c. Additional Adjustments to HMDA Data

Proposed Rule Adjustments. After deducting estimates of ineligible mobile home loans, HUD made the same deductions as in its proposed rule—that is, from the remaining estimate of non-mobile-home loans, HUD deducted loans less than $15,000 and loans with a loan-to-income ratio greater than six. The effects of these adjustments are shown in rows D(1) and D(2) of Table D.4. For instance, the low- and moderate-income percentage for 1994 home purchase loans falls from 42.6 percent (unadjusted HMDA) to 40.8 percent (due to dropping 100,000 mobile homes) to 39.6 percent (due to the proposed rule adjustments). In this case, the 1994 market share for very-low-income borrowers falls from 13.1 percent to 11.9 percent to 10.3 percent—a reduction of over 20 percent. When the AHS percentages given in Table D.4 are adjusted for loans less than $15,000 and for loans with a loan-to-income ratio greater than six, the low- and moderate-income percentage for home purchase loans falls from 38.7 to 37.2, while the very-low-income percentage for home purchase loans falls from 12.9 to 11.1.

Possible Bias in HMDA Data. There is evidence that HMDA may be over-reporting lower-income loans relative to higher-income loans. Jim Berkovec and Peter Zorn compared loans that were reported by HMDA as being sold to Freddie Mac with loans that Freddie Mac's own records show as being purchased by Freddie Mac.[51] Their major conclusion was that 1992 and 1993 HMDA data contain only 65–70 percent of conventional mortgage loans. They also found that HMDA's coverage varied across census tracts, with coverage being higher in lower-income census tracts.[52] While there was some correlation with the percent minority population in the census tract, it largely disappeared when controlling for income.

For a census tract configuration approximating the underserved area definition in HUD's proposed rule, Berkovec and Zorn's simulations suggest that the market share for these tracts should be adjusted by a factor of 90%-95% in 1992 and by 85%-95% in 1993.[53] However, Berkovec and Zorn caution that their analysis does not look at the whole mortgage market; rather, it looks only at HMDA loans reported as being sold to Freddie Mac. Loans sold to Fannie Mae are not included in Berkovec and Zorn's analysis. Thus, systematic over-reporting of low income loans sold to Freddie Mac could also explain their findings.

The low- and moderate-income goal is defined in terms of borrower incomes, not census tract incomes as analyzed by Berkovec and Zorn. Thus, HUD compared income distributions of loans that HMDA reports were originated in 1993 and 1994 and sold to one of the GSEs in the year of origination with income distributions of loans that the GSEs report were purchased by them in 1993 and 1994 in the same year as origination. The results were consistent with Berkovec and Zorn's findings that HMDA may be over-reporting lower-income loans and that the over-reporting may be greater the lower the income. In 1993, the low- and moderate-income share of loans reported by HMDA as being sold to the GSEs was 1.7 percentage points greater than the low- and moderate-income share of loans that the GSEs report they purchased in 1993 (34.2 percent versus 32.5 percent); this translates into a five percent rate of over-reporting. The corresponding very-low-income shares, on the other, differed by almost ten percent (7.1 percent based on HMDA data versus 6.5 percent based on GSE data). But as noted by Berkovec and Zorn, the absolute difference (0.6 percent in this case) is not so great because of the relatively small number of loans originated for very-low-income borrowers. Similar results were obtained when comparing 1994 HMDA and GSE data.

The above comparisons suggest that low- and moderate-income percentages reported in row D of Table D.4 may need a slight further adjustment for HMDA's over-reporting of lower income loans. But, as noted earlier, 1993 AHS data suggest that HMDA data does not need to be adjusted downward. Because of this uncertainty, HUD considers several possible values of the low- and moderate-income percentage for owners when computing the low- and moderate-income market share estimates in Section F.3 below.

d. American Housing Survey Data

Borrower income data from the American Housing Survey are included in Table D.4.[54] The low- and moderate-income percentages from the 1993 AHS are similar to those reported by 1993 HMDA data. According to the AHS, 38.7 percent of those families who recently purchased their homes, and who obtained conventional mortgages below the conforming loan limit, had incomes below the area median; this compares with 37.3 percent based on 1993 HMDA data that excludes 100,000 mobile homes.

A longer-term perspective of the mortgage market can be gained by examining income data from the last five American Housing Surveys, conducted in 1985, 1987, 1989, 1991, and 1993. The low- and moderate-income share was in the 32–34 percent range except for 1985 (27 percent) and 1991 (36 percent). The overall average during the 1985–93 period was 32.3 percent.

AHS Under-Reporting of Income. In commenting on the proposed rule, the GSEs criticized HUD's reliance on AHS data on the grounds that income reported in the AHS is lower than other independent estimates of income,[55] and questioned AHS estimates that 60 percent of all households qualify as low- or moderate-income under definitions of the Act.[56] The reported discrepancy is

[51] Jim Berkovec and Peter Zorn, ''How Complete is HMDA?: HMDA Coverage of Freddie Mac Purchases,'' Freddie Mac, January 4, 1995.

[52] Berkovec and Zorn offer two possible reasons for why HMDA reporting may be better in low-income areas. First, regulatory and CRA pressure is greater on larger banks and thrifts and all of these are required to report to HMDA. Smaller suburban lenders making loans in higher income tracts are not all required to report to HMDA and less likely to encounter intense regulatory pressure. Second, lenders have more incentive to report lower-income loans and thus are more careful in reporting these loans.

[53] These percentages were derived from their Tables 8 and 9 by comparing market shares under the three adjustment methods with the market share actually reported by HMDA. To approximate the underserved definition in HUD's proposed rule, high-minority tracts (31–100 percent) with incomes between 100 and 120 percent of area median income were assigned one-half of the market share of the high-minority tracts with income greater than area median income.

[54] The AHS data reported in this final rule were derived using different methods than the corresponding data reported in HUD's proposed rule. The differences will be explained below when discussing AHS data on rent affordability.

[55] See *Codebook for the American Housing Survey Data Base: 1973–1993*, at page 1–11.

[56] Claiming that 50 percent of the country's households are ''below the true median by definition,'' Freddie Mac proposed adjusting for AHS underreporting of income by inflating incomes of all households until 50 percent of AHS households are ''above median income.'' This suggestion has a major flaw: it fails to distinguish between median household income and the Act's definition of ''median income'' as: the unadjusted median family income for the area, as determined and published annually by the Secretary. [Sec. 1303 (9), emphasis added.] Because more than 30 percent of households are occupied by single persons or unrelated individuals and families often have more earners than households, median family income is appreciably higher than median household income. In 1990, for example, U.S. median family income was $35,353, 18 percent above the median household income of $29,943. Interpolating from the household income distribution, in 1990 58.3 percent of households had income less than national median family income. Table 695 of the 1992 Statistical Abstract gives the 1990 household income distribution in dollars with $35,000 as one cutoff. It shows that 57.9% of households had

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