

FHA ASSESSMENT REPORT

The Role of the Federal Housing Administration in a Recovering U. S. Housing Market

3RD EDITION

(November, 2011)

The FHA Assessment Report is a series of reports produced by the George Washington University Center for Real Estate and Urban Analysis designed to analyze and interpret the role of and reforms to the Federal Housing Administration (FHA) as we emerge from the Great Recession.



Keeping in mind the substantial history of FHA, rather than simply focusing on current conditions, we seek to provide greater understanding of FHA's place in the market. Those who fail to learn from history are doomed to repeat past mistakes. These reports evaluate FHA residential mortgage activity and examine steps the agency is taking, or may consider, to ensure its long-term viability while fulfilling its historical goals. In this series, we consider some of the difficult questions facing Congress and FHA, as well as a number of FHA reforms intended to fulfill its mission and limit taxpayer risk, including:

- FHA loan limits
- Low down payment loans
- Other underwriting guidelines and policies

This third report focuses on mortgage risk in the broader context of the overall housing market.

THIRD REPORT FOCUS

In this third edition of the FHA Assessment Report, we seek to identify the factors that are determinants of mortgage risk to ensure that FHA doesn't layer on excessive risk. These determinants include down payments and credit scores, as well as debt-to-income ratios, which help determine default risk. We look at past experience with attempts to influence the down payment constraint faced by borrowers. Our interest is in general principles of credit risk, and we use mostly non-FHA data to provide a broad perspective. Central points are:

- 1 Low down payment loans tend to default more, but not in a disastrously different manner.
- 2 Down payment and equity are not the only things that matter; risk can be mitigated by other factors, such as good credit scores.
- 3 While low down payment loans have always had higher default rates, during the crash their default rates did not increase by more than those of loans with higher down payments. This suggests that risks were not much different.
- 4 The true value of a borrower's equity in a house can be masked by the source of the down payment. For instance, loans with seller-assisted financing are apt to be associated with inflated house prices and less real equity in the property.

FIRST REPORT FINDINGS

Our first report, released in February 2011, analyzed FHA's current policies, particularly its loan limits, historical mission and growing market share. The main conclusion from that report was that FHA served the market well during the recession, and FHA mortgages, while continuing to have higher default rates than conventional loans (and charging a fee to cover the costs), did not experience as large a surge in defaults as did conventional and other (e.g., subprime) mortgage types. However, FHA has moved into riskier territory as its market share and focus on higher balance mortgages have increased sharply over the last few years.

Specifically, our analysis found that the 2008 expansion of FHA's loan limits gave the program, which previously had focused on low- to moderate-income and first-time homebuyers, the ability to insure nearly 97 percent of the available low down payment market for home purchase. As a result, FHA's share of the home purchase market increased from 6 percent in 2007 to more than 56 percent in 2009. Additionally, we found that FHA-insured loans that were more than \$350,000 had default rates that were approximately 20 percent worse than those on smaller loans. Thus, it is not clear that enlarging FHA market share by maintaining high loan limits is a good way to recapitalize the insurance fund; nor is it clear that FHA is flexible enough to operate for long periods of time with a large market share.

To view the first report, [click here](#).

SECOND REPORT FINDINGS

The second report noted that current FHA loan limits were larger than necessary to serve its targeted market of first-time and low- to moderate-income borrowers. The report demonstrates that FHA still could serve 95 percent of its historic targeted market even if the maximum FHA loan limits were reduced by nearly 50 percent. Therefore, an FHA limit of \$350,000 in the high cost markets and \$200,000 in the lowest cost markets is sufficient to satisfy more than 95 percent of FHA's target constituency. Furthermore, in order to serve its target population, FHA only needs to maintain a market share of somewhere between 9 to 15 percent of total mortgage originations, well under its current share of more than 30 percent. The report also found that the recent reductions in loan limits will affect only 3 percent of loans endorsed in calendar year 2010. Recommendations from this report included:

- **Gradually reducing the FHA's loan limit in the lowest cost markets from the current \$271,050 to \$200,000.**
- **Over time, returning the FHA loan limit in high cost markets from \$729,750 to \$363,000 (FHA loan limits were reduced to \$625,500 on October 1, 2011).**
- **Returning to the use of current area median home price in calculating the local loan maximum, moving away from the inflated 2008 median home price estimate.**

To view the second report, [click here](#).

CAUSES OF DEFAULT, EVALUATING LOW DOWN PAYMENTS

Mortgage underwriting standards have tightened significantly since 2008, and several discussions have emerged regarding raising standards further for FHA, private insurers, Fannie Mae and Freddie Mac, private label securities and other mortgage market participants. Among the proposals under consideration is the elimination or sharp curtailment of low down payment loans. This is an overreaction. If all we knew about loans was their down payment, we should want to control it closely. But we know more than that.

Credit risk in mortgage lending is more complicated than a single dimension of risk can capture, and much of the current discussion has not measured risk well. It is possible to do low down payment lending profitably, but not in a vacuum, and it need not be much *riskier* than higher down payment lending.

DEFINING "MORTGAGE RISK"

Credit risk in mortgage lending is determined by a combination of factors, and there are tradeoffs among them. Moreover, there is a tendency to confuse *risk* with *expected loss*. Differences in expected loss should not pose a threat to a mortgage insurance fund if they are priced correctly within the insurance premium. Differences in risk (i.e., the variation around expected loss) present more difficult problems for mortgage insurance and have important implications for capital requirements.

In this report we examine more closely three specific issues:

- **First, we consider some important tradeoffs among readily observable loan characteristics. Historically, low down payment loans tend to have higher default rates. However, other factors, such as credit score, can offset the risk from low down payments; whereas other factors such as high payment burdens can exacerbate it.**

- Second, we consider the risk of different loan types as measured by their variability or sensitivity over the housing cycle, in particular by how much their default rates increased during the recession.
- Third, we consider factors not so readily observable, such as the source of the down payment, that are important and need to be considered carefully when judging the relation between loan-to-value (LTV) and expected future default.

DOWN PAYMENTS (LOAN-TO-VALUE): STRIKING THE RIGHT BALANCE ON SIZE AND VOLUME

There is plenty of evidence that a lack of equity in a property (aka “skin in the game”) is a determining factor of when a borrower is more likely to default. Low down payment loans are more likely to become “under water” when property values decline because they start out closer to being under water. But can we conclude that low down payment loans are riskier than others based on LTV alone?

Determining if low down payment loans are riskier than others is difficult precisely because it hinges on the notion of “risk.” Casual inspection of the data indicates that low down payment loans have higher default rates. However, higher default rates and foreclosure losses are not the same as higher risk. The reason for this is that risk is about deviations from the mean, not the size of the mean. High LTV default rates are priced by FHA and by private insurers. If defaults on high and low LTV loans turn out to be as expected, profits from the two will be about the same because the higher price will offset the increased losses. The risk question is whether or not the profits are more or less unstable when there are shocks to default rates.

Here, the answer is much more mixed. Both high and low LTV loans had much higher losses than usual in the recent and ongoing slump in house prices. Consequently, we need to compare the increases in losses for different types of loans and loan underwriting characteristics to get a better sense for the risk of high LTV loans.

The following three tables are from data supplied by the Federal Housing Finance Agency (FHFA). Here we focus on fixed rate mortgages, including those bought by Fannie Mae and Freddie Mac (the Government Sponsored Enterprises [or GSEs]), and those put into private label securities (PLS). The data do not include FHA loans, although they do include a wide range of mortgages, in particular, a wide range of LTV ratios and care in underwriting. Note that FHA loans have performed better than the PLS loans, but worse than the GSE loans.

The four LTV classes include:

- 75 and below, the safest category
- 75-85, the most common category, which clusters around 80 (basic 20 percent down loans)
- 85-95, high LTV loans, which cluster around 90
- 95, which contains 95 and higher

Performance is measured by the share of loans during that year’s originations that were ever deemed to be in serious trouble (90 days delinquent or more) through 2009.

Table 1 depicts defaults on loans originated in 2003, a good year because the economy was strong and property values rose rapidly in the following three years. Table 2 looks at the same measure for loans originated in 2006, a bad year with sharply declining housing prices, and Table 3 presents the differences between the two, showing the sensitivity of various categories and how they compared to the mortgage meltdown.

TABLE 1 Default Rates: 2003 Vintage (ever seriously delinquent)

2003 GSE Fixed Rate Mortgages (FRMs)

		FICO Bucket			
		<640	640-680	680-720	>720
LTV Bucket (%)	<75	6.9%	3.2%	1.6%	0.5%
	75-85	9.6%	5.3%	3.0%	1.1%
	85-95	13.3%	8.0%	4.9%	2.3%
	>95	20.7%	10.7%	6.5%	3.2%

2003 PLS FRMs

		FICO Bucket			
		<640	640-680	680-720	>720
LTV Bucket (%)	<75	11.0%	5.5%	3.3%	1.4%
	75-85	16.3%	9.7%	6.3%	3.2%
	85-95	18.4%	12.3%	8.8%	5.3%
	>95	25.2%	14.8%	9.9%	6.1%

TABLE 2 Default Rates: 2006 Vintage (ever seriously delinquent)

2006 GSE FRMs

		FICO Bucket			
		<640	640-680	680-720	>720
LTV Bucket (%)	<75	20%	12.7%	8.0%	2.7%
	75-85	24.8%	19.8%	15.0%	6.5%
	85-95	27.5%	21.3%	16.8%	9.3%
	>95	40.1%	25.6%	18.0%	9.5%

2006 PLS FRMs

		FICO Bucket			
		<640	640-680	680-720	>720
LTV Bucket (%)	<75	31.8%	23.8%	18.9%	9.0%
	75-85	46.3%	42.5%	36.0%	23.3%
	85-95	47.6%	39.4%	32.8%	22.3%
	>95	50.1%	39.0%	31.0%	22.4%

TABLE 3 Default Rates Between the 2006 and 2003 Vintages

Differences: 2006-2003 GSE FRMs

		FICO Bucket			
		<640	640-680	680-720	>720
LTV Bucket (%)	<75	13.1%	9.5%	6.4%	2.27%
	75-85	15.2%	14.5%	12.0%	5.4%
	85-95	14.3%	13.3%	11.9%	7.0%
	>95	19.4%	15.1%	11.5%	6.5%

2006-2003 PLS FRMs

		FICO Bucket			
		<640	640-680	680-720	>720
LTV Bucket (%)	<75	20.8%	18.3%	15.69%	7.60%
	75-85	30.0%	32.8%	29.7%	20.1%
	85-95	28.8%	27.1%	24.0%	17.0%
	>95	25.9%	25.2%	21.1%	16.3%

We make the following observations:

- Looking at 2003 default rates, high LTV loans meant higher defaults if FICO scores were held constant, but not if the score varied. For instance, for GSE data, 95 percent or greater LTV loans with varying credit scores (680-720) had about the same default rates as those loans below 75 percent LTV with low credit scores (6.5 percent vs. 6.9 percent rates). There is clearly a trade-off among these two important characteristics. What looks to be worse is not simply high LTV, but rather high LTV combined with low FICO score. This is an example of **risk layering**.
- Economic conditions are important. The 2006 vintage had worse defaults than the 2003 vintage for all categories, and the story is worse than the table suggests because the 2006 loans had only three years of exposure until 2009; whereas the 2003 loans had six. Were these data updated, they would illustrate starker differences between the two vintages.
- The origination channel matters. For both origination years, holding constant the FICO and LTV on the loans, defaults were significantly higher for the PLS loans, especially for 2006.

These “stylized facts” tell us to be careful about presumptions regarding single dimension causes of default (i.e., the first issue noted above). High LTV is not the only source of losses, and while defaults certainly do increase with LTV, the relation is relatively smooth.

But what about risk? Consider the last table, which depicts differences between the first two. It shows sensitivity to very poor economic conditions—a natural stress test, which is a simple way of capturing what economists usually think of as risk—how far from the norm things vary when conditions change, especially when they get bad.

Here the results are perhaps surprising. For instance, look at the three highest FICO categories and two highest LTV categories for the GSE data. For those FICO scores from 680-720, the increase in defaults for the highest LTV loans was 11.5 percent. However, for 75 to 85 it was actually a bit higher at 12 percent. This is because when dealing with large shocks to the market, such as prices falling by 40 percent in some regions, even down payments of 20 percent provide much less protection than usual. It was the seemingly safest, lower LTV loans that performed disproportionately worse. What did help were high FICO scores and the avoidance of risk layering.

This doesn't end the analysis. Within these previous tables are percentages for serious delinquencies, not actual foreclosures, and they do not tell us about differences in loss severities. High LTV loans tend to lose more when there is a default, which will have the effect of making the total loss per loan higher, even if the increase in the share that default is the same.¹ Nonetheless the data above suggest that high and medium LTV loans might be different in degree but are not from different planets.

The data set in the first three tables does not contain information about borrower debt payments relative to income, the debt to income ratio (DTI). We turn to a separate data set, in Table 4, from CoreLogic[®], Inc., which shows serious delinquencies by 2011 for loans originated in 2008 and 2009, for FHA, GSE and PLS loans for various loan-to-value ratios.² The table consists of four matrices, each for an LTV range, depicting serious delinquency by FICO score and DTI.

¹ More generally, loss per loan is the product of default rate per loan multiplied by the severity rate per defaulted loan, or rs , where “ r ” is the default rate (percent of loans on the category that default) and “ s ” is the severity rate (loss per loans that default). The change in loss per loan is given by $d(rs)$ where “ d ” indicates “difference,” and it is (approximately) given by $d(rs)=rds+sdr$. Our best guess is that dr and ds , the increases in default rates and severity rates, were about the same for high LTV and low LTV loans. However, because both r and s started out higher for high LTV loans, they will still have higher overall increases in losses per loan.

² Analysis provided by Genworth Financial using CoreLogic Servicing Data Set.

TABLE 4 Default Rates: 2008 and 2009 Vintages (ever seriously delinquent)

		FICO			
		350-639	640-679	680-719	720-950
LTV 20-75	DTI 20.1-25	14.8%	5.2%	3.0%	0.5%
	DTI 25.1-30	16.7%	6.7%	3.5%	0.8%
	DTI 30.1-35	17.6%	7.8%	4.3%	1.0%
	DTI 35.1-40	19.9%	9.0%	5.6%	1.5%
	DTI 40.1-45	22.2%	11.2%	6.4%	1.8%
	DTI 45.1-50	23.0%	11.5%	7.2%	21.1%
		FICO			
		350-639	640-679	680-719	720-950
LTV 75.1-85	DTI 20.1-25	17.5%	8.9%	5.4%	1.3%
	DTI 25.1-30	19.0%	9.3%	5.9%	1.6%
	DTI 30.1-35	22.2%	11.0%	7.2%	2.2%
	DTI 35.1-40	24.2%	13.2%	9.2%	3.2%
	DTI 40.1-45	27.1%	15.4%	10.9%	3.9%
	DTI 45.1-50	27.6%	16.5%	11.4%	4.6%
		FICO			
		350-639	640-679	680-719	720-950
LTV 85.1-95	DTI 20.1-25	17.4%	7.8%	5.0%	2.1%
	DTI 25.1-30	19.4%	9.0%	5.5%	2.5%
	DTI 30.1-35	22.4%	10.7%	6.7%	3.1%
	DTI 35.1-40	25.0%	12.7%	9.4%	4.3%
	DTI 40.1-45	27.2%	15.0%	11.1%	5.8%
	DTI 45.1-50	28.2%	16.2%	12.1%	6.8%
		FICO			
		350-639	640-679	680-719	720-950
LTV >95	DTI 20.1-25	19.0%	6.8%	3.1%	1.3%
	DTI 25.1-30	21.0%	7.4%	3.5%	1.4%
	DTI 30.1-35	22.2%	8.5%	4.1%	1.7%
	DTI 35.1-40	25.1%	10.1%	5.0%	2.1%
	DTI 40.1-45	26.5%	11.6%	6.3%	2.8%
	DTI 45.1-50	26.2%	12.7%	6.8%	3.6%

(Source: CoreLogic Servicing Data Set)

These data extend the notion of layering. Mortgages with higher DTI ratios default more frequently across the board. In this distressed period, LTV was a much less important protection against default than were credit score and DTI: There was much more variation moving from “southwest” to “northeast” parts of the matrices in the table, holding LTV constant, than from moving from one matrix to the other holding FICO and DTI constant.

The above is a quick survey of recent results for default rates.³ Of course, it is not the last word, but it does suggest that simply limiting high LTV loans is not as important a risk control as a careful analysis of all the components of risk and avoidance of risk layering.

CONTROLLING RISK

The FHA, if maintained by trained management utilizing sound economic principles, can remain sound and fulfill its joint missions of: (1) serving as the guarantor of last resort in a significant housing market crisis, and (2) insuring access to mortgage credit for first-time and minority home buyers.

The problem remains that political oversight limits the flexibility of FHA management to adjust to the trade-offs involved in risk management. Historically, FHA has responded to challenges only after significant lags, during which losses and inefficiencies were rampant.

For example, today FHA’s guidelines permit it to give maximum financing (96.5 percent LTV) to an individual with a 580 FICO score³ and a DTI that can reach 48 percent. This is an example of risk layering. While FHA continues to insure these types of loans, other market participants have acknowledged the layering associated with such allowances. For instance, many lenders have imposed stricter guidelines above those of FHA for high LTV loans, requiring a higher FICO score and limiting DTI ratios. In the private sector, 97 LTV loans are generally limited to a borrower with FICO scores of around 720 and more manageable DTI ratios, such as being below 41 percent. FHA does not have to mimic the private sector, but it does have to be able to adjust to changes or it risks being selected against.

THINGS YOU CAN’T SEE:

Below we present a case study of hidden credit risk and responses to information about it.

Seller-funded “assistance” to buyers

Seller-funded assistance takes two forms: up-front or closing cost assistance and down payment assistance (note: 100 percent seller-funded down payments are no longer permitted). The FHA’s experience with each of these types of assistance is best understood by discussing them separately, even though the lessons for the future operation of FHA are similar.

³ There is, of course, a substantial academic literature consisting of statistical models of delinquency, default, and default loss that supports the results presented here and substantiates our concern with risk layering.

⁴ HUD Mortgagee Letter 10-29

Seller-funded “down payment assistance” to buyers

Seller-funded “down payment assistance” occurs when the seller either directly pays part of the required minimum down payment or the seller pays a third party who, in turn, helps the buyer pay the required down payment. It is possible for a buyer to pay the minimum required 3.5 percent down payment and for the seller to pay another 1 percent so that the total down payment is 4.5 percent of the purchase price.⁵ In this case, the seller has financed part of the down payment, but the borrower has met the minimum down payment from his/her own funds and could presumably have completed the transaction without the seller’s help.⁶ Such cases will not be counted as seller financing of down payments here.

Sellers would not willingly contribute to buyer down payments or up-front costs if they could sell their houses for the same price without making these payments. For example, if one buyer is willing to pay \$200,000 for a home and does not need or require a seller contribution, most sellers will choose to sell to that buyer rather than another who will only pay \$200,000 if the seller pays \$6,000 in up-front costs. Thus, economic theory suggests that sellers who pay a part of the down payment or up-front costs are receiving a compensating increase in sales price above what other buyers were willing to pay for the unit. In this second case the property is probably only really worth \$194,000.

Research conducted by Robert Cotterman (1992) found that, for FHA mortgages, seller funding resulted in a rise in default rate that was equivalent to the increase in LTV associated with the amount of seller assistance, as compared to down payment and up-front cost.⁷ For example, the default rate on a mortgage with an LTV of 98 percent with no seller assistance was equivalent to the default rate on a mortgage with an LTV of 95 percent that had 3 percent seller assistance. The findings of Cotterman’s 1992 study have been confirmed by a number of more recent papers, including a most persuasive study by Kelly (2008).⁸

After several failed attempts the practice of providing seller funding of the required down payment was ended on January 1, 2009.⁹ However, it has had a cost. Future homebuyers ultimately pay the price given that the program is a mutual mortgage insurance fund, and losses from periods of problematic management imply higher premiums for future buyers. According to the latest annual audit, the Mutual Mortgage Insurance (MMI) fund had an economic value of \$5.2 billion at the end of fiscal year 2010, compared to an economic value of \$21.3 billion at the end of fiscal year 2007. The audit report attributes this 75.6 percent decline in value to two things:

1. ***A weakening of the housing market since fiscal year 2007, and;***
2. ***The concentration of loans receiving down payment assistance from nonprofits***¹⁰

⁵ If the required minimum down payment is different from 3.5 percent, just adjust the example accordingly. Note that relatives, close friends, etc. may contribute to the required down payment if they provide an appropriate gift letter.

⁶ The monthly payment-to-income ratio may change as a result of this seller finance arrangement but, if purchase price rises to finance the added down payment that will not be the case. Current HUD rules provide that the seller or a third party may contribute up to 6 percent of the sales price toward buyer’s cost (See, Bruce E. Foot, “Treatment of Seller-Funded Down Payment Assistance in FHA-Insured Home Loans,” Congressional Research Service Report 7-5700, RS22934.)

⁷ See Robert F. Cotterman, Final Report: Seller Financing of Temporary Buydowns, Washington, D.C.: U.S. Department of HUD. (1992).

⁸ See Austin Kelly, “Skin in the Game: Zero Downpayment Mortgage Default,” Journal of Housing Research, Vol 17, #2, (2008)

⁹ Documentation of the struggle to eliminate unsound seller finance policies is provided in: General Accountability Office, (November 2005) “Mortgage Financing: Additional Action Needed to Manage Risks of FHA-Insured Loans with Downpayment Assistance” (GAO-06-24) and “Seller-Funded Downpayment Assistance in FHA-Insured Home Loans,” Congressional Research Service Report 7-5700, RS22934.

¹⁰ Ibid, pg. 6

“SELLER-FUNDED” UP-FRONT OR CLOSING COST “ASSISTANCE” TO BUYERS

Sellers or other parties may also contribute up to 6 percent of the sales price to cover either additional down payment (above the required amount), or closing costs (homeowner’s insurance, basis points, FHA up-front insurance payment up to 1 percent of the loan amount, fees, and taxes). These will all be termed “up-front” costs. Just as in the case of down payment assistance, the same economic logic concludes that sellers inflate the sales price to cover some portion of these up-front costs.

On January 20, 2010, the FHA announced its intent to reduce the allowable seller assistance from 6 percent to 3 percent. At the same time, it announced other measures to reduce expected losses, such as increasing the minimum FICO score to qualify for 3.5 percent down payment to 580 and increasing enforcement on FHA lenders. The announcement also included measures to enhance revenue by raising the mortgage insurance premium. The rationale for reducing seller assistance from 6 percent to 3 percent was that “the current level exposes the FHA to excess risk by creating incentives to inflate appraised value. This change will bring FHA into conformity with industry standards on seller concessions.”¹¹ Recently, FHA announced that it hopes to publish a proposed rule by year-end, after postponing in midsummer.

WHAT CAN WE LEARN FROM THIS REVIEW OF FHA POLICIES TOWARD SELLER ASSISTANCE WITH DOWN PAYMENTS AND CLOSING COSTS?

It has been difficult for FHA to adopt economically sound policies to limit seller assistance even after overwhelming evidence demonstrated that it resulted in misrepresented property values and led to substantial losses for the insurance fund. The down payment assistance policies were only changed in the face of losses that eroded reserves of the insurance fund. The FHA has been unable to lower closing cost assistance even at a time in which it has had to take other dramatic steps to control losses and raise revenues. This presents another reason for controlling the volume of FHA insured lending in order to limit the damage that these policies can do to current and future FHA borrowers (who pay higher premiums and face higher underwriting standards) as FHA attempts to recover past losses at their expense.

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¹¹ HUD NO. 10-016, “FHA Announces Policy Changes to Address Risk and Strengthen Finances,” (January 20, 2010)

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