

Tying FHA Loan Limits to Median House Prices: A Policy to Channel FHA Credit to Higher Income Households

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Legislation was introduced in the House of Representatives in 1989 to raise the Federal Housing Administration (FHA) maximum loan ceiling in "high-cost" areas from \$101,205 to 95 percent of the area median house price. This change would significantly alter the spatial distribution of FHA loans. Using 1989 median house prices computed by the National Association of Realtors (NAR), the limit's increase to 95 percent of area median house price would raise the FHA ceiling to \$232,000 in the San Francisco Bay area, to \$226,000 in Orange County, California, to \$173,000 in the New York area, and to \$170,000 in Boston, Massachusetts. The FHA limit in the highest cost areas would rise from 1 1/2 times the limit in the lowest cost areas to almost 3 1/2 times. While other measures of median price might be used, they would probably lead to the same result. The issue is whether median house prices are a reasonable standard by which to set FHA loan limits.

We think not. Median house prices, and thus the proposed FHA limits, are higher in areas with higher household real income because households with higher real income demand better quality housing (larger houses with more amenities, including better location). Thus, the proposed FHA expansion would redirect FHA toward higher income households. This policy seems inconsistent with our view of FHA's basic purpose: to encourage homeownership for households with moderate incomes.

The rationale for FHA

Rational government subsidies are designed to improve economic efficiency and/or equity. For example, if low-income households are perceived as purchasing too few housing services, housing vouchers

could be provided. More relevant to FHA, if homeownership provides externalities to the general population (better maintained housing units benefit neighbors as well as occupants) or if capital market imperfections prevent many households from becoming homeowners, a subsidy could be provided to encourage homeownership.

Originally, the FHA Mutual Mortgage Insurance program improved both efficiency and equity. Given the sorry state of mortgage financing in the Depression — 20 percent or larger down payment requirements and a maximum mortgage life of 10 to 15 years — low-wealth households could not purchase a level of owner-occupied housing services consistent with their expected lifetime incomes. With today's well-developed mortgage finance system, the FHA's ability to increase efficiency and equity is limited. FHA loans are still attractive to borrowers who are either wealth- or income-constrained (down payment or cash flow) because FHA mortgages generally allow smaller down payments (less than 5 percent) and larger loans relative to income than conventional loans do. However, 10- and even 5-percent-down loans are now available in the conventional mortgage market, and 30-year loans are standard.

In general, FHA can underprice insurance in the private sector because FHA is backed by the federal government and thus does not need to earn a return on a risky capital investment. However, during significant periods, FHA could overprice its insurance and build substantial capital, while in other periods it could underprice its insurance and deplete capital. In the 1970s FHA insurance fees were probably too high relative to the risk undertaken. In the 1980s FHA insurance fees have certainly been too low; the 1980-85 books of business have already experienced losses exceeding their premiums, and the entire decade's business is likely to deplete FHA capital by over \$5.5 billion (see the recent Price-Waterhouse study).¹

The switch from overpricing to underpricing is due both to changed economic conditions (lower house price inflation and greater house price volatility in the 1980s) and to a restructuring of the FHA premium in late 1983 from a percentage of the outstanding mortgage balance to a one-time upfront fee. The changed economic conditions increased the likelihood that house values would fall sufficiently for a given loan-to-value ratio to trigger nonpayment, and the changed policy increased the loss that FHA will incur when borrowers default. Thus, both phenomena have increased expected FHA foreclosure losses.

Using median house prices to set geographic FHA loan limits would extend the FHA insurance subsidy to households with higher real incomes. Probably this policy would not increase economic efficiency and would certainly reduce economic equity. An alternative mechanism for setting geographic limits that would increase both efficiency and equity is an area's cost-of-living index. Congress could decide to target FHA insurance to households with real incomes below some percentage of the national median and vary the limit regionally based on regional cost-of-living indexes. This rule would ensure that FHA financing is available only to households with real incomes below a given level.

In 1981, the Bureau of Labor Statistics published the latest area income requirements for a standard level of living. These data purport to represent what it would cost a family of four to live at an intermediate standard of living in 40 metropolitan areas and in the nonmetropolitan areas of the four census regions. The highest cost area (New York) was 135 percent of the lowest cost area (nonmetropolitan South). This is probably a reasonable estimate of how wide the disparity in the FHA loan limits should be. The 1989 budget legislation has temporarily increased the disparity in the FHA loan limit from the previous 150 percent (\$101,250/\$67,500) to 185 percent (\$124,875/\$67,500). The disparity would reach 343 percent (\$232,000/\$67,500) with the proposed 95-percent-of-median limit.

The upward bias in median house prices

There are two statistical techniques to measure changes in the price of a constant-quality house (one with the same number of square feet and amenities): repeat sales and hedonic equations. The repeat-sales technique employs data from individual houses that sell multiple times. This method holds quality constant by definition, but it is rarely employed to compute constant-quality prices because few data sets contain sufficient repeat sales. Fortunately, Karl Case and Robert Shiller assembled such a data set in 1987 and created repeat-sales house price indexes for Atlanta, Georgia; Chicago, Illinois; Dallas, Texas; and San Francisco, California, for the 1970-1986 period.²

The hedonic-equations technique "statistically controls" for differences in the quality of houses by estimating equations that measure the implicit price of individual housing characteristics (e.g., square feet, number of bathrooms, type of construction, etc.) during each

time period. The resulting characteristic prices then are used to compute the aggregate price of a standard bundle of characteristics (quality of house). To measure the price of a constant-quality house, the hedonic technique has been used frequently, most recently by Thomas Thibodeau.³

In a recent study, we compared NAR median house prices to both Case-Shiller repeat-sale and Thibodeau hedonic constant-quality house price series.⁴ In effect, we calculated and compared growth rates in NAR and constant-quality price series for as many cities over the longest time periods possible. Table 1 contains the NAR and repeat-sales growth rate comparisons for the four cities that Case and Shiller studied. The NAR rates overstate true annual house price inflation by 1.2 to 3.4 percent or by 2.2 percent per annum, on average.

Table 1: A Comparison of Growth Rates in House Price Indexes, Median Versus Repeat Sales

City	Time Period	NAR Median	Repeat Sale	Median Less Repeat Sale
Atlanta	1981:1-85:3	8.5	5.7	2.9
Chicago	1979:1-86:2	6.4	5.3	1.2
Dallas	1979:1-86:2	15.9	12.5	3.4
San Francisco	1979:1-86:3	16.3	15.0	1.3
Average				2.2

Source: Hendershott and Thibodeau, "Median and Constant Quality House Prices," 1990.

Table 2 contains data from 13 cities for which growth rates in hedonic and NAR median prices are available. The NAR growth rate exceeds that of the hedonic series in 11 of the 13 cities, and the difference is over 2 percentage points in 6 of the 13 cities. (The greater volatility in these differences relative to those in Table 1 is likely due to the shorter periods for which growth rates are calculated.) The average difference between the median and constant-quality growth rates is again 2 percentage points.

Table 2: A Comparison of Growth Rates in House Price Indexes, Median versus Hedonic

City	Time Period	NAR Median	Hedonic	Median Less Hedonic
Baltimore	1979-83	7.6	7.0	0.6
Birmingham	1980-84	3.4	0.9	2.5
Chicago	1979-83	4.8	4.3	0.4
Dallas-Fort Worth	1981-85	6.3	2.8	3.6
Detroit	1981-85	1.7	0.2	1.5
Houston	1979-83	7.8	8.6	-0.8
Indianapolis	1980-84	3.5	0.8	2.7
Memphis	1980-84	4.4	2.2	2.2
Milwaukee	1979-84	2.3	2.0	0.3
Oklahoma City	1980-84	6.3	6.5	-0.2
Philadelphia	1982-85	8.3	0.8	7.5
Salt Lake City	1980-84	3.1	2.1	1.0
San Francisco-Oakland	1982-85	4.0	-0.4	4.5
Average				2.0

Source: Hendershott and Thibodeau, "Median and Constant Quality House Prices," 1990.

Whether we compare NAR median house prices with repeat-sale constant-quality prices or with hedonic constant-quality prices in 4 cities or 13 cities over 4 years or 7 years, the result is the same. The growth rate in the NAR median price series overstates the growth rate in constant-quality house prices by 2 percent per year. Over a dozen years, this compounds to a 27 percent increase in the quality of single-family housing. Thus, if someone were to say that, based on the increase in median house prices, single-family housing is 27 percent less affordable than it was a dozen years ago, they would be saying only that better housing is more expensive, not that a given bundle of housing is less affordable.

Median real house prices and incomes

The housing stock consistently rises in quality for two reasons. First, units being added to the stock are of better quality than units being discarded. Data on new construction show that the size of and amenities in new single-family houses has consistently increased over the last two decades. Second, older houses are being substantially renovated. Data for the 1980s show a renovation boom. Thus, when the existing 1990 housing stock is sold, it will command a higher real price than the 1980 housing stock would have, even if the real price of housing had not increased in the 1980s.

How can Americans afford a housing stock that increases in quality by 2 percent a year? Presumably, the answer is because homeowners' real incomes are rising. This answer suggests that real incomes are higher in areas with higher median house prices and that expanding the FHA loan limit to 95 percent of median house price would increase the share of FHA insurance going to households with higher real incomes. Empirical research supports this hypothesis.

Using a variety of econometric specifications, we related real NAR median prices to real median incomes of homeowners in 18 cities and found that the elasticity of real median house price with respect to real income varied within the narrow 0.9 to 1.15 range. That is, a 50 percent increase in real income is estimated to increase real median price by 50 percent. Put another way, if real incomes in area A are 50 percent greater than real incomes in area B, median house prices in area A will be roughly 50 percent greater than median prices in area B. Further, tying FHA loan limits to median house prices would result in those households in area A with real incomes 50 percent greater than in Area B being eligible for FHA loans. Raising FHA loan limits to 95 percent of median house prices will channel increased amounts of FHA credit to households with higher real incomes.

Summary

Those concerned with regional differences in the affordability of housing should be monitoring regional variations in the real price of a constant-quality house rather than the price of the median house, because variations in the latter reflect variations in quality as well as price. From an affordability perspective, the ideal policy would make FHA insurance available only to those households purchasing a house below a given standard (number of square feet, etc.). This

policy would require varying FHA limits with regional variations in the price of this standard house.

Those concerned with equity in federal loan policies should be monitoring regional variations in cost-of-living indexes, rather than in constant-quality house prices, because housing is only one part of a household's budget. From an equity perspective, the ideal policy would make FHA insurance available to any and all households with real incomes below some percentage of national median real income. This would require varying FHA limits with regional variations in living costs. Cost of living data for 1981 suggest that the highest cost area is only about 1.35 times as expensive as the lowest cost area or roughly the 1989 ratio of high- to low-cost FHA limits.

We present two types of evidence against basing FHA limits on median house prices. First, the growth rate in NAR median house prices has consistently outpaced the growth rate in constant-quality house prices by 2 percent a year. This is true whether we compare NAR median house prices with repeat-sale constant-quality prices or with hedonic constant-quality prices, in 4 cities or 13 cities, over 4 years or 7 years. The 2 percent reflects increases in the quality of housing consumed owing to rising real incomes.

Second, real median house prices in 18 cities are positively related to real median incomes with a unitary elasticity. Thus, an area with real income twice that of another area will have median prices that are twice as high, even if the cost of living is the same in the two areas. Basing FHA regional loan limits on median house prices would redirect FHA toward households with higher real incomes, a policy that seems inconsistent with FHA's mission.

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Endnotes

1. Price-Waterhouse. *An Actuarial Review of the Federal Housing Administration's Mutual Mortgage Insurance Fund* (Washington, DC: June 6, 1990).
2. Karl E. Case and Robert J. Shiller. "Prices of Single-Family Homes since 1970: New Indexes for Four Cities," *New England Economic Review*: (September/October 1987): 45-56.
3. Thomas G. Thibodeau, "Housing Price Indexes from the 1974-83 SMSA Annual Housing Surveys," *AREUEA Journal* 17, no. 1 (Spring 1989): 100-117.
4. Patric H. Hendershott and Thomas G. Thibodeau. "The Relationship Between Median and Constant Quality House Prices: Implications for Servicing FHA Loan Limits," *AREUEA Journal* 18, no. 3 (Fall 1990).