41.2
GSE Purchases, 2000:								
Fannie Mae	113,829	66,346	116,554	63,628	94,131	19,701	22,423	43,927
Percent	63.2	36.8	64.7	35.3	52.2	10.9	12.4	24.4
Freddie Mac	102,995	58,427	103,978	57,248	85,097	17,686	18,881	39,561
Percent	63.8	36.2	64.5	35.5	52.8	11.0	11.7	24.5
GSE Purchases, 2001:								
Fannie Mae	254,313	143,767	260,564	137,521	213,473	40,843	47,090	96,678
Percent	63.9	36.1	65.5	34.5	53.6	10.3	11.8	24.3
Freddie Mac	248,597	116,991	247,621	117,822	209,066	39,397	38,555	78,425
Percent	68.0	32.0	67.8	32.2	57.2	10.8	10.6	21.5
GSE Purchases, 2002:								
Fannie Mae	320,984	192,317	331,386	181,957	269,614	51,488	61,771	130,469
Percent	62.5	37.5	64.6	35.4	52.5	10.0	12.0	25.4
Freddie Mac	319,437	148,797	315,068	153,221	266,511	52,914	48,556	100,307
Precent	68.2	31.8	67.3	32.7	56.9	11.3	10.4	21.4

Note: Current underservice definitions applied to tracts, based on 2000 Census.

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Differences between qualifying purchases of single-family and multifamily loans are further increased when assessed at the tract level. Performance for single-family loans drops 0.7 percentage points to 35.2, but for multifamily increases by 2.5 percentage points to 46.8. These changes dramatically compound the results observed in updating to 2000 census data, resulting in a widening of the single- and multifamily performance difference from the current level of 7.0 percentage points to 11.6 percentage points.

2. Alternative Definitions of Underservice

The current definition of underservice in nonmetropolitan areas was established in 1995 to be relatively broad, encompassing nearly twice as many underserved as served counties and somewhat more than half of the total nonmetropolitan population. This was done primarily to ensure that certain areas with low incomes and/or high minority populations, which might not be considered underserved in comparison to the rest of their State, would nevertheless be identified as underserved from a national perspective. This section summarizes a new analysis, based on 2000 census data, to evaluate the extent to which the current definition focuses GSE purchasing activity toward stimulating mortgage lending in areas with populations having greatest housing need. Alternative definitions of underservice are considered as follows: (1) Variations of the current thresholds; (2) applying only the State median income level for qualifying underserved counties and tracts; and (3) establishing different thresholds in micropolitan and ''outside of core'' nonmetropolitan areas. In each case the objective is to assess how redesignating served and underserved areas would affect relative conditions and needs and GSE purchasing performance. In distinguishing micropolitan and ''outside of core'' areas, it is of interest to determine whether it would be appropriate to establish different thresholds for underservice. The overarching criterion for evaluating and comparing definitions is their ability to serve very low-income, low-income and moderate-income households, households in poverty, first-time homebuyers, minorities, and households in remote locations.[53]

In the current definition, areas are classified as underserved if either the minority population share is greater than 30 percent and median income is less than 120 percent of the greater of State nonmetropolitan or national nonmetropolitan median income; or area median income is less than or equal to 95 percent of the greater of State nonmetropolitan or national nonmetropolitan median income. The greater of State nonmetropolitan or national median income is termed the ''reference income.'' Denoting the current thresholds as ''30/120/95,'' the following set of alternative thresholds are evaluated:

- 30/120/95 vs. 30/120/90 vs. 30/120/80—to examine the effect of lowering the general income threshold from 95 percent to 90 percent to 80 percent.
- 30/120/95 vs. 30/110/95 vs. 30/110/80—to examine the effect of lowering both the minority (from 120% to 110%) and general income (from 95% to 80%) thresholds; and
- 30/120/95 vs. 50/120/95—to examine the effect of increasing the minority population threshold that must be attained before applying the minority income threshold.

For each alternative, indicators of socioeconomic and housing conditions are calculated for served and underserved areas for each alternative and compare the results to the current definition. Of particular interest is whether certain thresholds of minority population and median income capture the differences in housing needs and conditions between served and underserved areas better than others. The ''coverage efficiency'' of each alternative relative to households below the poverty line, below 50, 70, and 95 percent of area reference income, and below the alternative income level(s) used to define underservice, is also presented. GSE purchasing activity is also examined for each alternative definition, specifically, the percentage of eligible loans that qualify towards the goal for underserved areas defined by different thresholds. Each analysis is conducted both with counties and tracts as the geographic unit.

County Results. The main effect of lowering the general income threshold from 95 to 90 to 80 percent of the reference income is to roughly halve the number of counties and population residing in underserved areas. Under the current definition, 11.6 million people reside in underserved areas as opposed to fewer than 10 million in served areas. With a general income threshold of 80 percent, 5.7 million would be left in underserved areas. A 90 percent threshold would produce a shift of approximately half this amount.

In terms of social, economic, demographic, and housing characteristics, lowering the income threshold from 95 to 80 percent would have the following notable consequences:

- Minority population in underserved areas would increase from 12.4 to 20.8 percent with no significant change in served areas.
- Median income would fall in both served and underserved areas with the difference remaining nearly constant at $10,000.
- Poverty, unemployment, school drop out rates all would be higher in both served and underserved areas. The gap would increase for each of these characteristics.
- Migration into underserved areas (from other States) would be relatively lower than into served areas with an 80 percent income threshold.
- Indicators of homeownership would decline somewhat in underserved areas relative to served areas. For all units, for example, ownership would decline from 74.3 to 72.9 percent in underserved areas and increase from 73.5 to 74.3 percent in served areas.
- Median housing values would fall in both served and underserved areas with a significant narrowing in the gap from approximately $25,000 to $19,000 at an 80 percent median income threshold.
- Housing affordability would decline in underserved areas, becoming nearly equal with affordability in served areas at 80 percent.
- Crowding would be higher in underserved areas, absolutely and relative to served areas. Thus, more narrowly defined underserved areas would more strongly manifest conditions and needs associated with underservice: lower income, higher poverty, higher minority populations, lower homeownership, lower affordability, more crowding, etc. However, served areas would expand to encompass significant numbers of these same underserved and target populations.

Use of the coverage efficiency index highlights one of the tradeoffs between using a low median income threshold versus a high median income threshold in redefining underservice. Coverage efficiency based on all variables examined, including ''underserved,'' poor, very low income, low income and even moderate income families, declines sharply as the income threshold is lowered from 95 to 80 percent, becoming negative for most groups. Coverage for the ''underserved'' cohort declines from 22.0 to −1.0 percent, and for families with up to 95 percent of reference income, it declines from 17.2 to −10.0 percent. These changes result from losing almost half of the families in target income ranges without any appreciable gain in specificity, *i.e.*, shrinking the proportion of people living in underserved counties with incomes above the respective target levels. Similar patterns are observed for families with below 70 percent of reference income, below 50 percent of reference income, and families in poverty.

The second set of comparisons builds on the first set by lowering the income threshold applicable to areas with relatively high minority populations (30 percent) from 120 to 110 percent in addition to the general threshold. This change further shrinks, albeit, only marginally, the size and population of underserved areas. Minority underserved populations would be smaller and socioeconomic and housing conditions would be worse. Not surprisingly, coverage efficiencies and GSE purchase performance levels also would decline across the board, although the marginal effects of reducing the minority income threshold are quite small. The 30/110/80 alternative is the narrowest definition examined and produces the biggest losses in efficiency and GSE performance.

The third variation of the current definition is an increase in the minority population threshold from 30 to 50 percent. Thus, if an area does not qualify as underserved against the general income threshold of 95 percent it could still qualify if its population is 50 percent minority and median income is less than or equal to 120 percent of the reference income level.

Relatively few counties qualify solely under the current minority thresholds. Raising the population threshold would trim this number by an additional 73 counties (457 tracts). Not surprisingly, the percent minority in underserved areas would decrease. However, the areas being redesignated as served are apparently somewhat above average in terms of

[53] A more comprehensive presentation of this analysis may be found in Economic Systems, Inc., *Indicators of Mortgage Market Underservice in Non-Metropolitan Areas,* Interim Report to HUD, March 2003, Chapter 6.

socioeconomic and housing conditions in underserved areas and below-average in terms of conditions in served areas. Coverage efficiencies for all cohorts would be lower than for the current definition of underservice and GSE performance overall would be approximately 90 percent of the current level.

Using the State median income, alone, as the general reference income would reduce the number underserved counties relative to the current definition, and, although there would still be more underserved counties (1,274 vs. 1,064), the underserved population actually would become smaller than the served population. The effect of this alternative on differences in housing conditions and needs between served and underserved areas is generally small and ambiguous, but overall, results in less contrast. Consistent with the results for other alternatives, applying a State median income standard, alone, would result in lower coverage efficiency across all target groups.

Census Tract Results. As discussed above, the adoption of a tract-based system would result in greater coverage efficiency of underserved populations and sharper distinctions in the socioeconomic, demographic and housing characteristics of served and underserved areas. That is, tracts more effectively carve out areas that exhibit characteristics that are associated with underservice, such as low income, large minority populations and low homeownership. The converse is true for served areas. In analysis at the tract level, these patterns tend to be maintained quite consistently. A tract-based system would improve the power to differentiate underserved and served populations. According to virtually every indicator of socioeconomic, demographic, and housing conditions, applying State median income, alone, with a tract-based geography would produce superior differentiation to the current county-based definition. In terms of coverage efficiency, we again see improvement with tracts, but not enough to offset the loss of eliminating the national median income threshold. For the underserved population, for example, coverage efficiency would be 16.9 percent with tracts, still below 22 percent under the current definition.[54]

I. Determination of the Underserved Areas Housing Goal

The annual goal for each GSE's purchases of mortgages financing housing for properties located in geographically targeted areas (central cities, rural areas, and other underserved areas) is 37 percent of eligible units financed in 2005, 38 percent in 2006 and 2007, and 39 percent in 2008. The 2008 goal will remain in effect in subsequent years, unless changed by the Secretary prior to that time. The goal of 37 percent for 2005 is larger than the goal of 31 percent for 2001–03 mainly because, compared with the 1990 Census, the 2000 Census includes a larger number of census tracts that meet HUD's definition of underserved area. The new 37 percent-39 percent goals are commensurate with recent market share estimates of 37–39 percent for 1999–2002, presented in Appendix D.

In addition, an Underserved Areas Housing Subgoal of 32 percent is established for the GSEs' acquisitions of single-family-owner home purchase loans in metropolitan areas in 2005, with the subgoal rising to 33 percent in 2006 and in 2007 and 34 percent in 2008. The subgoal is designed to encourage the GSEs to lead the primary market in providing mortgage credit in underserved areas.

This section summarizes the Secretary's consideration of the six statutory factors that led to the Underserved Area Housing Goal and the subgoal for home purchase loans in metropolitan areas. This section discusses the Secretary's rationale for defining underserved areas and it compares the characteristics of such areas and untargeted areas. The section draws heavily from earlier sections which have reported findings from HUD's analyses of mortgage credit needs as well as findings from other research studies investigating access to mortgage credit.

1. Housing and Credit Disparities in Metropolitan Areas

To identify areas underserved by the mortgage market, HUD focused on two traditional measures used in a number of studies based on HMDA data: Application denial rates and mortgage origination rates per 100 owner-occupied units. Tables B.2 and B.3 in Section B of this Appendix presented detailed data on denial and origination rates by the racial composition and median income of census tracts for metropolitan areas. Aggregating this data is useful in order to examine denial and origination rates for broader groupings of census tracts:[55]

Minority composition (percent)	Denial rate (percent)	Orig. rate
0–30	9.6	26.7
30–50	12.4	26.9
50–100	17.2	20.8

Tract income	Denial rate (percent)	Orig. rate
Less than 90% of AMI	16.9	18.1
90–120%	11.3	25.4
Greater than 120%	7.8	32.7

Two points stand out. First, high-minority census tracts have higher denial rates and lower origination rates than low-minority tracts. Specifically, tracts that are over 50 percent minority have nearly twice the denial rate and two-thirds the origination rate of tracts that are under 30 percent minority.[56] Second, census tracts with lower incomes have higher denial rates and lower origination rates than higher income tracts. Tracts with income less than 90 percent of area median income have over twice the denial rate and almost half of the origination rate of tracts with income over 120 percent of area median income.

In both the 1995 and the 2000 GSE Rules, HUD's research determined that ''underserved areas'' could best be characterized in metropolitan areas as census tracts where: (1) Median income of families in the tract does not exceed 90 percent of area (MSA) median income or (2) minorities comprise 30 percent or more of the residents and median income of families in the tract does not exceed 120 percent of area median income. The earlier analysis was based on 1990 Census data. HUD has now conducted the same analysis using 2000 Census data and has determined that the above definition continues to be a good proxy for underserved areas in metropolitan areas. The income and minority cutoffs produce sharp differentials in denial and origination rates between underserved areas and adequately served areas. For example, in 2003 the mortgage denial rate in underserved areas (15.9 percent) was over one and three-fourths times that in adequately served areas (8.9 percent).

These minority population and income thresholds apply in the suburbs as well as in central cities. The average denial rate in underserved suburban areas (14.8 percent) is 1.7 times that in the remaining served areas of the suburbs (8.7 percent), and is almost as large as the average denial rate (16.8 percent) in underserved central city tracts. Low-income and high-minority suburban tracts appear to have credit problems similar to their central city counterparts. Thus HUD uses the same definition of underserved areas throughout metropolitan areas—there is no need to define such areas differently in central cities and in the suburbs.

This definition of metropolitan underserved areas based on 2000 Census geography includes 26,316 of the 51,040 census tracts in metropolitan areas, covering 49.2 percent of the metropolitan population in 2000. (By contrast, the 1990-based definition included 21,587 of the 45,406 census tracts in metropolitan areas, covering 44.3 percent of the metropolitan population in 1990.) The 2000-based definition includes 75.7 percent of the population living in poverty in metropolitan areas. The unemployment rate in underserved areas is more than twice that in served areas, and owner units comprise only 51.6 percent of total dwelling units in underserved tracts, versus 75.9 percent of total units in served tracts. As shown in Table B.14, this definition covers most of the population in several distressed central cities including Bridgeport (100 percent), Newark (99

[54] Note that, unlike the other panels in tables 6.3 and 6.8, ''underserved population'' is defined according to the applicable definition. Thus, eliminating the national median income test, narrows the defined cohort of underserved families. Despite this, coverage falls.

[55] Denial rates are computed for mortgage applications without manufactured housing loans. Origination rates equal home purchase and refinance mortgages (without subprime loans) per 100 owner occupants in a census tract.

[56] The differentials in denial rates are due, in part, to differing risk characteristics of the prospective borrowers in different areas. However, use of denial rates is supported by the findings in the Boston Fed study which found that denial rate differentials persist, even after controlling for risk of the borrower. See Section B for a review of that study.

percent), and Detroit (93 percent). The nation's five largest cities also contain large concentrations of their population in underserved areas: New York (68 percent), Los Angeles (72 percent), Chicago (75 percent), Houston (73 percent), and Phoenix (50 percent).

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Table B.14

Needy Areas in Central Cities Would be Covered

Central Cities with More than 90 Percent of Population Included in Geographically Targeted Tracts	
Bridgeport	100%
Trenton	100%
Lawrence	100%
York	100%
Atlantic City-Cape May	100%
Newburgh	100%
Newark	99%
Gary	96%
Reading	93%
Detroit	93%
Harrisburg-Lebanon-Carlisle	92%

Five Largest Cities	
New York	68%
Los Angeles	72%
Chicago	75%
Houston	73%
Phoenix	50%

Central Cities with Small Concentrations			
Large Cities		**Small Cities**	
Johnson City-Kingport-Bristol	28%	Jonseboro, AR	14%
Knoxville	33%	Steubenville, OH- Weirton, WV	15%
Eugene-Springfield	35%	Wheeling, WV	19%
Lincoln	36%	Bismarck, ND	20%
Boise City	37%	Dubuque, IA	25%
Lexington	38%	Missoula, MT	26%
Lakeland-Winter Haven	38%	Eau Claure, WI	26%
Santa Rosa	40%	Joplin, MO	27%

Source: 2000 Census.

2. Identifying Underserved Portions of Nonmetropolitan Areas

Based on an exploration of alternative numerical criteria for identifying underserved nonmetropolitan areas using 2000 census data, HUD has concluded that the current definition of underservice is broad but efficacious and that any narrower definition of underservice would not serve congressional intent under FHEFSSA. Narrowing the definition of underservice potentially could promote more intense purchasing in needier communities, but this seems unlikely. On the contrary, the greatest marginal impact of GSE purchasing could be in the very areas that would be excluded under the alternatives.

Research comparing a tract-based system for defining underserved areas with the current county-based system, using 2000 census data, indicates that a tract-based system would result in more effective geographic targeting of GSE purchases. Although the total number of tracts designated as served and underserved areas would change very little, 23 percent of all tracts would be reclassified, reassigning approximately equal numbers of families from served to underserved and from underserved to served.

The main effect of the reclassification is to align tracts into more homogeneous and distinct groups as measured by differences in key socioeconomic and demographic characteristics such as median family income, poverty, unemployment, school dropouts, and minority population. As a result of reclassification, underserved areas stand out more as areas of lower income and economic activity and somewhat larger minority populations.

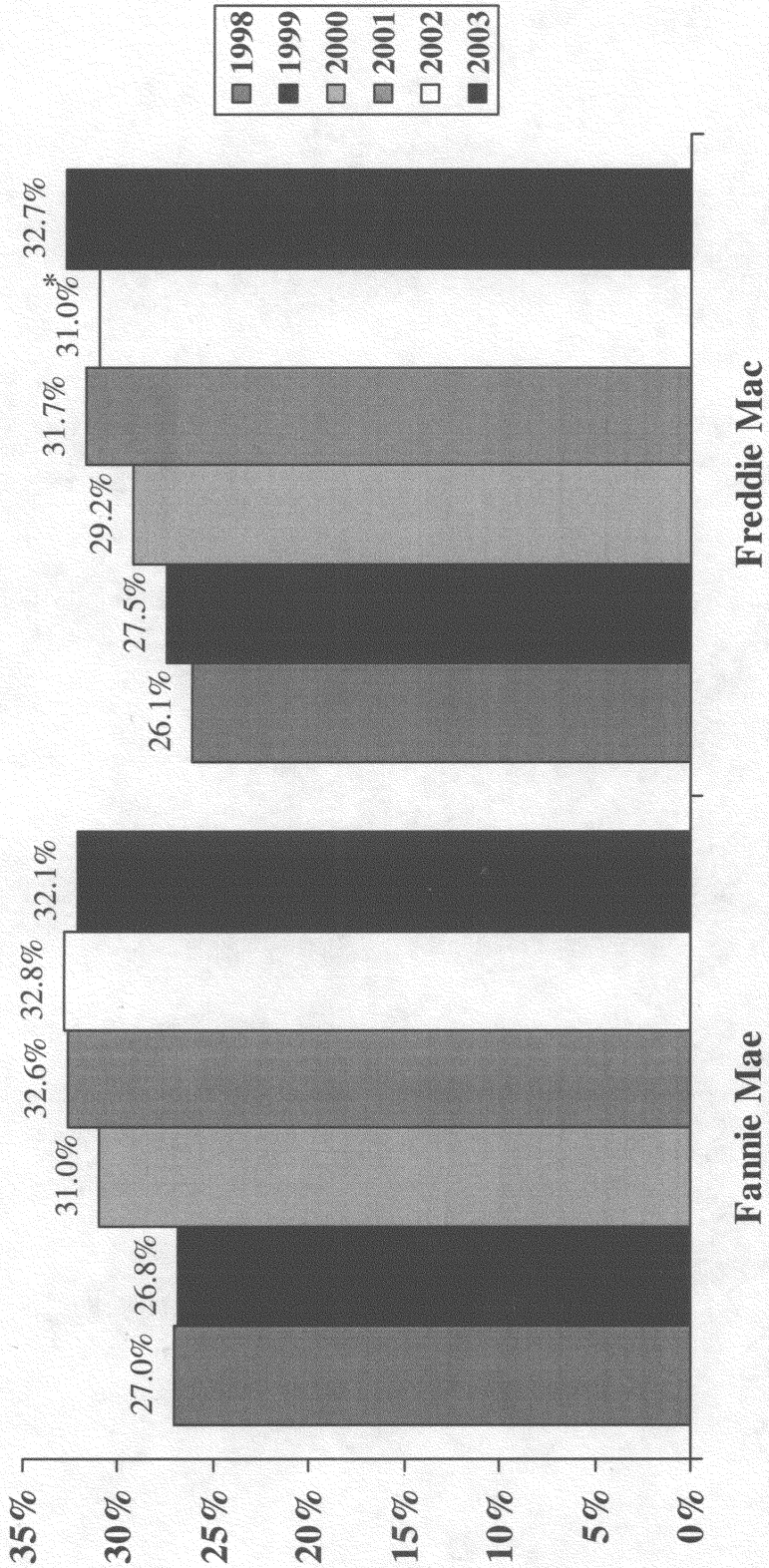
Tract-based targeting would potentially focus GSE purchases in areas with relatively greater housing needs and conditions as measured by owner-occupancy, vacancy rates, and crowding. For each of these indicators, measured need increases in underserved areas and the gap between served and underserved areas widens when tracts are used to classify areas. Most notably, homeownership would be significantly lower in underserved areas relative to served areas under a tract-based system. Currently, and contrary to expectations, homeownership actually is slightly greater in underserved areas. Driving this reversal is the fact that tracts in served counties that would be reclassified as underserved tracts have an ownership rate of just 65 percent, which is much lower even than in the underserved tracts in underserved counties, where ownership is 73 percent. Meanwhile, the served tracts in served and underserved counties have the same ownership rate of 77 percent, which is significantly higher than in underserved areas.

Two groups of measures of housing conditions—housing quality and affordability—exhibit less clear-cut results from applying tracts. However, we conclude that these results are consistent with the ambiguous patterns discussed in chapter 4 above and do not undermine the overall conclusion that basing geographic targeting on tracts would more sharply define areas with greater housing need and adverse housing conditions.

Not surprisingly, the results from analyzing housing, socioeconomic, and demographic characteristics are further reinforced in finding that a tract-based system would better capture underserved populations and exclude served populations from geographic targeting. Defining underserved families as those in any area whose income was less than 95 percent of the reference income (or in areas with a minority population of 30 percent or more, families with incomes below 120 percent of the reference income) the use of more refined tract geography results in a 5 percentage point increase in the coverage efficiency index, from 22 to 27 percent. This reflects two improvements under a tract system: Underserved areas would capture more of the nonmetropolitan ''underserved'' families (62 vs. 65 percent) and fewer ''served'' families (decreasing from 40 to 37 percent of families in underserved areas).

3. Past Performance of the GSEs

Goals Performance. In the October 2000 rule, the underserved areas goal was set at 31 percent for 2001–03. Effective on January 1, 2001, several changes in counting requirements came into effect for the undeserved areas goal, as follows: (a) ''Bonus points'' (double credit) for purchases of mortgages on small (5–50 unit) multifamily properties and, above a threshold level, mortgages on 2–4 unit owner-occupied properties; (b) a ''temporary adjustment factor'' (1.35 units credit) for Freddie Mac's purchases of mortgages on large (more than 50 unit) multifamily properties; and (c) eligibility for purchases of certain qualifying government-backed loans to receive goal credit. Under these counting rules, as shown in Table B.7a and Figure B.2, Fannie Mae's performance was 32.6 percent in 2001, 32.4 percent in 2002, and 32.1 percent in 2003, while Freddie Mac's performance was 31.7 percent in 2001, slightly less than 31 percent in 2002, and 32.7 percent in 2003; thus Fannie Mae surpassed the goal of 31 percent in all thee years, while Freddie Mac fell slightly short of the goal in 2002.



Underserved Areas Housing Goal was 24% of units financed for 1998-2000 and 31% for 2001-03.

Source: HUD analysis of GSEs' loan-level data. Due to changes in goal counting procedures in 2001, performance in 2001-03 is not strictly comparable with performance in 1998-2000, as discussed in text.

* As discussed in HUD's press release No. 04-xxx, dated October 14, 2004, Freddie Mac's performance on this goal was 30.998%, thus it fell slightly short of the goal of 31%.

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Counting requirements (a) and (b) expired at the end of 2003, while (c) will remain in effect. If this counting approach—without the bonus points and the ''temporary adjustment factor''—had been in effect in 2000–03, and the GSEs' had purchased the same mortgages that they actually did purchase in both years, then Fannie Mae's performance would have been 31.0 percent in 2000, 30.4 percent in 2001, 30.1 percent in 2002, and 29.2 percent in 2003. Freddie Mac's performance would

have been 29.2 percent in 2000, 28.2 percent in 2001, 28.0 percent in 2002, and 27.7 percent in 2003. Therefore, Fannie Mae would have just matched the underserved areas goal of 30 percent in 2000 and fallen short in 2001–03, while Freddie Mac would have fallen short of the goal in all four years, 2000–2003.

The above performance figures are for underserved areas (census tracts in metropolitan areas and counties in non-metropolitan areas) defined in terms of 1990 Census geography. Switching to 2000 Census data increases the coverage of underserved areas, which increases the share of the GSEs' purchases in underserved areas by approximately 5 percentage points. Based on 2000 Census geography, and excluding counting requirements (a) and (b) then Fannie Mae's performance would have been 38.1 percent in 2000, 36.6 percent in 2001, 35.9 percent in 2002, and 34.1 percent in 2003, as shown in Table B.7b. Freddie Mac's performance would have been 35.1 percent in 2000, 33.5 percent in 2001, 33.3 percent in 2002, and 31.6 percent in 2003.

Single-Family-Owner Home Purchase Mortgages. Sections E.9 of Appendix A and D.2 of this appendix compared the GSEs' funding of home purchase loans in underserved areas with originations by lenders in primary market. To take advantage of HMDA and GSE data going back to 1993, the analysis was conducted using 1990 Census tract geography. While both GSEs have improved their performance since 1993, they have both lagged the conventional conforming market in providing affordable loans to underserved areas. The 1990-based analysis shows that the two GSEs have engaged in very different patterns of funding—Freddie Mac has been much less likely than Fannie Mae to fund home loans in underserved neighborhoods. HUD will begin defining underserved areas based on 2000 Census geography and new OMB definitions of metropolitan areas in 2005, the first year of the rule. As noted above, the 2000-based definition of underserved areas includes 5,372 more census tracts in metropolitan areas than the 1990-based definition, which means the GSE-market comparisons need to be updated to incorporate tract designations from the 2000 Census. Therefore, for the years 1999, 2000, 2001, and 2002, HUD used various apportionment techniques to re-allocate 1990-based GSE and HMDA data into census tracts as defined by the 2000 Census. The GSE and HMDA data for 2003 were already based on 2000 geography, so no apportionment was needed for that year. Switching to the 2000-based tracts increases the underserved area share of market originations by 5.7 percentage points. Between 1999 and 2002, 31.4 percent of mortgage originations (without B&C loans) were originated in underserved tracts based on 2000 geography, compared with 26.2 percent based on 1990 geography. As shown in Table B.8 of Section D.2, the underserved areas share of each GSE's purchases also rises by approximately five percentage points. Thus, conclusions about the GSEs' performance relative to the market are similar whether the analysis is conducted in terms of 2000 Census geography or 1990 Census geography.

The analysis for home purchase loans based on 2000 Census geography will be summarized here (see Section D.2 of this appendix for a similar analysis using 1990-based geography):

Year	Freddie Mac (percent)	Fannie Mae (percent)	Market (w/o B&C) (percent)
1999	25.6	25.3	30.2
2000	27.3	29.0	31.7
2001	27.3	29.8	30.7
2002	31.7	32.3	31.8
2003	29.0	32.0	32.5
1996–2003 (estimate)	27.2	29.3	30.9
1999–2003 (average)	28.3	30.0	31.4
2001–2003 (average)	29.4	31.4	31.7

Between 1999 and 2003, 28.3 percent of Freddie Mac's purchases and 30.0 percent of Fannie Mae's purchases financed properties in underserved neighborhoods, compared with 31.4 percent home purchase loans originated in the conventional conforming market (excluding B&C loans). Thus, Freddie Mac performed at 90 percent of the market level, while Fannie Mae performed at 96 percent of the market level—both results similar to those reported above for underserved areas based on 1990 Census geography. The 2000 Census data show that Fannie Mae has been much closer to the market during the recent 2001–2003 period. The share of Fannie Mae's purchases going to underserved areas was 31.4 percent during 2001–2003, which placed it closer to the market level of 31.7 percent. However, the 2000-based results show that, like Freddie Mac, Fannie Mae's longer-term performance (since 1996) as well as its recent average performance (1999 to 2003) have consistently been below market levels. But, it is encouraging that Fannie Mae significantly improved its performance relative to the market during the first two years of HUD's higher housing goal levels. (See Section D.2 for the method of estimating the 1996–2003 average results.)

4. Ability To Lead the Single-Family-Owner Market: A Subgoal for Underserved Areas

The Secretary believes the GSEs can play a leadership role in underserved markets. Thus, as discussed in Section D.2, the Department is establishing a subgoal of 32 percent for each GSE's acquisitions of home purchase loans for single-family-owner properties located in the underserved census tracts of metropolitan areas in 2005, rising to 33 percent in 2006 and 2007 and to 34 percent in 2008. If the GSEs meet the 2008 subgoal, they will be leading the primary market by over two percentage points. As discussed above, underserved areas accounted for an average of approximately 31.5 percent of home purchase loans originated in the conventional conforming market of metropolitan areas (computed over 1999–2003 or over 2001–2003). To reach the subgoal for 2008, both GSEs will have to improve over their earlier peak performances—Freddie Mac by 2.3 percentage points over its previous peak performance of 31.7 percent in 2002, and Fannie Mae by 1.7 percentage points over its previous peak performance of 32.3 percent in 2003. To meet the 2008 subgoal, Freddie Mac will have to improve by 2.6 percentage points over its 2002–2003 average (unweighted) performance of 30.4 percent, while Fannie Mae will have to improve by 1.8 percentage points over its 2002–2003 average performance of 32.2 percent.

The subgoal applies only to the GSEs' purchases in metropolitan areas because the HMDA-based market benchmark is only available for metropolitan areas. HMDA data for nonmetropolitan counties are not reliable enough to serve as a market benchmark. The Department is also setting home purchase subgoals for the other two goals-qualifying categories, as explained in Appendices A and C.

The approach taken is for the GSEs to obtain their leadership position by staged increases in the underserved areas subgoal; this will enable the GSEs to take new initiatives in a correspondingly staged manner to achieve the new subgoal each year. Thus, the increases in the underserved areas subgoal are sequenced so that the GSEs can gain experience as they improve and move toward the new higher subgoal targets.

Appendix A discusses in some detail the factors that the Department considered when setting the subgoal for low- and moderate-income loans. Several of the considerations were general in nature—for example, related to the GSEs' overall ability to lead the single-family-owner market—while others were specific to the low-mod subgoal. Because the reader can refer to Appendix A, this appendix provides a briefer discussion of the more general factors. The specific

considerations that led to the subgoal for underserved areas can be organized around the following four topics:

(1) *The GSEs have the ability to lead the market.* As discussed in Appendix A, the GSEs have the ability to lead the primary market for single-family-owner loans, which is their core business. Both GSEs have been dominant players in the home purchase market for years, funding 57 percent of the single-family-owner mortgages financed between 1999 and 2002. Through their many new product offerings and their various partnership initiatives, the GSEs have shown that they have the capacity to operate in underserved neighborhoods. They also have the staff expertise and financial resources to make the extra effort to lead the primary market in funding single-family-owner mortgages in underserved areas.

(2) *The GSEs have lagged the market.* Even though they have the ability to lead the market, they have not done so, as discussed above. Fannie Mae demonstrated the type of improvement needed to meet this new underserved area subgoal during 2001 and 2002. During 2001, underserved area loans declined as a percentage of primary market originations (from 31.7 to 30.7 percent), but they increased as a percentage of Fannie Mae's purchases (from 29.0 to 29.8 percent); and during 2002, they increased further as a percentage of Fannie Mae's purchases (from 29.8 to 32.3 percent), placing Fannie Mae at the market level.

(3) *There are disparities among neighborhoods in access to mortgage credit.* There remain troublesome neighborhood disparities in our mortgage markets, even after the substantial growth in conventional lending to low-income and minority neighborhoods that accompanied the so-called ''revolution in affordable lending''. There is growing evidence that inner city neighborhoods are not being adequately served by mainstream lenders. Some have concluded that a dual mortgage market has developed in our nation's financing system, with conventional mainstream lenders serving white families living in the suburbs and FHA and subprime lenders serving minority families concentrated in inner city neighborhoods.[57] In addition to the unavailability of mainstream lenders, families living in these often highly-segregated neighborhoods face many additional hurdles, such as lack of cash for a down payment, credit problems, and discrimination. Immigrants and minorities, who disproportionately live in underserved areas, are projected to account for almost two-thirds of the growth in the number of new households over the next ten years. To meet the diverse and unique needs of these families, the GSEs must continue adjusting their underwriting guidelines and offering new products so that they can better serve these areas and hopefully attract more mainstream lenders into our inner city neighborhoods.

(4) *There are ample opportunities for the GSEs to improve their performance.* Mortgages are available for the GSEs to purchase in underserved areas. They can improve their performance and lead the primary market in purchasing loans in these low-income and high-minority neighborhoods. The underserved areas share of the home purchase market has consistently been around 31 percent since 1995 (and 32 percent in the last two years), which suggests a degree of underlying strength in the market. According to the market share data reported in Table A.30 of Appendix A, the GSEs have been purchasing 48 percent of new originations in underserved areas, which means there are plenty of purchase opportunities left for them in the non-GSE portion of that market. In addition, the GSEs' purchases under the subgoal are not limited to new mortgages that are originated in the current calendar year. The GSEs can purchase loans from the substantial, existing stock of affordable loans held in lenders' portfolios, after these loans have seasoned and the GSEs have had the opportunity to observe their track record. In fact, both GSEs have often purchased seasoned loans that were used to finance properties in underserved areas (see Table A.11 in Appendix A).

To summarize, although single-family-owner mortgages comprise the ''bread-and-butter'' of their business, the GSEs have lagged behind the primary market in financing properties in underserved areas. For the reasons given above, the Secretary believes that the GSEs can do more to raise the share of their home loan purchases in underserved areas. This can be accomplished by building on efforts that the enterprises have already started, including their new affordable lending products, their many partnership efforts, their outreach to inner city neighborhoods, their incorporation of greater flexibility into their underwriting guidelines, and their purchases of CRA loans. A wide variety of quantitative and qualitative indicators indicate that the GSEs have the resources and financial strength to improve their affordable lending performance enough to lead the market in underserved areas.

5. Size of the Mortgage Market for Underserved Areas

As detailed in Appendix D, the market for mortgages in underserved areas is projected to account for 35–39 percent of dwelling units financed by conventional conforming mortgages; in estimating the size of the market, HUD used alternative assumptions about future economic and market conditions that were less favorable than those that existed over the last five years. HUD is well aware of the volatility of mortgage markets and the possible impacts on the GSEs' ability to meet the housing goals. Should conditions change such that the goals are no longer reasonable or feasible, the Secretary has the authority to revise the goals.

6. The Underserved Areas Housing Goal for 2005–2008

The Underserved Areas Housing Goal for 2005 is 37 percent of eligible purchases, rising to 38 percent in 2006 and 2007 and 39 percent in 2008. Five percent of the six percentage point increase in 2005 simply reflects the expanded coverage of HUD's definition in the 2000 Census tract data. The bonus points for small multifamily properties and owner-occupied 2–4 units, as well as Freddie Mac's Temporary Adjustment Factor, will no longer be in effect for goal counting purposes. It is recognized that neither GSE would have met the 37 percent target for 2005 in the past three years, and only Fannie Mae would have met this goal in 2000. Specifically, Fannie Mae's performance is projected to have been 37.5 percent in 2000, 35.7 percent in 2001, 35.0 percent in 2002, and 34.1 percent in 2003 under a 2000-based underserved area goal. On this basis, Freddie Mac's performance is projected to have been 34.1 percent in 2000, 32.5 percent in 2001, 32.4 percent in 2002, and 31.7 percent in 2003. However, GSE goal performance in 2001–03 was reduced by the heavy refinance wave of this period.

The objective of HUD's Underserved Areas Housing Goal is to bring the GSEs' performance to the upper end of HUD's market range estimate for this goal (35–39 percent), consistent with the statutory criterion that HUD should consider the GSEs' ability to lead the market for each Goal. To enable the GSEs to achieve this leadership, the Department is modestly increasing the Underserved Areas Housing Goal for 2005 which will increase further through 2008, to achieve the ultimate objective for the GSEs to lead the market under a range of foreseeable economic circumstances by 2008. Such a program of staged increases is consistent with the statutory requirement that HUD consider the past performance of the GSEs in setting the Goals. Staged increases in the Underserved Areas Housing Goal will provide the enterprises with opportunity to adjust their business models and prudently try out business strategies, so as to meet the required 2008 level without compromising other business objectives and requirements.

The analysis of this section implies that there are many opportunities for Fannie Mae and Freddie Mac to improve their overall performance on the Underserved Areas Housing Goal. The GSEs provided financing for 55 percent of the single-family and multifamily units that were financed in the conventional conforming market between 1999 and 2002. However, in the underserved areas portion of the market, the GSE purchases represented only 48 percent of the dwelling units that were financed in the market. Thus, there appears to be ample room for the GSEs to increase their purchases of loans that qualify for the Underserved Areas Housing Goal. In addition, there are several market segments that would benefit from a greater secondary market role by the GSEs, and many of these market segments are concentrated in underserved areas.

[57] See Dan Immergluck, *Star Differences: The Explosion of the Subprime Industry and Racial Hypersegmentation in Home Equity Lending,* Woodstock Institute, October 2000; and Daniel Immergluck and Marti Wiles, *Two Steps Back: The Dual Mortgage Market, Predatory Lending, and the Undoing of Community Development,* Woodstock Institute, Chicago, IL, November 1999. For a national analyses, see the HUD report *Unequal Burden: Income and Racial Disparities in Subprime Lending in America,* April 2000; and Randall M. Scheessele, *Black and White Disparities in Subprime Mortgage Refinance Lending,* Housing Finance Working Paper No. HF–114, Office of Policy Development and Research, U.S. Department of Housing and Urban Development, April 2002.