

***An Evaluation of Research on  
the Performance of Loans with  
Down Payment Assistance***

by

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# HIGHLIGHTS

## Purpose of the Study

*AmeriDream, Incorporated requested an analysis of the fiscal, economic and social impact of non-profit down payment assistance programs. As part of this larger project, the research team conducted an independent evaluation of prior research on the performance of home mortgage loans with down payment and other assistance. The objective of this analysis was to provide AmeriDream, Inc. staff with a sound understanding of the prior research in order for them to respond to challenges to their program.*

## Main Findings

- The descriptive results from studies done by the Office of the Inspector General and the General Accountability Office could be overstating the extent of the default and/or claim rates of FHA loans with assistance from nonprofit downpayment assistance programs compared with loans with other types of assistance (e.g. gifts from relatives).
- The General Accountability Office report provides the most rigorous analysis of claim rates. Based on GAO's national sample, the three-year claim rate for loans receiving assistance from nonprofit downpayment assistance providers was 6% (compared with 5% for loans with other assistance.)
- When foreclosure (or claim rate) is used as the performance measure, the difference in the performance of loans with nonprofit down payment assistance may be (i) much smaller than these studies suggest and/or (ii) related not to assistance from nonprofit downpayment assistance programs specifically but rather to loans where the buyer receives a gift from any source.
- The Office of the Inspector General studies used data on just four cities with a relatively large share of loans with nonprofit down payment assistance. The sample data, therefore, represent places with slower than average housing markets and relatively depressed economies. Focusing on underserved or economically lagging metropolitan areas may result in findings that overstate the difference in performance nationally of loans with nonprofit down payment assistance and loans with other types of assistance.
- The studies focused on home prices but did not show a direct link between assistance from nonprofit down payment assistance programs, higher home prices, and foreclosure. Higher home prices, therefore, may not be a predictor of poor loan performance.
- The most significant methodological issue is the lack of attention given to two key factors that influence whether or not a loan is defaulted or goes to claim: (i) the financial situation of the borrower and (ii) the economic conditions of the area in which the home is located. GAO attempted to account for some of these other factors, but data limitations led to the inclusion of incomplete information. Their results, therefore, could be subject to alternative interpretation.

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## Purpose

The purpose of this report is to review critically prior analyses of the performance of home loans secured by buyers receiving down payment assistance from nonprofit down payment assistance (NDPA) programs. Research by the HUD Office of the Inspector General and the U.S. Government Accountability Office has been used to argue that FHA loans that receive assistance from NDPA programs perform worse than other FHA loans, even those with other types of down payment assistance, such as gifts from relatives. This independent evaluation assesses those claims based on the data and methodology used in the prior research. This evaluation is in lieu of an independent analysis of the performance of NDPA program mortgage loans against the performance of other FHA mortgage loans. The information requirements for an independent evaluation were deemed too onerous for a non-federal government research team. Furthermore, several studies have been done previously by federal agencies with access to the requisite data.

This report reviews the following three studies:

- Office of Inspector General. *Final Report of a Nationwide Audit: Down Payment Assistance Programs*. 2000-SE-121-0001. March 2000. (OIG 2000)
- Office of Inspector General. *Follow Up of Down Payment Assistance Programs Operated by Private Nonprofit Entities*. 2002-SE-001. September 2002. (OIG 2002)
- U.S. Government Accountability Office. *Mortgage Financing: Additional Action Needed to Manage Risks of FHA-Insured Loans With Down Payment Assistance*. GAO-06-24. November 2005. (GAO 2005)

## Analysis

This review raises several methodological issues, particularly for the studies done by the Office of the Inspector General. These criticisms raise concerns that the descriptive results from the three studies reviewed could be subject to erroneous interpretation or could be overstating the extent of the default and/or claim rates of FHA loans with assistance from NDPA programs compared with loans with other types of assistance (e.g. gifts from relatives.) This conclusion is supported by the results from the most rigorous study, which was done by the U.S. Government Accountability Office. The national results from the GAO multivariate regression analysis show no statistically significant difference in the claim rates of NDPA loans and FHA loans with other types of gifts.

### Key Methodological Issues Affecting Study Results

#### 1. Measure of Loan Performance

These studies use two different measures of loan performance: (1) default, as defined as a 90+ day delinquent loan and (2) claim, defined as a loan that has a claim submitted to the FHA for foreclosure. When evaluating the performance of a program, it is necessary to consider carefully what “good performance” and “bad performance” mean. It seems apparent that mortgages that end in foreclosure are bad. These loans force additional costs on the FHA and, therefore, society at large. It is less clear that delinquency—even delinquency of 90 or more days—is particularly problematic at the macro level. Being delinquent on one’s mortgage payments certainly does have implications for an individual’s credit, but does it have a social cost? If not, how concerned should we be?

None of the studies reviewed explained how it chose default (as measured by 90+ days of delinquency) and claim rate as their measure of performance. None of the studies showed

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empirically how default was related to foreclosure in their study samples.

If the appropriate measure of performance is claim rate, rather than default rate, then the performance problem for loans with assistance (of any kind) could be considered quite low indeed. The OIG (2002) report found that over a three-to-five year time period, about 7.8% of Nehemiah-assisted loans went to claim. No information was reported on loans with assistance from other sources. The 2005 GAO report could not show that there was a statistical difference between the claim rate of loans with assistance from NDPA programs (or what GAO termed “seller-funded” assistance) and loans with assistance from other sources.

Thus, when foreclosure (or claim rate) is used as the performance measure, the loan performance issue related to nonprofit down payment assistance may be (1) much smaller than these studies suggest and/or (2) related not to assistance from NDPA programs particularly but rather to loans where the buyer receives a gift from any source.

## **2. Appropriateness of the Data**

Researchers are often called upon to make generalizations about a large-scale program or policy based on analysis of only a small sample of program data. The first two OIG studies were particularly limited by the amount of data available. The HUD database, which contains information on all FHA-insured loans, did not contain reliable information on the presence and source of down payment assistance. Therefore, the OIG analyses relied on program data from the Nehemiah Progressive Development Corporation. Their results based on analysis of the Nehemiah data alone were used to draw broad conclusions about the performance of all loans with down payment assistance from nonprofit organizations. If the Nehemiah program was significantly different in some way from other programs, such as AmeriDream, it would be fallacious to compare findings from Nehemiah program data to all nonprofit down payment assistance providers. An example of a program difference is the relative mix of new construction versus resale properties purchased by program participants.

If Nehemiah management had stricter application procedures for potential home buyers than did the management of other NDPA providers, then OIG results could potentially understate the default and claim rates of loans with down payment assistance. If Nehemiah’s policies allowed for less qualified applicants to receive assistance, then the OIG results could potentially overstate the default and claim rates of loans with down payment assistance. The OIG analyses did not confirm that management, administration, policies and procedures of the program from which their data come from were much the same as the management, administration, policies and procedures at all other nonprofit organizations providing down payment assistance. Therefore, the OIG results should have been carefully worded to state that they applied to the Nehemiah program only and not all down payment assistance programs.

Another data issue is related to the choice of the four cities the OIG used in its analyses. Stockton, Sacramento, Indianapolis and Las Vegas were chosen because they were the cities where Nehemiah had provided the most down payment assistance. That fact alone implies that the housing markets in those four cities were substantially different than housing markets in other cities. OIG stated that flat or decreasing markets are the only types of markets in which down payment assistance programs can work (OIG 2000, p. 23). The nature of the housing market in slow or depressed areas could contribute to a wider disparity in default and/or claim rates between loans with down payment assistance and other FHA-insured loans. Weaker economic conditions could mean that lower-income home buyers face more precarious financial situations. One company closing its doors or one major layoff could mean the difference between paying one’s mortgage and defaulting for home buyers at the margins. This group of marginal home buyers is exactly the group that nonprofit down payment

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assistance providers are serving. Thus, limiting analysis to areas with large numbers of home buyers receiving down payment assistance could overstate the relative differences in loan performance.

The GAO 2005 report uses a sample of national data, in addition to a sample of targeted metropolitan areas, which is a better approach. When GAO compared the differences in default/claim rates between loans with what GAO termed “seller-funded assistance” and loans with no assistance, they found greater differences in the MSA sample compared with their national sample. This finding is further suggestion that focusing on underserved or economically lagging metropolitan areas may result in findings that overstate the difference in performance nationally of loans with nonprofit down payment assistance and loans with other types of assistance.

### **3. Focus on home prices**

Both the OIG and GAO commented on the circuitous relationship between down payment assistance, home prices, and default, though no data was provided that empirically linked these three items in the study samples. The OIG reviewed several independent studies showing a strong relationship between the amount of equity a buyer has in the home and the default rates on FHA-insured mortgages. According to one independent study, “When borrowers experiencing mobility-induced events such as a job loss which produce significant changes in household income have little or no equity, they may be unable to sell their properties for a profit and may have insufficient income to meet mortgage payments, resulting in higher claim rates.” (OIG 2000, Appendix A, p. 6)

GAO contracted out an empirical analysis of the relationship between down payment assistance, appraisal and home price. Their analysis showed that homes with “seller-funded assistance” were appraised and sold for about three percent more than comparable homes without such assistance. (p. 22) Both GAO and OIG also cited agents involved in loan transactions involving nonprofit down payment assistance saying that home prices were sometimes increased.

Assuming that this phenomenon does occur,<sup>1</sup> the question becomes “Should we be concerned?” Higher home prices hurt the buyer *only if they would have been able to purchase the home for the lower price otherwise*. Without the down payment assistance program, the potential home buyer may not have been able to purchase a home at any price. However, if higher prices facilitated by down payment assistance lead directly to more foreclosures, then there is a social cost associated with the phenomenon. None of the studies reviewed provided sufficient evidence to show this link in their study samples.

### **4. Omission of factors related to the financial situation of the family and the economic conditions in the area.**

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 NDPA 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.

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<sup>1</sup> This analysis did not rigorously examine the methodology GAO used; however, the model used to estimate home prices is standard in the field.

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GAO attempted to account for these other factors in their regression analysis but data limitations and/or specification errors led to inclusion of incomplete information. The GAO regression models included variables for borrowers' resources, first-time home buyer, whether or not the area was a HUD-designated underserved area, unemployment rate, and home price appreciation. None of these variables was a statistically significant predictor of the probability of default or foreclosure.

It is possible that the lack of significant results is related to how the independent variables were specified. The variable for borrowers' resources is a notable example. The independent variable for borrowers' reserves is a dummy variable that takes a value of 1 if the borrower had less than two months of mortgage payments in liquid assets after closing, 0 otherwise. The GAO report does not explain how this threshold was decided upon. However, this type of dummy variable may be an inadequate measure of resources, and thus, an insufficient approximation of the financial situation of the borrower.

One reason GAO may have defined this variable in this way is limited data availability. According to the Concentrance Consulting Group which developed the database on which GAO based its analysis, there was missing and inconsistent data on borrower assets. Concentrance notes that the excluded and inconsistent data resulted because there was no uniformity among lenders as to what to include in the total assets available field on the MCA worksheet.<sup>2</sup>

In an ideal regression analysis of loan performance, the independent variables would include:

- o **Characteristics of the loan**—15- or 30-year term, ARM, down payment assistance, amount, loan-to-value ratio;
- o **Characteristics of the borrower**—income, income history, employment, assets, family composition;
- o **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
- o **Characteristics of the home**—size, age, quality.

It would be virtually impossible to collect all of this data for a large enough sample with which to run a regression. The point is not that GAO should have included all of the above factors as independent variables; rather, the point is that there are numerous other factors that influence the probability of default and/or foreclosure. 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.

## Review

This section provides more details on each study's data, methodology and main findings. Table A in the appendix summarizes the review.

The *Final Report of a Nationwide Audit: Down Payment Assistance Programs* (OIG 2000) report was prepared for the U.S. Department of Housing and Urban Development's (HUD's) Office of Inspector General (OIG) in late 1999. The purpose of the OIG audit was three-fold: (1) to determine

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<sup>2</sup> Concentrance Consulting Group. 2004. *Audit of Loans with Downpayment Assistance*. Contract Number C-OPC-22550.

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if the structure of the loan transactions involving down payment assistance from a nonprofit complied with HUD requirements; (2) to examine whether or not HUD has the controls in place to approve, monitor, and evaluate the performance of private nonprofit organizations' down payment assistance programs; and (3) to determine if loans in which nonprofit organizations provided down payment assistance to buyers increase the risk to the Federal Housing Administration's (FHA's) insurance fund (p. iii).

This review focuses on the audit's third objective. The OIG sought to determine if there was a historical difference between default rates for loans with nonprofit down payment assistance and default rates for other FHA loans for similar time periods and locations.

The OIG 2000 report analyzed and tested loan information from the Nehemiah Progressive Development Corporation (Nehemiah) and from the HUD Single Family Data Warehouse Database (HUD database). The analysis was conducted in December 1999 and focused on loans originating between January 1997 and May 1999. The study examined loans in four cities only: Stockton (Calif.), Sacramento, Indianapolis and Las Vegas. The Nehemiah sample consisted of 2,907 loans for these four cities, representing 23.5% of all Nehemiah-assisted loans during the test period. This method of selecting loans to include in the analysis constitutes a non-random sampling strategy. OIG stated that these four cities were chosen because they were the ones where the most Nehemiah-assisted loans were made.

The OIG matched names and addresses from the Nehemiah database against the HUD database to determine the characteristics and current (as of December 1999) status of the loans. For the analysis, the OIG used 2,264 Nehemiah loans because 643 could not be matched against the HUD database. There were a total of 5,335 non-Nehemiah loans for which buyers received a gift from another entity (e.g. relative, employer, another charity), and 24,729 remaining FHA-insured loans.

To measure loan performance, the OIG looked at default rates, defined as the number of loans that were delinquent at least 90 days divided by the total number of loans originating during the study period. Their results show that loans with down payment assistance had higher default rates than loans with no down payment assistance; Nehemiah-assisted loans performed less well compared to loans with other types of assistance (Table 1).

In 2002, the OIG updated its analysis and produced a report titled *Follow Up of Down Payment Assistance Programs Operated by Private Nonprofit Entities* (OIG 2002). This analysis was intended to be an evaluation of a more representative sample of FHA-insured loans. Because of recording inconsistencies, it was virtually impossible to determine which loans in the HUD database had received down payment assistance. Thus, the OIG 2002 report also was partially an exercise to see how sampling could be used to identify these loans. OIG used a "statistical sampling methodology to review FHA case files to determine the number of single family FHA financed homes that were purchased with down payment assistance from nonprofit corporations." (p. 2) Once these loans were identified, OIG intended to assess whether or not the loans with down payment assistance were more likely to default.

**Table 1. Results from OIG 2000**

	No of loans originated	Number of loans in default	Default rate
Nehemiah	2,264	105	4.64%
Non-Nehemiah gift	5,335	173	3.24
All other FHA	24,728	462	1.87

Source: OIG (2000). Loans originating between January 1997 and May 1999 in Stockton, Sacramento, Indianapolis or Las Vegas. Loans in default defined as loans that are delinquent 90 or more days. The default rate is calculated as of December 1999.

OIG reviewed a random sample of 1,125 FHA case files originating between October 1, 1997 and March 31, 2001. The analysis was conducted in February 2002. The sample represented 0.04% of the 2.841 million loans that originated during that time period. OIG used statistical software to determine that the 1,125 sample size was sufficient to draw conclusions for the universe of FHA-insured loans.

Based on the review of the sample cases, OIG found that loans with down payment assistance accounted for between 2.9% and 4.8% of all FHA loans. The range indicates the 90% confidence interval—that is, OIG can be 90% confident that the true percentage lies somewhere between 2.9 and 4.8%. Applying these percentages to the total universe of loans reveals that between 82,376 and 136,346 total FHA-insured loans originating between October 1997 and March 2001 had some type of down payment assistance.

Just 42 loans with down payment assistance were identified in the sample—26 were Nehemiah, 7 were AmeriDream, 4 were HART, 2 were Home buyers Assistance Foundation, 2 were Family Home Providers Inc, and 1 was Responsible Home Ownership Inc.

OIG went on to use the sample to compare the default rates<sup>3</sup> of loans with down payment assistance with other FHA loans. Using this sample data, they did calculate default rates for loans with down payment assistance that were higher than default rates for other FHA loans.

However, there were not a sufficient number of default occurrences in the sample to accurately project the default rates and determine whether or not there was a statistically significant difference. Thus, OIG was left to conclude from this analysis only that there was a greater “tendency” of loans with down payment assistance to default compared with other FHA loans (p. iii). Their results could not make any definite conclusions related to loan performance from this sample of data.

<sup>3</sup> Default was again defined as a loan delinquent by 90 or more days.

The OIG 2002 report therefore returned to the sample of Nehemiah-assisted and other FHA loans in four cities as discussed above in OIG 2000. They found, not surprisingly, that default rates for the two subgroups of loans had increased over time. OIG found that the default rate for the Nehemiah-assisted loans was double the default rate for all other FHA-insured loans as of February 2002.<sup>4</sup>

**Table 2. Results from OIG 2002**

	No of loans originated	Number of loans in default	Default rate
Nehemiah	2,261 <sup>a</sup>	439	19.41%
All other FHA	30,063	2,916 <sup>b</sup>	9.70%
	No of loans originated	Number of loans with a claim	Claim rate
Nehemiah	2,261 <sup>a</sup>	177	7.83%
All other FHA	30,063	962 <sup>b</sup>	3.20%

Source: OIG (2002). Loans originating between January 1997 and May 1999 in Stockton, Sacramento, Indianapolis or Las Vegas. Loans in default defined as loans that are delinquent 90 or more days. The default and claim rates are calculated as of February 2002.

<sup>a</sup> The original study looked at 2,264 loans; however, it was later discovered that three loans were each reported twice in the data. None were defaults.

<sup>b</sup> The total number of loans in default or with a claim was not provided in the OIG report and was calculated based on the default/claim rate reported

They also found that the claim rate for Nehemiah-assisted loans was more than double the rate for all other FHA loans. They did not report data for loans receiving assistance from non-Nehemiah sources.

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.

The GAO 2005 study is better than the OIG studies because it uses multivariate regression techniques to control for other factors that might influence rates of default and foreclosure (e.g. characteristics of the buyer, loan and housing market.) The report notes that previous studies "did not adjust for other variables that could potentially explain these differences in loan performance, such as differences in borrowers' credit scores or house price appreciation after loans were originated." (p. 4)

<sup>4</sup> In their comments to OIG, Nehemiah provided its own study (based on data provided by Experian) that showed that the 90-day delinquency rates (i.e. default rates) for Nehemiah-assisted loans were actually lower than the default rates for other FHA-insured loans. A similar study was conducted by AmeriDream. While the analysis in both of these studies was flawed, it is important to note that in their comments to the OIG, the Nehemiah group did raise some valid criticisms about the OIG's evaluations, which are included in the Analysis section of this report.

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GAO used a sample from the HUD database. Prior to 2003, it was virtually impossible to use the HUD database to identify which loans had down payment assistance and the source of that assistance. In 2003 HUD contracted with Concentrance Consulting Group (Concentrance) to examine a random sample of 8,294 loan files from HUD's database to assess the sources of down payment funds and the amount of seller contributions toward settlement costs. The cases reviewed included only loans originating in fiscal years 2000, 2001 and 2002 that had a loan-to-value (LTV) ratio above 95 percent.<sup>5</sup> Concentrance sampled 5,000 cases nationally and 1,000 cases in each of three metropolitan areas (MSAs): Atlanta, Indianapolis, and Salt Lake City.<sup>6</sup>

Concentrance found that about 43% of the loans reviewed in the national sample had a gift associated with them. Forty-five percent of the gifts were from a nonprofit, 44% were from a relative, 8% were from other sources, and for 3% the source of the gift could not be identified. The MSA samples had somewhat higher proportions of loans with nonprofit assistance.<sup>7</sup>

The data used in the GAO 2005 analysis included the 5,000 case national sample and the three 1,000 MSA samples. GAO grouped loans into (1) loans with assistance from what they termed "seller-funded nonprofits," 2) loans with assistance from nonseller sources, and 3) loans without assistance. Seller-funded nonprofits were identified using the taxpayer identification numbers included in the HUD database. GAO included only those organizations they could verify as requiring a contribution or service fee from sellers (i.e. Nehemiah Corporation of America; AmeriDream, Incorporated; and The Buyers Fund, Incorporated) and subsequently referred to them as "seller-funded" assistance programs.

GAO employed a two-pronged approach for assessing loan performance. First, they looked at the 90-day delinquency (default) rate and claim rate for loans with seller-funded assistance, loans with nonseller-funded assistance and loans without assistance. Second, they specified regression models to estimate the effect "seller-funded" assistance had on the probability a loan defaulted or went to claim, controlling for selected characteristics of the borrower, the loan, and the housing market.

GAO stratified the sample of loans by year of origination. They found in the national sample the default rate for loans receiving seller-funded assistance was between 22% and 28% depending on the year of origination (Table 3). Loans with other assistance had default rates between 11% and 16%. Loans with no assistance had the lowest range of default rates, 8% to 12%. A similar pattern was observed for claim rates and for default and claim rates using the MSA sample data.

The GAO results reported in Table 3 are more valid than those reported in the OIG reports because they explicitly control for the age of the loan. In other words, older loans (up to 5 years at the time of the analysis) have higher default and claim rates while more recent loans (loans that are 3 years old at the time of analysis) will have lower rates. The ranges provided by GAO highlight how these rates can increase over time.<sup>8</sup>

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5 Loans with an LTV ratio greater than 95 percent account for almost 90 percent of FHA's total portfolio (GAO 2005).

6 These MSAs were selected by HUD as target areas.

7 Concentrance Consulting Group. 2004. *Audit of Loans with Downpayment Assistance*. Contract Number C-OPC-22550.

8 The rates do not consistently increase as loans age. For example, the claim rate in the national sample for loans originating in 2000 was lower than the claim rate for loans originating in 2001 (p. 28).

**Table 3. Results from GAO 2005<sup>a</sup>**

	National Sample		MSA Sample <sup>b</sup>	
	Default Rate	Claim Rate	Default Rate	Claim Rate
Seller-funded assisted loans	22 to 28%	6 to 18%	23 to 27%	14 to 17%
Other assistance	11 to 16%	5 to 10%	11 to 15%	5 to 9%
No assistance	8 to 12%	3 to 6%	8 to 11%	3 to 5%

Source: OIG (2005). Loans originating in fiscal years 2000, 2001, and 2003. The ranges in the rates reflect the three cohorts of loans. Loans in default defined as loans that are delinquent 90 or more days. The default and claim rates are calculated as of June 2005.

<sup>a</sup> The GAO report did not provide detailed data on the number of loans in default or with a claim.

<sup>b</sup> The MSA data were reported only in bar charts. Thus, the figures presented here are estimated from looking at those charts (p. 28).

The GAO also 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 GAO models were binary regression models, meaning the dependent variable (DV) is set equal to 1 or to 0. In the models of default, the DV was a dummy variable equal to 1 if the loan defaulted and 0 if it had not. In the claim models, the DV was a dummy variable equal to 1 if the loan had a claim, 0 if otherwise. GAO specified several different models using both the national and MSA sample data. The final models included the independent variables (IV) summarized in Table 4.

The various model specifications revealed that some factors are very important in estimating the probability that a loan defaults or goes to claim. The constructed risk variable, credit score, and front-end ratio were all important predictors. Borrower reserves, condo, first-time home buyer, and underserved area all turned out to be insignificant predictors.

The regression results using the national sample of data show that assistance from a “seller-funded” nonprofit increased the probability that the loan would default by 93% compared to loans with no assistance. Assistance from a nonseller-funded source increased the probability that the loan would default by 21% compared to loans with no assistance. The differences between “seller-funded” assistance and assistance from other sources were large and were statistically significant.<sup>9</sup> (p. 68)

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.

<sup>9</sup> When a difference is statistically significant, it means that there is very little chance that the difference observed occurred by chance. It indicates that there are important differences between the two groups in terms of probability of default, even after controlling for all other factors included as independent variables.

**Table 4. Independent Variables in Regression Models – GAO 2005**

Constructed risk	Combines the variables used in prior GAO reports to predict claim probability, including initial LTV ratio, price appreciation after origination, loan size, location, interest rate, unemployment rate, loan type and other variables
FICO score	
No FICO score	Equals 1 if no FICO score
Borrowers' resources	Equals 1 if borrower had less than 2 months of mortgage payment in liquid assets after closing
Front-end ratio	Housing payments divided by income
Seller-funded assistance	Equals 1 if loan had seller-funded assistance
Nonseller-funded assistance	Equals 1 if loan had nonseller-funded assistance
Underserved area	Equals 1 if house is located in a Census tract designation by HUD as underserved
Condo	Equals 1 if house is a condo
First-time home buyer	Equals 1 if buyer is a first-time home buyer
LTV ratio	Loan-to-value ratio
15-year mortgage	Equals 1 for any mortgage 25 years or less
FY2000	Equals 1 if loan originated in FY2000
FY2001	Equals 1 if loan originated in FY2001
House price appreciation rate	Growth rate in the median price of existing housing, reduced by 0.5 percent per quarter to adjust for increasing quality of housing stock.
First six quarters	Number of quarters up to 6
Next 6 quarters	Number of quarters after 6 and up to 12
Following quarters	Number of quarters since 12th quarter
ARM	Equals 1 if mortgage was an ARM
Atlanta	Equals 1 for the Atlanta MSA
Salt Lake City	Equals 1 for the Salt Lake City MSA
Relatively high equity	The ratio of the market value of the mortgage to the book value of the mortgage; equals 1 when greater than 1.2; measures the incentive of the borrower to refinance the loan
Relatively low equity	The ratio of the market value of the mortgage to the book value of the mortgage, equals 1 when less than 1.2
Initial interest rate	
Original mortgage amount	

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## Conclusion

Research by the HUD Office of the Inspector General and the U.S. Government Accountability Office has been used to argue that FHA loans that receive assistance from NDPA programs perform worse than other FHA loans, even those with other types of down payment assistance, such as gifts from relatives. This analysis summarizes issues related to these studies' data and methodology. These issues raise critical concerns that the descriptive results from the three studies could be overstating the performance problems of FHA loans with assistance from NDPA programs.

One issue concerns the measure of loan performance. The studies report higher default rates for loans with certain types of nonprofit down payment assistance; however, default may not be the most relevant measure of performance. Claim rates are not shown to be significantly worse for loans with assistance from NDPA programs compared with loans with other types of gifts, after controlling for other factors.

A second issue relates to the representativeness of the data used in the studies. These studies use data from a small number of metropolitan areas. Because these markets have a relatively higher share of FHA loans receiving assistance from NDPA programs, they are likely to have very different housing market characteristics than other metropolitan areas. With the exception of the GAO multivariate analysis, these studies did not attempt to account for how market characteristics could influence loan performance. This finding is further suggestion that focusing on economically lagging metropolitan areas may lead to results that overstate the difference in performance nationally of loans with nonprofit downpayment assistance and loans with other types of assistance.

Third, the studies' focus on home prices did not show a direct link between assistance from NDPA programs, higher home prices, and foreclosure. Though they did review other studies that show that homebuyers with less equity are more likely to end up in default, there was not evidence from the OIG or GAO study samples. Higher home prices, therefore, may not be a predictor of worse loan performance for homebuyers receiving assistance from NDPA programs.

Finally, these studies do an insufficient job at accounting for home buyer characteristics that could influence whether or not a household experiences foreclosure, including the financial situation of the borrower. Loans with assistance from NDPA programs are different because they target potential home buyers who could not otherwise afford the down payment for a home. Consequently, these borrowers have different characteristics and are buying homes in different markets than borrowers with other FHA loans. Any study of loan performance must do everything possible to account for borrower and market characteristics to ensure the results are not misleading.

**Table A. Summary of Studies of the Performance of FHA-Insured With Down Payment Assistance**

	OIG 2000	OIG 2002	GAO 2005
Performance measure	Default	Default Claim	Default Claim
Date of analysis	December 1999	February 2002	June 2005
Origination dates of loans reviewed	1/1997 – 5/1999	1/1997 – 5/1999	FY00, 01, 02
Geographic coverage	Stockton, Sacramento, Indianapolis, Las Vegas	Stockton, Sacramento, Indianapolis, Las Vegas	National Atlanta MSA Indianapolis MSA Salt Lake City MSA
Sample size	2,264 Nehemiah-assisted 5,335 other gift 24,728 other FHA	2,261 Nehemiah-assisted 30,063 other FHA	5,000 total (1,587 with “seller-funded” assistance) 1,000 for each MSA
Sampling method	Non-random	Non-random	Random?
Limits on loans reviewed	None	None	LTV ratio of 95 or higher only
Data sources	Nehemiah HUD	Nehemiah HUD	Concentrace Consulting HUD
Compared with other “gift” assistance?	Yes	No	Yes
Control for characteristics of buyers?	No	No	Yes
Control for characteristics of loan?	No	No	Yes
Control for characteristics of market?	No	No	Yes
Results	Default rates: Nehemiah 4.64% Other gift 3.24% Other FHA 1.87%	Default rates: Nehemiah 19.4% Other FHA 9.7%  Claim rates: Nehemiah 7.8% Other FHA 3.2%	Default rates: Seller-funded 22-28% Other gift 11-16% Other FHA 8-12%  Claim rates: Seller-funded 6-18% Other gift 5-10% Other FHA 3-6%