

Review of the Department of Housing and Urban Development (HUD) Analysis of Relative Performance of Federal Housing Authority (FHA) Loans with Non-Profit Down Payment Assistance

by

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This study provides a review of the U.S. Department of Housing and Urban Affairs (HUD) analysis of Federal Housing Authority (FHA) loan performance. The focus of these comments is on HUD's methodological and analytic processes. The HUD analysis of FHA loan data provided the basis for the proposed rule that would amend HUD policy concerning downpayment assistance for FHA borrowers (73 Fed. Reg. 116, June 16, 2008.) This report evaluates HUD's analysis and comments on its ability to support the proposed rule regarding non-profit downpayment assistance.

In April 2008, HUD made available to the public a subset of the FHA loan data used to calculate default and claim rates of FHA-insured loans by source of downpayment funds and year of origination (<http://www.hud.gov/offices/hsg/comp/rpts/pled/pledmenu.cfm>.) HUD updated the files on July 2, 2008 to include the Taxpayer Identification Number of non-profit downpayment assistance. The publicly available data includes information on more than four million FHA-insured loans endorsed between fiscal year 2000 and fiscal year 2007. Only a selected number of the available data fields was made accessible to the public, including origination (closing) date, a default indicator, date of first default, downpayment source, FICO score, loan-to-value ratio, borrower's race, and current loan status (as of February 29, 2008.)

After evaluating both the FHA data and HUD's analysis, the HUD analysis is insufficient to support the proposed rule. HUD should do additional analysis before a final decision is made on the change to downpayment assistance within the FHA program.

- Because HUD's argument is based critically on analysis of FHA loan data, it is imperative that not only is the complete data set made available to the public, but also that HUD's methodology for producing its summary tables is transparent. Given the data and methodology available, it was impossible for this research to exactly reproduce the analytic tables HUD presented in the Federal Register. Furthermore, it is difficult to comment on the appropriateness of the HUD analysis without full disclosure of how they handled certain data issues.

HUD should release the entire FHA data base (with the exception of personal identifying information) and should provide detailed documentation of the methodology used for calculating summary statistics, handling missing data, and determining which analytic tables to produce.

- HUD's analysis of summary data by source of downpayment assistance is flawed because it considers borrowers who can make their own downpayment the same as borrowers who need assistance (whether from family, an employer or a government agency) to put three percent down. A more legitimate comparison would be among borrowers who receive assistance from some source, leaving the households with so-called "borrower-funded" downpayments in their own category. When borrowers receiving assistance from a non-profit are compared with borrowers who receive assistance from government programs, the gap in default and claim rates diminishes.

HUD should compare default and claim rates of all borrowers receiving downpayment assistance, recognizing that these households have a different financial background than borrowers who can pay for their own downpayment.

- While HUD's summary tables show that default and claim rates are higher for borrowers that receive assistance from a non-profit downpayment assistance provider, this descriptive analysis

fails to take into account a range of other, correlated factors that may affect claim rates. Multivariate analysis of foreclosures has indicated that economic factors and other borrower and loan characteristics are significant predictors of foreclosure.

In addition, while HUD has shown there is an association between non-profit downpayment assistance and relatively higher default and claim rates, HUD has not shown a *causal* relationship. Neither HUD's independent analysis nor the GAO study cited by HUD showed that non-profit downpayment assistance is a significant predictor of foreclosure, when other borrower and loan characteristics are accounted for in a multivariate analysis.

Before FHA policy on downpayment assistance is changed, HUD should conduct a multivariate analysis of FHA loan performance to more comprehensively identify which borrower and loan characteristics are associated with greater risk of foreclosure. At that point, if changes to FHA's policies are required—whether a particular type of borrower is excluded from the program or risk-based pricing is instituted to account for variable risk—there will be a more inclusive analysis forming the framework for the changes.

Evaluation of HUD's Analysis of Default and Claim Rates

Reproduce Analytical Tables

HUD's proposed rule to disallow downpayment assistance from non-profit downpayment assistance providers is strongly based on its analysis of default and claim rates of FHA-insured loans by type of downpayment assistance over the 2000-2007 period (73 Fed. Reg. 116, June 16, 2008, p. 33942.) In order to allow the public to comment on the proposed rule, HUD made available to the public the data used to perform their analyses. I used the data to attempt to reproduce Tables 1 through 5 included in the proposed rule and to comment on the conclusions HUD has drawn from those tabulations.

It was relatively straight forward to reproduce Tables 1, 3 and 5 and match exactly the figures presented by HUD in the proposed rule (see Appendix tables.) However, I was not able to reproduce early default rates that matched HUD's Table 2.¹ Furthermore, with the data and comments in the text of the proposed rule, I was not able reproduce Table 4 (current default rates.)² Because these default tables are critical to HUD's argument regarding the performance of loans with assistance from non-profit downpayment assistance providers, it is essential that sufficient data and documentation be provided to allow the public to reproduce HUD's analysis.

I recommend that HUD make its programming (or queries) available to the public so that outside reviewers may reproduce the programs (or queries) that generated the analytic tables.

Interpretation of Summary Data

HUD's interpretation of default and claim rates by source of downpayment assistance is at the heart of their proposal to disallow this type of assistance. A key error in the logic of HUD's argument is the comparison of default and claim rates of loans with assistance from non-profit downpayment assistance providers and loans with so-called "borrower" assistance—that is, loans where the borrower was able to provide the three percent downpayment on their own. By making this comparison, HUD is comparing two considerably different groups of people. Homebuyers using FHA who need help with their downpayment are likely to have fewer resources, more unstable employment and/or large recurring or unanticipated expenses, such as

¹ To calculate early default rates, I counted all loans that had ever defaulted (*default_ind*) and had a first default date (*first_dflt_dt*) within 24 months of the date of loan origination (*closing_dt*) and divided this by the total number of loans in each fiscal year of insurance endorsement.

² The data indicate the current status of the loan (i.e. active, claim paid or paid off) as well as whether or not there has ever been a default and the date of the first default. It is not possible to determine with this information what the current default rate is. In other words, it is unclear how one determines the number of loans in default on February 29, 2008 when the data only include information on the first default date.

medical expenses. Thus, it is more reasonable to compare default and claim rates of borrowers receiving assistance from non-profit downpayment assistance providers to borrowers receiving assistance from *other sources*, particularly from employers and from government agencies.³

When default and claim rates of borrowers receiving assistance from a non-profit are compared to default and claim rates of borrowers receiving assistance from a government agency, the differences are narrower (see Table A.)⁴ The ratio of claim rates of loans with assistance from non-profits to claim rates of loans with assistance from government agencies ranges from 1.18 in fiscal year 2000 to 2.41 in fiscal year 2007. While this method of analysis still shows that the loans receiving assistance from non-profits tend to have higher rates of foreclosure (i.e. claim rates), the differences when families with more similar economic situations are compared are not nearly as stark as HUD depicts in its analysis in the proposed ruling. It is fundamental that HUD consider how the financial situations of all borrowers needing assistance with a downpayment differ from the situations of borrowers who were able to save for the downpayment. Excluding potential homebuyers who need help with the initial downpayment—but can otherwise afford the monthly mortgage payment—is at odds with the agency’s mission of expanding homeownership to lower and moderate income households.

There are other factors that are associated with increased risk of default and foreclosure that HUD does not give sufficient attention to in the proposed rule. For example, in Table 6, HUD demonstrates that both credit score and loan-to-value ratio are associated with increased lifetime claim rates in fiscal year 2005-2007. A policy of risk-based pricing is one solution to account for the greater insurance risks associated with borrowers with fewer assets, less consistent employment, and/or erratic credit.

Another problem with HUD’s analysis is its failure to focus on the positive outcomes of families using assistance from non-profit downpayment assistance providers to purchase a home using FHA. Of all loans originating in fiscal year 2000, about 16 percent of those with non-profit downpayment assistance had gone into foreclosure eight years later. That means that 84 percent—or over 12,200 households—were able to buy a home with an FHA loan and reap the benefits of six years of unprecedented home price appreciation and wealth accumulation.

Again, the solution to the problems HUD sees with differential claim rates for borrowers receiving downpayment assistance is a more thorough assessment of the borrower’s risk (which includes consideration of factors explained in more detail below) and setting relevant interest rates to account for that risk.

Another problem with HUD’s analysis of the data on default rates is the reliance on loan data with missing information. For example, nearly 40 percent of loans originated in fiscal year 2000 that had at least one default had missing default date information. A substantial number of records were missing borrower FICO score and income data. These pieces of information are critical to determining the real risk each homebuyer has of going into default or foreclosure. If loans with missing data are included in the analysis, it means that HUD is assuming that the borrowers with missing data are otherwise the same as other borrowers in the database. There are statistical methods that can be used to check whether or not this is true and to account for differences, if needed. The analysis should clearly indicate how missing data were handled.

³ Assistance from family members is different from assistance from an employer, government agency or non-profit because, presumably, it indicates a source of broader financial help that the borrower can turn to if he or she gets in financial straights. Borrowers that rely on one of the other sources of downpayment assistance do not have the same safety net.

⁴Both assistance from government agencies and assistance from employers make up a very small share of all FHA loans. However, more loans were made to borrowers receiving assistance from a government source, so this set of loans was used as the basis of comparison.

Finally, what is critically missing from HUD’s analysis is showing empirically that assistance from a non-profit downpayment assistance provider “distort[s] the economics of the transaction...”⁵ In its analysis, HUD provides no evidence from the FHA loan data to confirm that the sales transaction was negatively affected by the assistance. Instead, HUD shows that assistance from non-profit downpayment assistance providers is associated with relatively higher default and claim rates and therefore infers that it was the particular form of downpayment assistance—and not other characteristics of the borrower, the property or the neighborhood—that was the primary determinant of loan failure.

In the proposed rule, HUD did reference a 2005 report by the Government Accountability Office (GAO)⁶ and stated on page 33943 that in this report the GAO “found that downpayment assistance from seller-funded entities alters the structure of the purchase transaction” by creating an indirect funding stream from the sellers to the homebuyers that does not exist in other transactions and because sellers participating in these assistance programs often raised the sales price of the homes in order to recover the amount they were required to pay to the downpayment assistance provider.

The November 2005 GAO report titled Mortgage Financing: Additional Action Needed to Manage Risks of FHA-Insured Loans With Down Payment Assistance (GAO-06-24) provided the most rigorous analysis of loan performance. The objective of this report was to examine (1) trends in the use of down payment assistance with FHA-insurance loans, (2) the impact that the presence of such assistance has on purchase transactions and house prices, (3) how such assistance influences the performance of these loans, and (4) FHA’s standards and controls for these loans. This analysis focuses on the evaluation of loan performance.

In addition to providing summary statistics, the GAO conducted a regression analysis of loan performance. Regression analysis is a better method of investigating loan performance because it allows the analyst to control for other factors—aside from whether or not the loan had down payment assistance—that might also affect the rate of default and/or claim.

The probability that the loan would go to claim was 76% greater for loans with “seller-funded” assistance compared with loans with no assistance. For loans with nonseller-funded assistance, there was a 49% increase in the probability that the loan would go to claim. These differences were not statistically significant. (p. 69) *In other words, it is not possible to say with confidence that loans with “seller-funded” assistance are more likely to go to claim than loans with other types of assistance based on GAO’s multivariate analysis.*

Thus, even the most comprehensive report HUD relied on could not say with certainty that significantly higher claim (foreclosure) rates are due to downpayment assistance from non-profit downpayment assistance providers. What the GAO report did show, however, was that there are numerous factors associated with foreclosure. Some factors were included in the GAO model and some factors were not—either because the data were not available or because they were not considered by GAO to be important to the model.

Recommendation for a Comprehensive Assessment of FHA Loan Performance

The ultimate goal of the proposed rule is to make changes to FHA policy to ensure its financial sustainability. Thus, HUD needs to identify the factors explicitly linked to default and foreclosure and then either develop policies to account for those factors or decide that households with these factors will be excluded from the FHA loan program.

Multivariate analysis generally involves statistical analysis of some phenomenon using two or more variables. Thus, instead of looking at the relationship between claim rates and downpayment source, a

⁵ On page 33942 of 73 Fed. Reg. 116 it states that the proposed policy “is aimed at ensuring that downpayment assistance is indeed a gift to the borrower and that it will ultimately not distort the economics of the transaction to the detriment of the borrower and HUD.”

⁶ Government Accountability Office, Report No. 06-24, Mortgage Financing: Additional Action Needed to Manage Risks of FHA-Insured Loans with Down Payment Assistance (November 2005).

multivariate analysis would look at the relationship between claim rates and a set of factors including downpayment source, FICO score, income, job type, economic characteristics of the region, loan-to-value ratio, and others. In the first case (the simple analysis), it is assumed that, except for downpayment source, borrower and loan characteristics are the same for all households. In the multivariate case, the analysis controls better for these borrower and loan characteristics that obviously do vary across households.

Many studies have examined the borrower and loan characteristics associated with foreclosure. In the empirical studies that use multivariate analysis, the most common causes of foreclosure are economic—unexpected job loss or major expenses (often medical).

More recent studies of foreclosure confirm that these factors still contribute to foreclosure but the biggest problem recently has been subprime lending. In a 2007 study by Indiana State University of foreclosures in 2006, the single most important factor effecting state foreclosure rates was the state unemployment rate (Tatom 2007, 9). Neither the share of FHA loans in the state nor the share of loans with high loan-to-value (LTV) ratios were significant predictors of a state's foreclosure rate.

In an ideal multivariate analysis of loan performance, HUD would include as explanatory factors:

- Characteristics of the loan—15- or 30-year term, ARM, down payment assistance, amount, loan-to-value ratio;
- Characteristics of the borrower—income, income history, employment, assets, family composition;
- Characteristics of the market—unemployment rate, job mix (e.g. some indicator of jobs with high layoff potential), home price appreciation, poverty rates or average family incomes; and
- Characteristics of the home—size, age, quality.

In most empirical studies of foreclosure—and particularly those done in response to concerns about, the most significant issue that stands out with regards to the studies reviewed is the lack of attention given to two key factors that influence whether or not a loan is defaulted or goes to claim: (1) the financial situation of the borrower and (2) the economic conditions of the area in which the home is located. Families in more precarious financial situations are probably more likely to be in default. Areas with poor economic conditions likely contribute to the instability of financially precarious families. If these families, living in these areas, are more likely to be participants in non-profit downpayment assistance programs than are other families, then their presumed higher default rates will show up as defaults in loans with nonprofit down payment assistance. However, the cause of the default could have little to do with the down payment assistance itself but everything to do with the characteristics of the home buyers the down payment assistance providers serve.

When other factors are excluded, the results could show that one factor has significant predictive power (e.g. presence of nonprofit down payment assistance) when really there are omitted variables that are correlated with the one factor, that are truly driving the prediction.

As HUD states on page 33945, the database of FHA-insured loans includes identifying information that allows analysts “to link more than 400 fields containing borrower demographic and loan application, origination, termination, and recovery data in one database. While HUD also claims to have made the data underlying its analysis public, it has, in fact, only released data on 12 out of more than 400 fields. Having additional information on borrower and loan characteristics, which could then be linked to data on local and regional economic conditions, would allow for a more comprehensive assessment of the determinants of loan default and foreclosure.

The one factor that is an undisputed cause of the recent foreclosure crisis is the proliferation of subprime—and sometimes predatory—lending. For several years, many lower and moderate income buyers shifted away from FHA and took on much riskier home loans in the subprime market. If HUD limits the sources from which lower and moderate income homebuyers can receive assistance with a downpayment, they will either force them into riskier options or keep them as renters.

Estimating Small Business Impacts

In the proposed rule, HUD estimates that only a very small number of small business entities would be affected by the change (33950). The rudimentary analysis of small business impact fails to take into account the full impacts of excluding a substantial set of borrowers from the FHA program. Most comprehensive economic impact analyses take into account not only the direct impacts—as the HUD analysis does—but also the indirect and induced impacts.

If assessing or even minimizing the small business impact of a proposed rule change is important, it should be estimated in a more comprehensive analysis. A full economic impact analysis tracks spending through an economy and measures the cumulative impacts of that spending. A comprehensive analysis includes not only the direct effects of the program change on the lenders, but also the indirect and induced effects on small businesses that work for and with the small business lenders servicing FHA loans.

Conclusion

The change to the rule regarding downpayment assistance will affect thousands of potential homebuyers. FHA's mission has been to serve lower-income and first time homebuyers in order to make homeownership available to more people. It is imperative that the data and methods used to support the proposed rule be comprehensive and transparent.

The FHA is in the midst of dramatic programmatic changes—much bigger than the issue of downpayment assistance. As this proposed rule is considered, it is critical that the larger issues related to homeownership and foreclosure are considered.