United States Government Accountability Office

GAO

Report to the Chairman, Subcommittee on Housing and Community Opportunity, Committee on Financial Services, House of Representatives

September 2005

MORTGAGE FINANCING

FHA's $7 Billion Reestimate Reflects Higher Claims and Changing Loan Performance Estimates

GAO-05-875

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Highlights

Highlights of GAO-05-875, a report to the Chairman, Subcommittee on Housing and Community Opportunity, Committee on Financial Services, House of Representatives

Why GAO Did This Study

The U.S. Department of Housing and Urban Development (HUD), through its Federal Housing Administration (FHA), provides insurance for private lenders against losses on home mortgages. FHA's largest insurance program is the Mutual Mortgage Insurance Fund (Fund), which currently is self-financed and operates at a profit. FHA submitted a "reestimate" of $7 billion for the credit subsidy and interest for the Fund as of the end of fiscal year 2003, reflecting a reduction in estimated profits. Given this substantial reestimate, you asked GAO, among other things, to determine what factors contributed to the $7 billion reestimate and the underlying loan performance variables influencing these factors and to assess how the loan performance variables underlying the reestimate could impact future estimates of new loans.

What GAO Recommends

To more reliably estimate program costs, the Secretary of HUD should direct the FHA Commissioner to study and report the impact of variables that have been found in other studies to influence credit risk. When changing the definitions of key variables, FHA also should report the impact such changes would have had on the forecasting ability of its loan performance models. In written comments, HUD generally agreed with GAO's overall findings.

www.gao.gov/cgi-bin/getrpt?GAO-05-875.

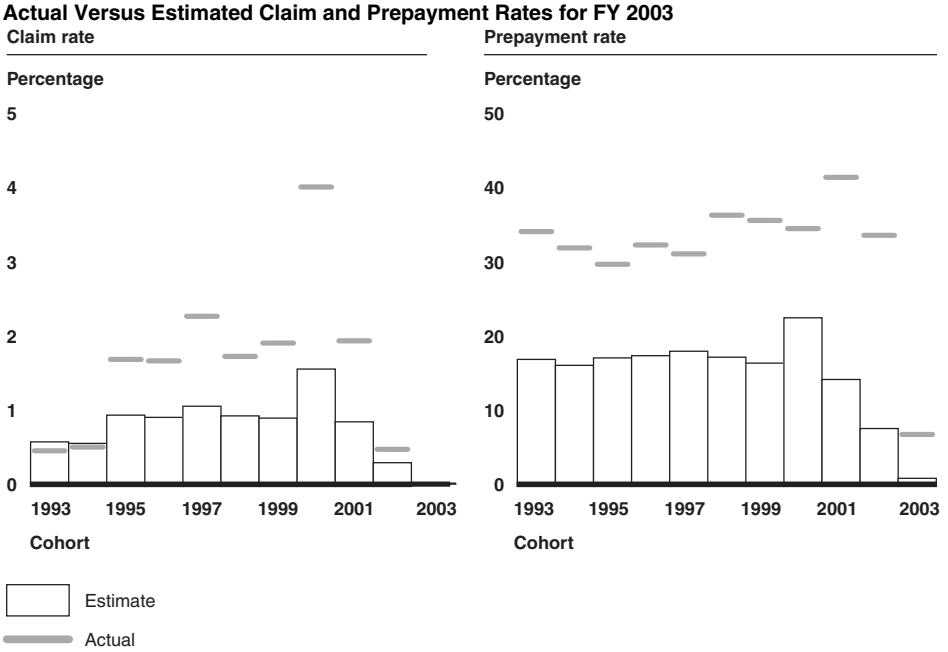
To view the full product, including the scope and methodology, click on the link above. For more information, contact William B. Shear at (202) 512-8678 or shearw@gao.gov.

What GAO Found

The $7 billion reestimate was due primarily to an increase in estimated and actual claims over what FHA previously estimated. For example, actual claim activity in fiscal year 2003 exceeded estimated claim activity for 2003—by twice as much in some cases—for the majority of loan cohorts. Prepayments also played a role in the reestimate as they were higher than previous estimates. In fact, actual prepayment activity during 2003 exceeded estimated prepayment activity for all cohorts. Because of the additional claims it paid, upfront premiums it refunded, and the annual premiums it lost, FHA's net cash outflows for the year increased, contributing to the $7 billion adjustment of the Fund's credit subsidy.

Several recent events may help explain this increase, including changes to underwriting guidelines, competition from the private sector, and an increase in the use of down payment assistance. FHA has taken some steps to tighten underwriting guidelines and better estimate loan performance, though it is not clear that these steps are sufficient to reverse recent increases in actual and estimated claims and prepayments or help FHA to more reliably predict future claim and prepayment activity. Increases in claim and prepayment activity are likely to continue to add risk to FHA's portfolio.

Actual Versus Estimated Claim and Prepayment Rates for FY 2003



Source: GAO analysis of FHA data.

Contents

Figures

Abbreviations

FCRA	Federal Credit Reform Act
FHA	Federal Housing Administration
HUD	U.S. Department of Housing and Urban Development
OMB	U.S. Office of Management and Budget
USDA	U.S. Department of Agriculture
VA	U.S. Department of Veterans Affairs

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United States Government Accountability Office
Washington, D.C. 20548

September 2, 2005

The Honorable Bob Ney
Chairman
Subcommittee on Housing and Community Opportunity
Committee on Financial Services
House of Representatives

Dear Mr. Chairman:

The Department of Housing and Urban Development (HUD), through its Federal Housing Administration (FHA), provides insurance for single-family home mortgage loans made by private lenders. During fiscal year 2004, FHA insured 892,591 mortgages, representing $107.7 billion in single-family mortgage insurance. The insurance program is supported by the Mutual Mortgage Insurance Fund (Fund), which is financed through insurance premiums that FHA charges its borrowers.[1] FHA's mortgage insurance program is currently a negative subsidy program, meaning that the Fund is self-financed and operates at a profit.

In 2001 we reported that the Fund had an economic value, or net worth, of about $15.8 billion (as of the end of fiscal year 1999) and a capital ratio of 3.20 percent of the unamortized insurance-in-force,[2] or the initial amount of the mortgages.[3] We noted that the minimum required capital ratio of 2 percent, set by Congress in 1990, appeared sufficient to withstand moderately severe economic downturns that could lead to worse-than-expected loan performance. In 2002, we reported that while loans made

[1]FHA also provides mortgage insurance for certain single-family programs, such as condominiums and home equity conversion mortgages, through its General and Special Risk Insurance Fund. The single-family mortgage insurance programs supported by the General and Special Risk Insurance Fund represented about 13 percent of all single-family mortgages that FHA insured in 2004. The remaining 87 percent were insured through the Mutual Mortgage Insurance Fund.

[2]The Omnibus Budget Reconciliation Act of 1990 defined the capital ratio as the ratio of the Fund's capital, or economic net worth (economic value), to its unamortized insurance-in-force. However, the act defined unamortized insurance-in-force as the remaining obligation on outstanding mortgages—a definition generally understood to apply to amortized insurance-in-force. HUD has calculated the capital ratio using unamortized insurance-in-force as it is generally understood—which is the initial amount of mortgages.

[3]See *Mortgage Financing: FHA's Fund Has Grown, but Options for Drawing on the Fund Have Uncertain Outcomes*, GAO-01-460 (Washington, D.C.: Feb. 28, 2001).

during the 1990s were performing much better than loans made in the 1980s, performance was somewhat weaker for loans originated during the latter 1990s than for those originated earlier in the decade.[4] Our analysis suggested that changes in FHA's underwriting procedures and in the conventional mortgage market may have increased the overall riskiness of FHA's portfolio, potentially affecting the Fund's economic value and its ability to withstand future economic downturns. Therefore, we cautioned against concluding that the Fund could withstand specified economic scenarios. In October 2004, FHA estimated that the Fund had an economic value of about $22 billion and a capital ratio of 5.5 percent. However, because of the uncertainty of these measures and recent declines in loan performance, we continue to believe that caution is warranted.

In recent years, FHA has adjusted its budget estimates to reflect that, while not requiring subsidy, the performance of FHA-insured loans and the resulting cash flows were not as strong as previously estimated. Higher estimated costs caused the program to be less profitable than previously estimated. Specifically, as of the end of fiscal year 2003, FHA submitted a "reestimate" of $7 billion for the Fund. Given this substantial reestimate of program cash flows, you asked us to (1) assess the significance of the $7 billion reestimate, (2) determine what factors contributed to the $7 billion reestimate and the underlying loan performance variables influencing these factors, (3) assess how the loan performance variables underlying the reestimate could impact future estimates of new loans, and (4) assess what the reestimate and the underlying loan performance variables mean for the long-term viability of the Fund.

To respond to these objectives, we interviewed officials at FHA and staff from the Office of Management and Budget (OMB). We collected and analyzed budget data on FHA and comparable loan guarantee programs at the Department of Veterans Affairs (VA), and Department of Agriculture (USDA) to determine the significance of FHA's $7 billion credit subsidy reestimate for the Fund. We interviewed FHA officials and FHA contractors and collected and analyzed their written information and data to determine the main factors contributing to the reestimate, the underlying loan performance variables influencing these factors, and the likelihood these variables could impact future estimates. We also analyzed FHA and other data on new loan products and home mortgage industry trends to assess

[4]See *Mortgage Financing: Changes in the Performance of FHA-Insured Loans*, GAO-02-773 (Washington, D.C.: July 10, 2002).

what the reestimate and underlying loan performance variables mean for the long-term viability of the Fund. Details about our scope and methodology appear at the end of this letter.

We conducted our work from November 2004 through July 2005 in Washington, D.C., in accordance with generally accepted government auditing standards.

Results in Brief

The $7 billion credit subsidy reestimate for the Fund was more than twice the size of FHA's other recent reestimates and represented a greater proportion of the Fund's recent cohorts[5] than was the case for the 2003 reestimates for comparable loan guarantee programs. While the $7 billion reestimate is unusually large, the upward direction of FHA's recent reestimates in general is of concern because of the increase in estimated cash outflows they represent. Also, FHA's current credit subsidy estimates are, with one exception, higher than the original estimates for all post-1991 cohorts.

Three major factors contributed to the $7 billion reestimate: a change in the estimated future cash flows of its loans insured through 2003, the difference between estimated and actual cash flows occurring during fiscal year 2003, and an interest adjustment. The primary loan performance variable underlying these factors is unexpectedly high claims. For example, in 2003 FHA estimated that most cohorts would experience more claim activity over the course of their 30-year terms than it estimated in 2002, increasing estimated cash outflows by $2.5 billion. Higher-than-estimated prepayments as well as changing assumptions about the impact that FHA's loss mitigation efforts could have on claims are also important variables. For example, the revisions to loss mitigation assumptions increased estimated cash outflows by $1.7 billion.

The change in expected claims underlying the $7 billion reestimate will likely affect credit subsidy estimates for future loan cohorts, but the effect of prepayments is less certain. Several recent policy changes and trends may help explain the increase in claims, including changes to underwriting guidelines, competition from the private sector, and an increase in the use

[5]A cohort includes those direct loans or loan guarantees of a program for which a subsidy appropriation is provided in a given year even if the loans are not disbursed until subsequent years.

of down payment assistance. It appears that these policy changes and trends will continue to impact claims, and thus they will likely continue to add risk to FHA's portfolio. Prepayment rates increased significantly prior to the 2003 reestimate, but it is less likely that the same conditions that caused the surge in prepayments early in the decade will be repeated. The revisions to loss mitigation assumptions will also affect future estimates of subsidy by no longer artificially reducing claims, though the significance may decline. FHA does not intend to use the same assumption again given its greater historical experience with loss mitigation.

Because the loan performance variables underlying the $7 billion reestimate will likely persist to varying degrees, they are also likely to affect estimates of the Fund's long-term viability. The capital ratio, a measure of the Fund's long-term viability, has increased in recent years. However, if the Fund's economic value declines or is restated at a lower level than previously estimated, because of higher claims, and if the insurance-in-force remains steady, because of declining prepayments, then the capital ratio will decline. Whether the currently estimated 5.5 percent capital ratio or a lower capital ratio is sufficient depends on the scenarios the Fund is expected to survive while maintaining the minimum 2 percent reserve. Neither Congress nor HUD has established criteria to determine how severe a stress the Fund should be able to withstand.

To more reliably estimate program costs, we recommend that the Secretary of HUD direct the FHA Commissioner to study and report the impact on the forecasting ability of its loan performance models of variables that have been found in other studies to influence credit risk, such as payment-to-income ratios, credit scores, and the presence of down payment assistance. We also recommend that when changing the definitions of key variables, FHA should report the impact of such changes on the forecasting ability of its loan performance models.

Background

FHA was established in 1934 under the National Housing Act (P.L. 73-479) to broaden homeownership, shore up and protect lending institutions, and stimulate employment in the building industry by providing mortgage insurance for loans made by private lenders. Generally, borrowers are required to purchase single-family mortgage insurance when the value of the mortgage is large relative to the price of the house. Together, FHA, VA, USDA, and private mortgage insurers provide virtually all of this insurance. FHA provides insurance for mortgages that finance the purchase of

properties with one to four housing units, often by low-income, minority, and first-time homebuyers.

The economic value of the Fund that supports FHA's guarantees depends on the relative size of cash outflows and inflows over time. Cash flows out of the Fund from payments associated with claims on defaulted loans and refunds of up-front premiums on prepaid mortgages.[6] To cover these outflows, FHA receives cash inflows from up-front and annual insurance premiums from borrowers and net proceeds from recoveries on defaulted loans. If the Fund were to be exhausted, the U.S. Treasury would have to cover lenders' claims directly.

The Fund remained relatively healthy from its inception until the 1980s when claims and losses were substantial, primarily because of high foreclosure rates in regions experiencing economic stress. These losses prompted reforms that were enacted as part of the Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508). The reforms were designed to place the Fund on an actuarially sound basis and required, among other things, that it maintain a capital ratio of 2 percent of the insurance-in-force and that an independent contractor conduct an annual actuarial review of the Fund to analyze its economic value.

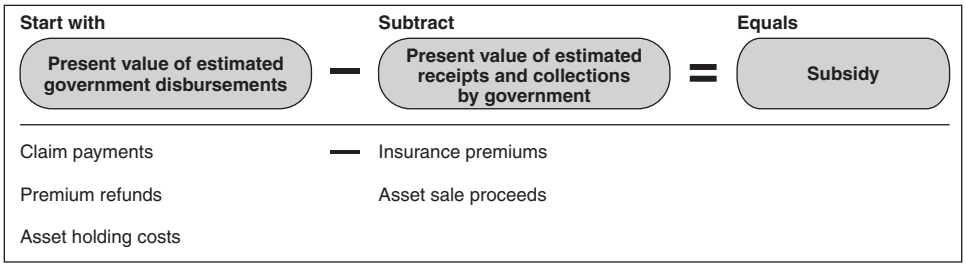
The Federal Credit Reform Act of 1990 (FCRA), enacted as part of the Omnibus Budget Reconciliation Act of 1990, reformed budgeting methods for federal credit programs, including FHA's mortgage insurance program. As a result of FCRA, OMB requires federal credit agencies to report the actual and estimated lifetime cost to the government of their programs in their annual budgets. Similarly, federal accounting standards require agencies to recognize the estimated lifetime costs of their programs in their financial statements. To determine the expected cost of credit programs, agencies predict or estimate the future performance of the programs on a cohort basis. This cost, known as the subsidy cost, is the net present value[7] of estimated payments the government makes less estimated amounts it

[6]FHA refunds a portion of the up-front premium based on the time elapsed since the loan was originated and when a borrower prepays or refinances their loan.

[7]Present value is the worth of the future stream of cash inflows and outflows, as if they had occurred immediately. In calculating present value, prevailing interest rates provide the basis for converting future amounts into their "money now" equivalents. Net present value is the present value of estimated future cash inflows minus the present value of estimated future cash outflows.

receives over the life of the loan or loan guarantee, excluding administrative costs. For the Fund, the overall subsidy is currently a negative cost, meaning that the present value of cash inflows exceeds cash outflows. Outflows include claims paid on foreclosed properties, refunds of up-front insurance premiums, and foreclosed property holding costs, while inflows include insurance premiums and proceeds from the sale of foreclosed properties, over the life of the loan guarantees (fig. 1).

Figure 1: Calculation of Credit Subsidy for the Fund



Source: GAO.

FCRA established a special budgetary accounting system to record the budget information necessary to implement credit reform. For loans and loan guarantees made during or after fiscal year 1992—the effective date of credit reform—federal agencies use program and financing accounts to handle credit transactions.[8] The program account is included in budget totals, receives separate appropriations for the administrative and subsidy costs of a credit program, and records the budget authority and outlays for these costs. The program account is used to pay the associated subsidy cost to the financing account when a direct or guaranteed loan is disbursed. The financing account, which is nonbudgetary,[9] is used to collect the subsidy cost from the program account, borrow from Treasury to provide financing for loan disbursements, and record the lifetime cash flows associated with direct loans or loan guarantees. In 2002, a new capital reserve account was established for the Mutual Mortgage Insurance

[8]Liquidating accounts were established to handle credit transactions on a cash basis for pre-credit reform loans and loan guarantees.

[9]Nonbudgetary accounts may appear in the budget document for informational purposes but are not included in the budget totals for budget authority or budget outlays.

Fund to maintain reserves for the post-1991 cohorts. In 2003 this new account started earning interest on Treasury investments, collecting negative subsidy and downward reestimates from the financing account, and paying upward reestimates.

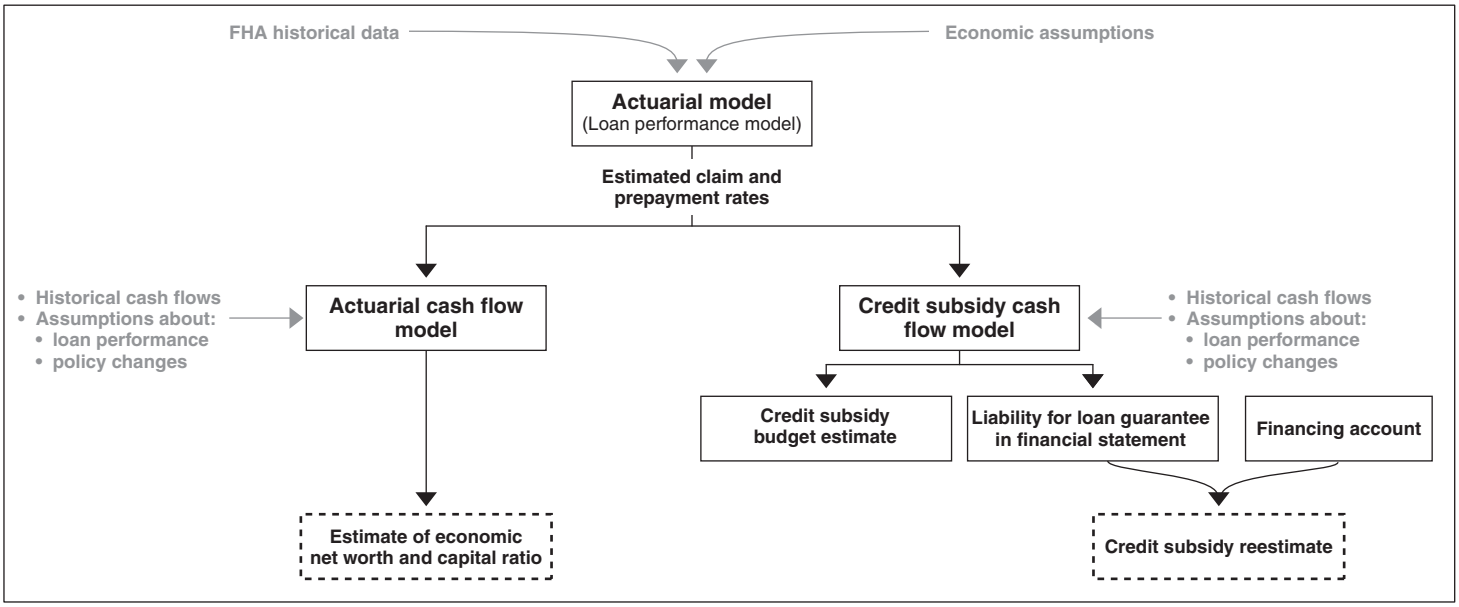
Agencies are required to reestimate subsidy costs annually to reflect actual loan performance and expected changes in estimates of future loan performance. Annual estimates of a program's expected lifetime subsidy change from year to year. Beyond changes in estimation methodology, each additional year provides more historical data on loan performance that may influence estimates of the amount and timing of future claims and prepayments. Economic assumptions also change from one year to the next, including assumptions on interest rates, unemployment, and home prices. Assumptions about the impact of policy changes also can affect estimates of subsidy costs—for example, by changing how loans are serviced or the treatment of foreclosed properties, which potentially influences the timing and amount of losses.

In accordance with the Omnibus Budget Reconciliation Act of 1990, FHA contracts with private firms to prepare an annual actuarial review.[10] Figure 2 illustrates the relationship between the actuarial review and the credit subsidy reestimate. For the review, the contractors develop econometric loan performance models to estimate future claim and prepayment activity for the loans FHA insures. The contractors also develop a cash flow model through which they run the output of the loan performance models. The actuarial cash flow model calculates the net present value of future cash flows in and out of the Fund to estimate its economic net worth and capital ratio. FHA also uses the actuarial claim and prepayment data with its credit subsidy cash flow model to estimate the net present value of future cash flows for the budget and the ending balance of the liability for loan guarantees in the financial statements. At the end of the fiscal year, FHA

[10]From 1989 to 1998, Price Waterhouse (PricewaterhouseCoopers as of 1998) performed the actuarial review; from 1999 to 2003, Deloitte & Touche performed the review; in 2004, Technical Analysis Center, Inc., was awarded the contract.

uses a "balances approach" to compare the resources in the financing account to the liability for loan guarantees.[11] The difference is the credit subsidy reestimate.

Figure 2: Relationship between Actuarial Review and Reestimate



Source: GAO.

In November 1996, FHA implemented a new loss mitigation program that included a range of options to help homeowners who have defaulted on their mortgage to either retain their homes or enable FHA to dispose of them in ways that reduced the costs of foreclosure. The loss mitigation program has five options: (1) special forbearance, or a repayment agreement between the lender and borrower to reinstate a loan; (2) loan modification, which provides borrowers with a permanent reduction in

[11]Current OMB guidance allows agencies to use either the "traditional approach" or the "balances approach" to reestimate costs. The traditional approach uses both actual past and estimated future cash flows to calculate a revised expected cost. Then the amount of the reestimate is based on the change in the expected cost. HUD uses the balances approach, which compares the net resources (cash, other assets, and liabilities) in the financing account to the total estimated future cash flows. Both approaches yield simular results. Figure 2 illustrates the balances approach.

mortgage payment; (3) partial claim, which enables a borrower to get an interest-free loan from HUD to bring their mortgage payments up to date; (4) pre-foreclosure sale, which provides borrowers with a transition to more affordable housing; and (5) deed-in-lieu of foreclosure, an alternative to foreclosure whereby a borrower voluntarily deeds the property to HUD and is released from all mortgage obligations.

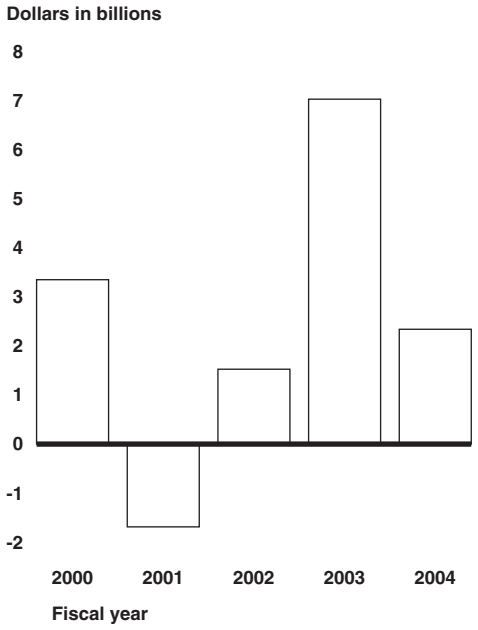
The $7 Billion Reestimate Is Significant for Its Size and Direction

The $7 billion credit subsidy reestimate for the Fund was more than twice the size of other recent FHA reestimates and represented a greater proportion of the Fund's recent cohorts than other 2003 reestimates for comparable loan guarantee programs. Both this unusually large reestimate and the upward direction of FHA's recent reestimates are matters for concern. Overall, though the Fund still operates at a profit, FHA's current reestimated credit subsidy rates are higher than FHA originally estimated for all but one of the 1992 through 2004 cohorts. In comparison, current reestimated subsidy rates for VA's loan guarantee program are lower than VA originally estimated for all but one of the 1992 through 2004 cohorts.

The Reestimate Is Large Compared with Other Recent Reestimates and Programs

The $7 billion reestimate FHA reported in its 2003 financial statements was by far the largest reestimate FHA has made in recent years. As figure 3 illustrates, it was more than twice the size of any other reestimate from 2000 through 2004, indicating that FHA's actual and estimated cash flows have changed substantially.

Figure 3: Annual Credit Subsidy Reestimates for the MMI Fund, Fiscal Years 2000-2004



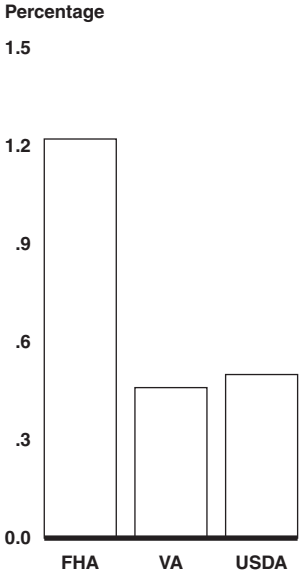
Source: GAO analysis of FHA data.

An alternative way of measuring the magnitude of the reestimate is by comparing it with reestimates for comparable loan guarantee programs. FHA's 2003 reestimate was also unusually large compared with reestimates for the same year for VA's and USDA's single-family loan guarantee programs.[12] FHA reestimates the credit subsidy separately for each cohort of loans that it insures, totaling the separate reestimates into one overall reestimate for the fiscal year. Loans that FHA insured in 2001 through 2003 accounted for $4.5 billion, or 64 percent, of the total $7 billion reestimate. The $4.5 billion of the reestimate attributed to these three cohorts of loans

[12]Because the age composition of these programs' portfolios may differ, we selected only the three most recent cohorts for our analysis. These three cohorts represented the majority of FHA's loan portfolio in 2003.

equaled 1.22 percent of their combined total endorsements.[13] As figure 4 illustrates, this percentage is more than double that of comparable loan guarantee programs at VA and USDA.

Figure 4: Amount of the 2003 Reestimate Attributed to the 2001-2003 Cohorts, as a Percentage of the Original Loan Amount, for Single-Family Loan Guarantee Programs



Source: GAO analysis of Federal Credit Supplements, fiscal years 2005-2006.

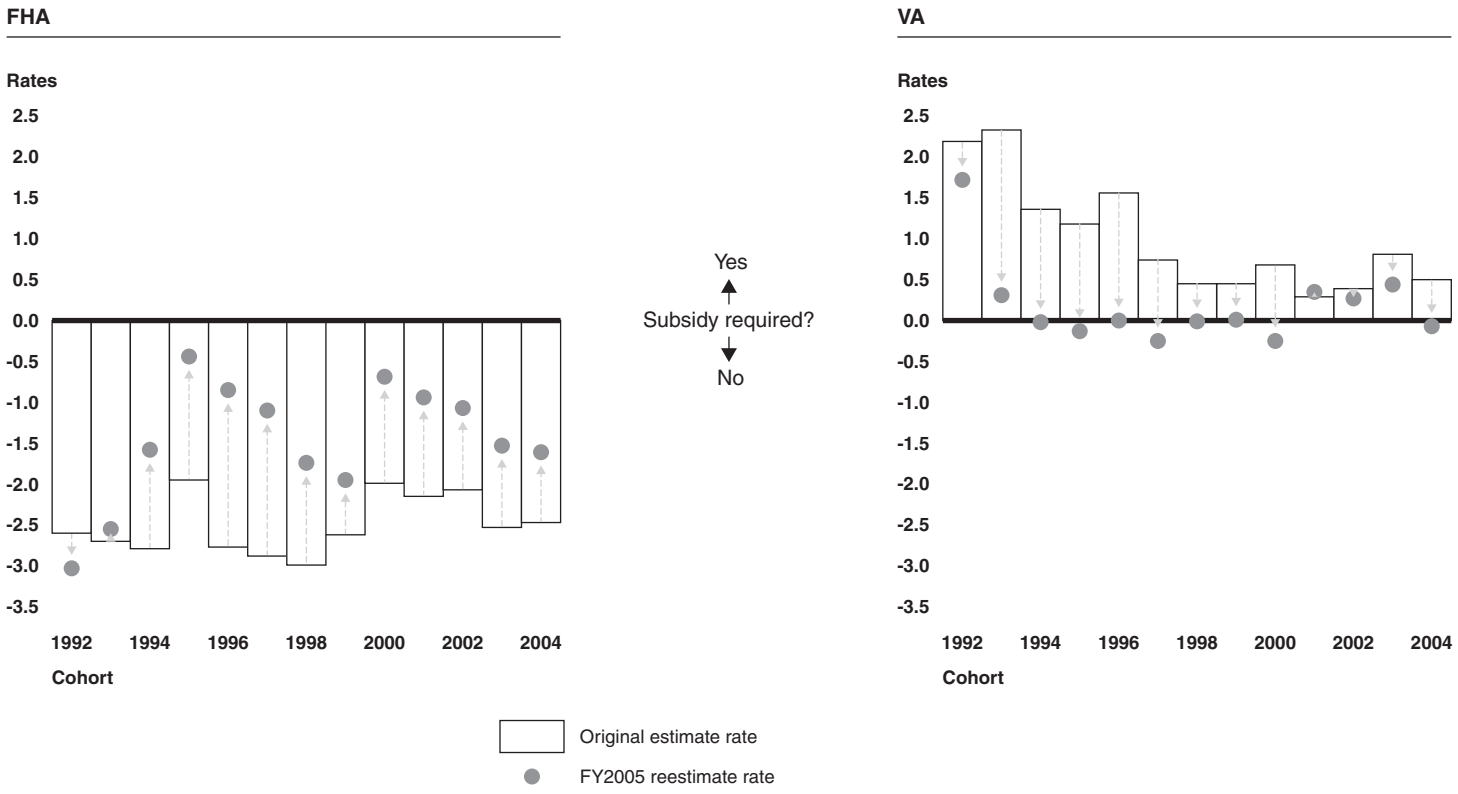
FHA's Current Reestimated Subsidy Rates Are Less Favorable Than Its Original Estimates

FHA has estimated negative credit subsidies for the Fund since 1992, when credit reform became effective. However, with one exception, current reestimated subsidy rates for FHA's loan guarantees are less favorable than originally estimated. Meanwhile, across the country home prices have been growing faster and more uniformly since 2000 than they grew during the 1990s and most of the 1980s. This indicates that very few borrowers would have seen their home values decline to the point at which their homes were

[13]Figure 4 is based on data from the fiscal year 2006 Federal Credit Supplements, which reports $369 billion in Fund loans endorsed (guaranteed) to date for the fiscal year 2001-2003 cohorts. According to the Federal Credit Supplement, 100 percent of Fund loan guarantees are endorsed in the first year.

worth less than their mortgage balances, putting them at a greater risk of foreclosure and causing subsidy rates to worsen. In keeping with the trend of increasing home prices, current reestimated rates for VA's program are more favorable than originally estimated. As shown in figure 5, the original and current subsidy cost estimates for FHA's 1992 through 2004 cohorts were negative, meaning FHA estimated total cash inflows to be greater than outflows over the life of each cohort. FHA's most recent reestimates indicate that all but the 1992 cohort will be less profitable than originally estimated, though FHA is not estimating that these cohorts will have overall negative cash flows. In comparison, the original subsidy estimates for VA's 1992 through 2004 cohorts did indicate negative cash flows, meaning VA estimated that the present value of total cash outflows would exceed inflows over the life of each cohort. With the exception of one cohort, VA's reestimated subsidy costs are all lower than originally estimated, indicating that VA currently estimates that its cohorts will perform better than originally expected. However, VA estimates that several cohorts will continue to have overall negative cash flows.

Figure 5: Original Estimated Credit Subsidy Rates and Most Recent Reestimated Rates for the FHA and VA Loan Guarantee Programs, 1992-2004 Cohorts

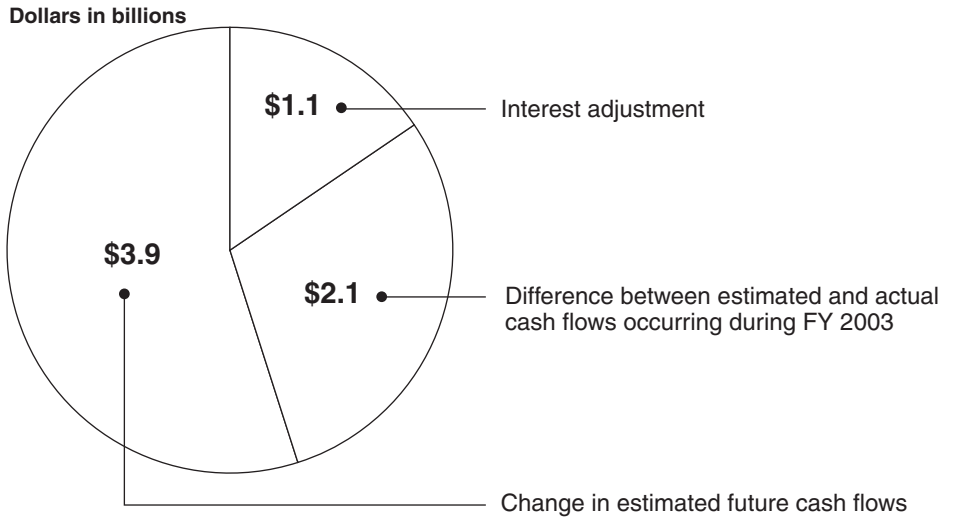


Source: GAO analysis of Federal Credit Supplements, fiscal years 2005-2006.

The $7 Billion Reestimate Primarily Reflects Higher-Than-Estimated Claims

The $7 billion reestimate represents the changes in FHA's estimates of future loan performance and the change in cash flows stemming from the difference between estimated and actual loan performance during fiscal year 2003. These changes primarily reflect the impact of higher-than-estimated claims, but also reflect the impact of higher-than-estimated prepayments and a technical change in FHA's calculation of claims. The reestimate also represents an interest adjustment (fig. 6).

Figure 6: Primary Factors Contributing to the Fiscal Year 2003 MMI Credit Subsidy Reestimate



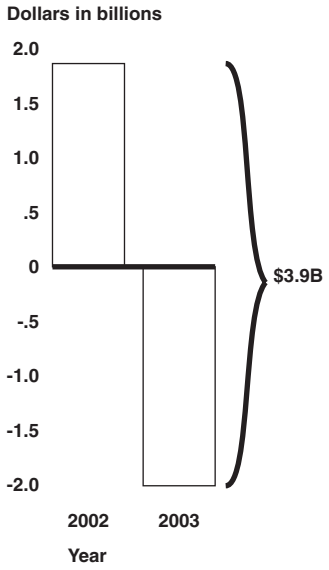
Source: GAO analysis of FHA data.

Three Main Factors Contributed to the Reestimate

The largest contributing factor—55 percent—was the $3.9 billion difference between FHA's fiscal year 2003 estimates of the net present value of future cash flows and the estimates it made one year earlier. As previously discussed, FHA estimates the value of expected future cash flows each year by calculating the present value of anticipated cash outflows, such as claim payments and premium refunds, and subtracting inflows, such as insurance premiums and proceeds from the sale of foreclosed properties. In 2002, FHA estimated that the net present value of future cash flows for the 1992 through 2002 cohorts was a positive $1.9 billion, meaning that FHA expected cash inflows to exceed cash outflows on a net present value basis. In 2003, FHA estimated that the net present value of future cash flows for the 1992 through 2003 cohorts was negative $2 billion, meaning that FHA expected future cash outflows to exceed future cash inflows.[14] As figure 7 illustrates, the difference between the two estimates is $3.9 billion.

[14]Lifetime cash flow estimates continued to be positive, primarily because of positive cash flows occurring earlier in the life of the cohort.

Figure 7: Change in Future Cash Flow Estimates for the Fund from Fiscal Year 2002 to Fiscal Year 2003



Source: GAO analysis of FHA financial statements, fiscal years 2002-2003.

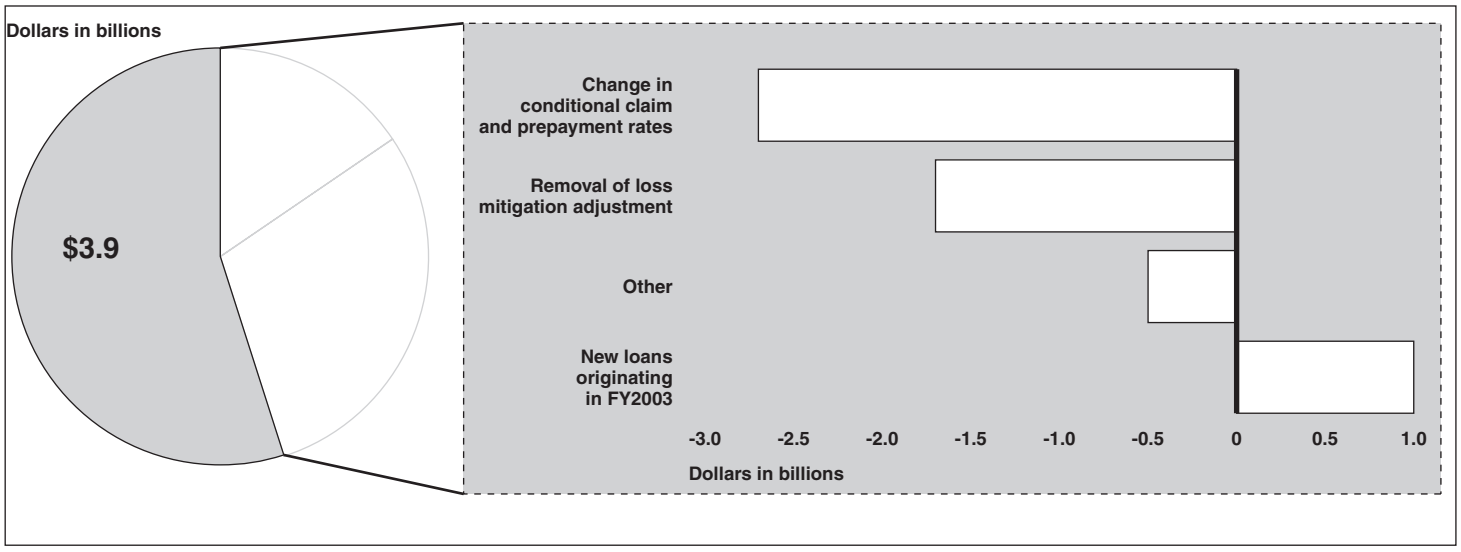
The second factor contributing to the $7 billion reestimate—30 percent—was the $2.1 billion difference between estimated and actual cash flows occurring during fiscal year 2003. This amount indicates that FHA had $2.1 billion less in cash inflows during 2003 than it had estimated it would have a year earlier. The final factor contributing to the reestimate (15 percent) was the $1.1 billion of interest on the reestimate. OMB guidance requires agencies to calculate an interest adjustment on the reestimate.[15] In FHA's case, the interest adjustment increased the total reestimate by $1.1 billion.

[15]*Circular No. A-11, Part 5: Federal Credit Programs*, Office of Management and Budget, June 2002.

A Change in Estimated Claims Was the Primary Loan Performance Variable Behind the $3.9 Billion Change in Estimated Future Cash Flows

Approximately $2.7 billion (70 percent) of the $3.9 billion net change in FHA's estimate of future cash flows stems from changes in FHA's estimates of claims and, to a lesser extent, prepayments (fig. 8). That is, FHA changed its estimate of future loan performance based on its observation of actual loan performance during 2003 and revised economic assumptions. In 2003 FHA estimated that, except for the 1993 and 1994 loan cohorts, all cohorts would experience more claim activity over the course of their 30-year terms—and thus increase FHA's outflows—than estimated in 2002. The cash flows associated with these claims increased estimated cash outflows by $2.5 billion, accounting for 92 percent of the $2.7 billion. Increases in the expected level of prepayments also affected FHA's estimate of future cash flows. FHA estimated in 2003 that about half of the cohorts would experience more prepayment activity than it had estimated in 2002. Because of the increase in estimated prepayments, FHA expected to collect less premium income and to pay out premium refunds more often, reducing estimated cash inflows by about $200 million and accounting for 8 percent of the $2.7 billion.

Figure 8: Variables Contributing to the $3.9 Billion Change in Estimated Cash Flows

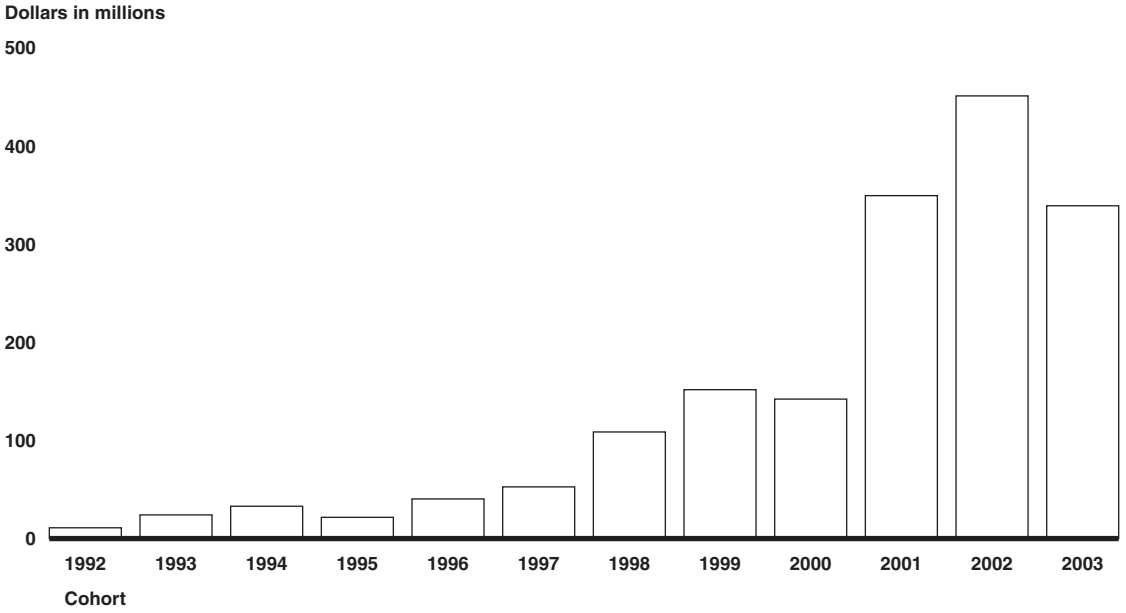


Source: GAO analysis of FHA data.

Another major variable that contributed to the $3.9 billion change in estimated future cash flows was a technical change in FHA's calculation of

claims that increased the reestimate by $1.7 billion. Specifically, for estimates prepared during fiscal years 2001 and 2002, FHA used a cash flow assumption—a loss mitigation adjustment factor—to reduce the claim rates predicted by the actuarial review and used in the subsidy cash flow model. FHA had been using this factor in the belief that the historical data used to estimate claim rates did not include enough years under the loss mitigation program to adequately reflect the impact of this program—that is, an expected decline in claims. However, FHA officials stated that in fiscal year 2003 FHA removed the factor because the historical loan performance data, which by then included more years of experience with the loss mitigation program, sufficiently reflected the program's impact. In addition, FHA noted that its actuarial review was underestimating claims, making it counterproductive to use a loss mitigation adjustment factor that further reduced the actuarial claim predictions. Removing the loss mitigation adjustment factor from the 2003 subsidy cash flow model increased the reestimate by a total of $1.7 billion, with the greatest increase related to loans made in the most recent years (fig. 9).

Figure 9: Increase in Estimated Cash Outflows from Removing the Loss Mitigation Adjustment Factor, 1992-2003 Cohorts



Source: GAO analysis of FHA data.

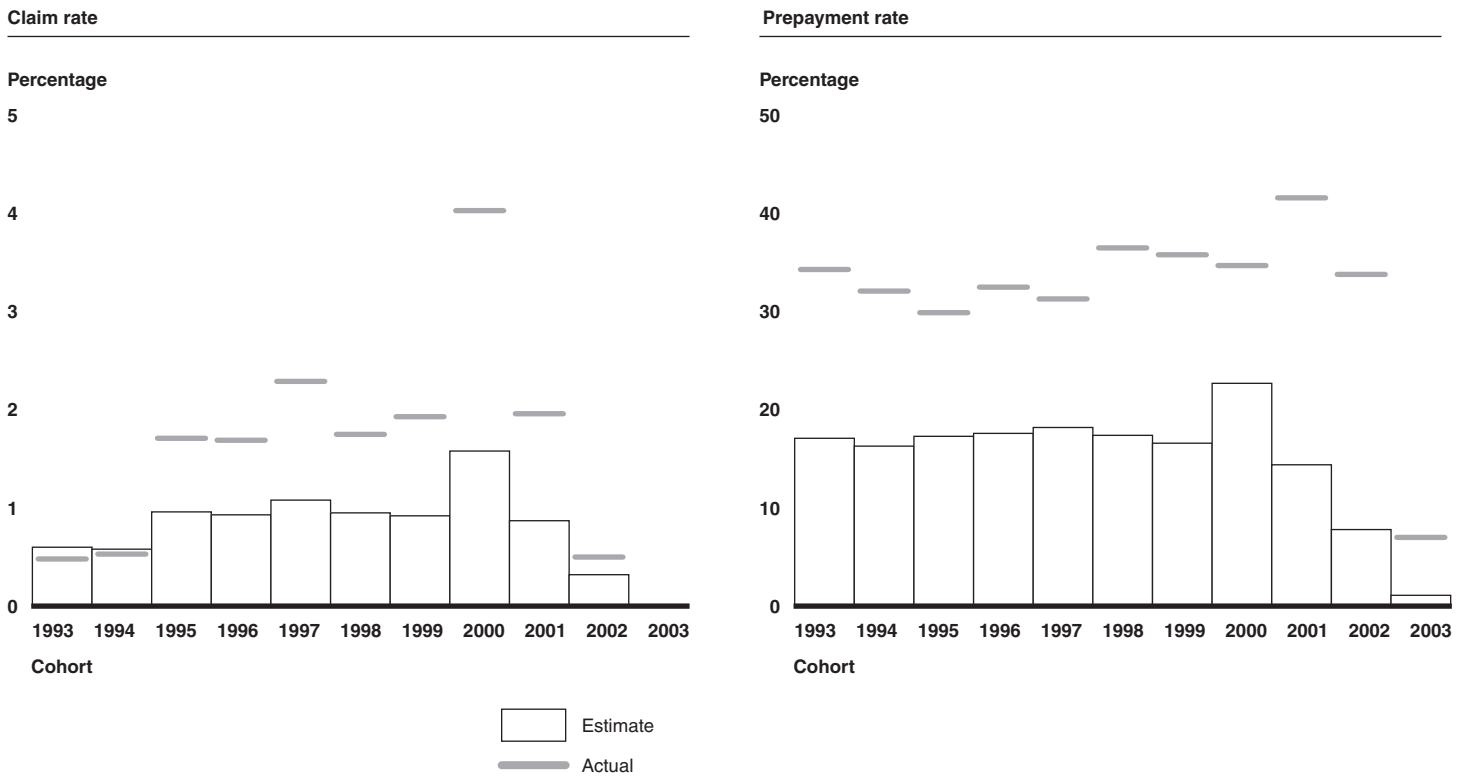
The above increases in estimated cash outflows are offset by the estimated additional cash inflows from new loans that FHA insured in 2003. Specifically, FHA estimated that for loans originating during 2003, future inflows would exceed future outflows by $1 billion. Several other factors had much smaller positive or negative impacts on future cash flows. The net impact of these other factors contributed $500 million to the reestimate.

Higher-Than-Estimated Claims and Prepayments Contributed to the $2.1 Billion Difference between Estimated and Actual Cash Flows Occurring during 2003

The remaining part of the $7 billion—$2.1 billion—represents the difference between estimated and actual cash flows occurring during fiscal year 2003. Certain elements of the difference relate to the 1992 through 2002 cohorts, including $330 million in underestimated claims and recoveries on claims and $1 billion in overestimated net fees (insurance premium receipts less premium refunds). The remaining $700 million relates to cash flow differences associated with the 2003 cohort.

Our analysis of loan performance data found that claims and prepayments occurring during 2003 exceeded FHA's estimates. As figure 10 illustrates, actual claim activity in fiscal year 2003 exceeded estimated claim activity for 2003—by twice as much in some cases—for the majority of loan cohorts. For example, FHA estimated that about 1.6 percent of all the loans it insured in 2000 that were in the portfolio at the beginning of 2003 would result in a claim during 2003. However, 4 percent of such loans actually ended in a claim in 2003. Actual prepayment activity exceeded estimated prepayment activity for all loan cohorts. For example, FHA estimated that 14 percent of all the loans it insured in 2001 that were still in the portfolio at the beginning of 2003 would prepay during 2003. However, more than 40 percent of such loans actually prepaid during 2003. Because of the additional claims it paid, up-front premiums it refunded, and the annual premiums it lost, FHA's cash inflows for the year declined and resulted in a $2.1 billion upward adjustment of the Fund's credit subsidy.

Figure 10: Actual Versus Estimated Conditional Claim and Prepayment Rates for Fiscal Year 2003, 1993-2003 Cohorts



Source: GAO analysis of FHA data.

Note: The 2003 estimate data are from the 2002 actuarial review. The 2003 actual data are from the 2004 actuarial review.

The Loan Performance Variables Underlying the $7 Billion Reestimate Will Likely Affect Future Credit Subsidy Estimates, but Are Being Addressed

The events behind the change in expected claims underlying the $7 billion reestimate will likely continue to affect future credit subsidy estimates, though prepayments may have a smaller effect. The one-time modeling change caused by removing the loss mitigation adjustment factor should also continue to have an effect on future estimates, though its significance may decline.

Higher Claims Will Likely Continue, but FHA Is Taking Steps to Improve Its Estimates

As we have seen, the $7 billion reestimate was largely due to higher-than-estimated claims. Several recent events may help explain this increase, including changes to underwriting guidelines, competition from the private sector, and an increase in the use of down payment assistance. FHA has taken some steps to tighten underwriting and to better estimate claims, but it is not clear that these steps will be sufficient to reverse recent increases in claims or significantly improve future estimates of claims.

According to FHA, revised underwriting guidelines issued in 1995 represented significant changes that would enhance home-buying opportunities for a substantial number of borrowers. These changes made it easier for borrowers to qualify for loans and for higher loan amounts. In previous work, we noted that these underwriting changes may partly explain the higher claim rates of the late 1990s.[16] FHA officials told us that since making these changes, FHA's share of first-time homebuyers has increased by more than 30 percent, and its share of minority homebuyers has increased by 40 percent. FHA officials noted that these borrowers are more susceptible to changes in economic conditions and, thus, may be more likely to default on their mortgages. The officials also noted that, while this change in the composition of their borrowers had resulted in a one-time increase in claims, claims have leveled off and should remain steady at the new level.

To evaluate the impact of the underwriting changes, FHA introduced a simple variable into its annual actuarial models that captures whether or not a loan was made after fiscal year 1995. This variable is intended to capture the one-time impact of the 1995 underwriting changes, not to capture any adverse trends that might result from changes that accrue over time, such as increasing competition from the private sector or the growing prevalence of down payment assistance. If there are adverse trends, as opposed to only one-time changes, the model will not fully capture them and, therefore, will likely underestimate future claims. For example, if loans with down payment assistance have higher claims and if this category of loans grows over time, then the claim model will consistently underestimate claims and the model's error will worsen with time.

[16]See *Mortgage Financing: Changes in the Performance of FHA-Insured Loans*, GAO-02-773 (Washington, D.C.: July 10, 2002).

In 2002, we reported that the performance of loans insured during the late 1990s was weaker than the performance of loans originated earlier in the decade. We noted then that increased competition and changes in the conventional mortgage market could result in FHA's insuring relatively more loans that carried greater risk. These issues continue to be significant. In recent years, private mortgage insurers and conventional mortgage lenders have increasingly offered products that compete with FHA for homebuyers who are borrowing more than 95 percent of the value of their home. In addition, automated underwriting systems and credit-scoring analytic software are believed to be able to more effectively distinguish low-risk loans for expedited processing. If, by selectively offering these low down payment loans to better risk borrowers, conventional mortgage lenders and private mortgage insurers were able to attract lower-risk borrowers that would have traditionally sought FHA-insured loans, recent FHA-insured loans with down payments of less than 5 percent may be more risky on average than they have been historically.

A growing trend that has raised some concerns and may increase claims is the use of seller-funded down payment assistance for mortgages insured by FHA. FHA requires borrowers to make a 3 percent contribution toward the purchase of the property, but that contribution can come indirectly through borrowers' relatives or nonprofit organizations. Although FHA does not permit down payment funds to come directly or indirectly from sellers, it does permit nonprofits that receive contributions from sellers to provide down payment assistance to homebuyers. Many conventional mortgage products also permit down payment funds to come from sources other than the borrower; however, the terms of these mortgage products generally stipulate that such funds cannot come either directly or indirectly from an interested or seller-related party. A HUD Office of the Inspector General evaluation of FHA-insured loans found that loans with down payment assistance from seller-funded nonprofits had a greater risk of default and that the percentage of FHA-insured loans with down payment assistance from seller-funded nonprofits was growing at an increasing rate. As of July 2005, FHA had not revised its policies regarding acceptable sources of down payment assistance or imposed additional underwriting requirements on borrowers who obtained down payment assistance from seller-funded nonprofits. At your request, we are currently conducting a study on down payment assistance and evaluating the performance of these loans.

A program assessment jointly prepared by OMB and FHA and included with the 2006 President's Budget noted that FHA's loan performance model

is neither accurate nor reliable because it consistently under predicts claims. For the 2004 actuarial review, FHA worked with a new contractor to redesign and respecify its loan performance models. FHA continues to work on improving its new models so that it can more accurately and reliably predict claims and prepayments. Several factors distinguish the new models from those used previously. First, the new models use quarterly data, while the previous models used annual data. In addition, the new models explicitly address the time lag in claims and the implications of the time lag for prepayments,[17] and allow for a closer correspondence between the actual and predicted time pattern of claim and prepayment rates. These changes may improve the models' ability to predict the number and timing of claims and prepayments. Nonetheless, for the 2004 actuarial review FHA had to adjust model estimates of claims that will occur in fiscal years 2004 through 2006 for all loan cohorts. By the third quarter of fiscal year 2004, while FHA was preparing the 2004 actuarial review, FHA realized that actual claims for the year were outpacing the amount of estimated claims based on data from the first half of 2004 and earlier. FHA and its contractors assumed this difference was caused by a temporary deviation and adjusted the model's projected claim rates to match the recorded claim counts. Specifically, FHA applied a claim rate multiplier to increase estimated claim rates by 50 percent for all cohorts for fiscal years 2004 and 2005 and by 25 percent for fiscal year 2006. Because FHA was responding to what it believed to be a temporary deviation, it did not apply the multiplier to any years after 2006.

The new models also eliminated some explanatory variables, such as unemployment rates and payment-to-income ratios, and altered the definitions of other key variables. For example, the previous models assumed that borrowers who passed up profitable refinancing opportunities would experience permanently higher claim rates—sometimes referred to as burnout—while the new models assume that higher claim rates are a temporary phenomenon that will last only 2 years. In addition, neither model incorporates certain variables that have been found to be important in assessing credit risk, such as credit scores and the source of down payments. FHA officials are researching these variables currently. FHA officials told us they will not be including credit scores for

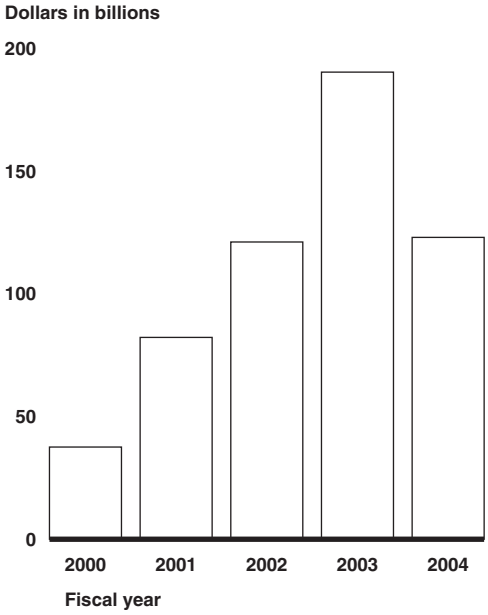
[17]A loan may be seriously delinquent for several quarters before that delinquency is resolved. Because it is difficult for a borrower with a delinquent loan to obtain a new loan in order to refinance, several quarters may pass during which time a loan has a high probability of resulting in a claim, because it is delinquent, and has a low probability of resulting in a prepayment, because the borrower cannot refinance using conventional channels.

the 2005 actuarial review, though they are considering ways to account for credit scores in the 2006 actuarial model. For the 2005 model, FHA made adjustments for the source of down payments by adjusting the loan-to-value ratio for seller-funded down payment assistance. On balance, it is not clear that these changes to the actuarial models will permit FHA to more reliably estimate claim (or prepayment) activity. In fact, the $7 billion reestimate was followed a year later with an upward reestimate of $2.3 billion for fiscal year 2004.

Prepayments Had a Smaller Impact on the $7 Billion Reestimate and Their Impact on Future Credit Subsidy Estimates Is Uncertain

While claims may have been the largest driver behind the reestimate, prepayments also had an impact. As we discussed above, FHA experienced a significant increase in prepayment activity from 2001 through 2004. As figure 11 illustrates, between 2000 and 2001, the dollar amount of prepayments more than doubled, rising from $37 billion to $82 billion. Prepayments reached a total of $190 billion in 2003 and decreased slightly to $123 billion in 2004.

Figure 11: Amount of FHA Prepayments during Fiscal Years 2000-2004



Source: GAO analysis of FHA data.

FHA experienced surges of prepayment activity in the mid-1980s and early 1990s. All three of these time periods coincided with periods of declining interest rates, though the rates of prepayment are highest in 2003, when mortgage interest rates reached a 30-year low. As of July 2005, mortgage interest rates had declined even further from their 2004 level, though by a much smaller amount compared with the 2002-2003 decline. Because it is difficult to project future interest rates, it is difficult to project their impact on future prepayment activity. As we noted previously, house prices have risen faster in the first part of the decade than they did in the 1990s or most of the 1980s. Rapid appreciation in housing prices permits borrowers to refinance using conventional loans, however, it is uncertain that the upward trend in appreciation will continue.

One-time Removal of Loss Mitigation Factor Should Continue to Affect Future Estimates

The removal of the loss mitigation adjustment factor also had a notable impact, affecting the cash flow model's calculation of claims and thus contributing $1.7 billion to the reestimate. FHA does not intend to use this adjustment again given its greater historical experience with loss mitigation. That is, FHA expects that the historical data on which loan performance estimates are based will include and reflect more years of experience with the loss mitigation program. However, this change in the assumptions used in estimating loan performance will affect the estimated subsidy costs of new cohorts because estimates of future cohorts will not include the loss mitigation adjustment factor, though the significance of no longer making this adjustment may decline over time. That is, as FHA estimates of loan performance include more historical experience with loss mitigation, any positive effect loss mitigation may have would be reflected in the loan performance variables.

Recent Policy Changes May Affect Claims and Prepayments

In recent years, FHA has introduced several policy changes that may affect claim activity. Since 2000, FHA has loosened some underwriting procedures to encourage homeownership. For example, FHA increased the amount of the mortgage payment it will permit relative to borrower income. Specifically, in April 2005, FHA increased its maximum payment-to-income ratio from 29 percent to 31 percent and its debt-to-income ratio

from 41 percent to 43 percent.[18] By increasing these qualifying ratios, FHA could offer mortgage insurance to borrowers who would not have otherwise been approved for a loan. However, borrowers who devote more of their income to their mortgage payments could have trouble meeting their payments if they encounter financial trouble. FHA made these changes in response to recent federal tax cuts, which increased potential borrowers' buying power. Therefore, FHA noted, the changes should broaden eligibility without increasing the risk of default.

FHA has also taken steps to tighten some underwriting guidelines. For example, in 2000 it changed its policies on gift transfers and the types of assets that may be considered for cash reserves. FHA now requires more documentation for gift transfers to ensure that the funds are applied toward the borrower's down payment and come from sources with no interest in the sale of the property. However, in a recent review of FHA's new mortgage loan products, we found that FHA does permit nonprofits that receive contributions from sellers to provide down payment assistance to borrowers.[19] FHA also now requires lenders to ensure that borrowers' assets, such as retirement accounts, can be easily converted into cash before applying them toward cash reserves. This policy change requires that lenders account for any applicable taxes or withdrawal penalties that borrowers may incur when converting their assets to cash, potentially reducing the amount of cash available to these borrowers. In early 2004 FHA introduced the Technology Open to Approved Lenders Mortgage Scorecard. This tool is used in conjunction with automated underwriting systems to evaluate the credit risk of borrowers who apply for FHA insured loans. The introduction of the new mortgage scorecard may help FHA and lenders more efficiently and effectively identify and evaluate credit risk and, therefore, may help reduce claims.

FHA has taken measures to enhance the effectiveness of its loss mitigation program. In 2002, FHA modified some of its loss mitigation options to give

[18]The payment-to-income ratio, also referred to as the housing-expense-to-income ratio, examines a borrower's expected monthly housing expenses as a percentage of the borrower's monthly income. The debt-to-income ratio looks at a borrower's expected monthly housing expenses plus long-term debt as a percentage of the borrower's monthly income. FHA limits the monthly mortgage payment to no more than 31 percent of monthly gross income (before taxes) and limits the mortgage payment combined with other debts to no more than 43 percent of income.

[19]See *Mortgage Financing: Actions Needed to Help FHA Manage Risks from New Mortgage Loan Products*, GAO-05-194 (Washington, D.C.: Feb. 11, 2005).

lenders more flexibility to assist borrowers who are unable to make their monthly payments, help avoid or reduce the time and expense of the foreclosure process, and enable borrowers to obtain credit again in the future. FHA believes that the introduction of loss mitigation and changes made since the program's implementation should reduce losses it incurs when borrowers default on their loans. FHA also introduced the Accelerated Claim Disposition demonstration program in 2002 (referred to as the "601" program) to streamline the claim and property disposition processes with the goal of reducing losses to the Fund.

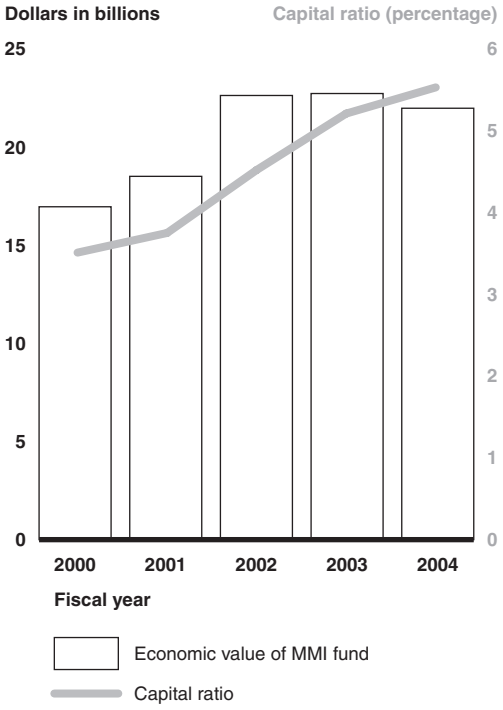
FHA has also made some recent policy changes that may affect prepayment activity. For example, FHA changed its up-front mortgage insurance premium rules for mortgages endorsed after December 2004. In the past, FHA refunded a percentage of the up-front premium to borrowers when they prepaid their loans, typically by refinancing or selling their homes. Borrowers were entitled to this refund even when they refinanced outside of FHA. For new loans guaranteed after December 2004, FHA will no longer refund a percentage of the up-front premium to borrowers who refinance their mortgages outside of FHA. FHA also shortened the refund schedule of the up-front premium from 5 to 3 years. These changes could encourage borrowers to refinance their mortgage with another FHA-insured loan, while reducing the amount of refunds that FHA pays to borrowers who refinance or sell their homes. However, these changes may also discourage some borrowers from choosing to finance their home purchases with an FHA-insured mortgage. FHA predicts that the changes to its up-front premium rules will increase cash flows by about $168 million annually.

The Loan Performance Variables Underlying the Reestimate Could Affect Estimates of the Fund's Long-Term Viability

The effect of recent trends on the loan performance variables underlying the $7 billion reestimate will likely persist to varying degrees and therefore affect estimates of the Fund's long-term viability. The capital ratio, a measure of the Fund's long-term viability, has increased in recent years. However, should the economic value decline or be restated as lower than previously estimated (due to higher-than-estimated claims), and should the insurance-in-force remain steady (due to declining prepayments), then the capital ratio will decline. Whether the currently estimated 5.5 percent capital ratio or a lower capital ratio is sufficient to meet federal requirements depends on what conditions the Fund is expected to survive while maintaining the minimum 2 percent reserve. Neither the Congress nor HUD has established criteria to determine how severe of a stress the Fund should be able to withstand.

The Fund is required to maintain a minimum capital ratio (a measure of its long-term viability) of 2 percent of the insurance-in-force. As figure 12 illustrates, the Fund's capital ratio has been well above 3 percent and rising since fiscal year 2000. The economic value of the Fund—the sum of existing capital plus the net present value of expected future cash flows from existing cohorts—has also been rising for a number of years, though it declined in fiscal year 2004. However, the Fund's insurance-in-force declined 20 percent between 2002 and 2004 in response to increased claim and prepayment activity during those years and a decline in new loan originations. As the capital ratio is the Fund's economic value divided by its insurance-in-force, the capital ratio only increased because the decrease in the insurance-in-force was proportionately larger than the decrease in the economic value of the Fund.

Figure 12: Capital Ratio Versus Economic Value of the MMI Fund, Fiscal Years 2000-2004



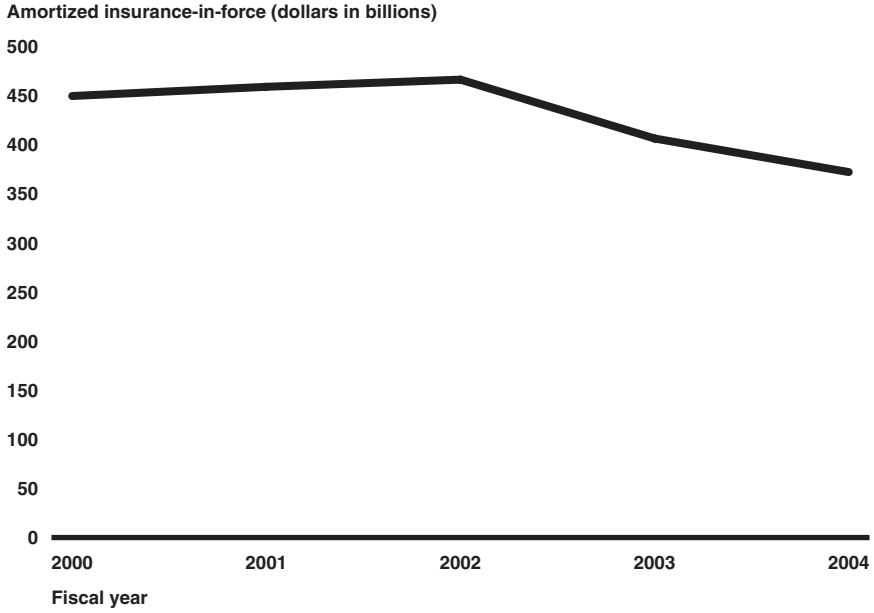
Source: GAO analysis of FHA data.

If the economic value declines or is restated at a lower level than previously estimated and if the insurance-in-force does not decline (for example, due to substantial prepayments), then the capital ratio will decline. As we noted, the events that help explain the increase in claims underlying the $7 billion reestimate—such as changes in underwriting guidelines, competition from the private sector, and an increase in the use of down payment assistance—do not appear to be one-time events and likely will continue to add risk to FHA's portfolio. For example, the borrowers FHA has attracted since introducing its 1995 underwriting changes are more susceptible to economic downturns and, therefore, more likely to default on their mortgages. Further, despite HUD's Office of the Inspector General finding that loans with down payment assistance from seller-funded nonprofits have a greater risk of default, the percentage of FHA-insured loans with down payment assistance from seller-funded nonprofits is growing at an increasing rate.

FHA has introduced several policy changes that may help reduce claim activity, such as requiring lenders to ensure that borrowers' assets can be easily converted into cash before applying them toward cash reserves and introducing the TOTAL Mortgage Scorecard to evaluate the credit risk of borrowers who apply for FHA-insured loans. Despite these changes, it seems likely that FHA's higher level of claims will continue. Higher claim rates imply a lower estimated economic value of the Fund.

While prepayment rates increased significantly in the early part of the decade, it is less likely that the same conditions that caused the surge in prepayments will be repeated, reducing the impact that prepayments may have on reducing the insurance-in-force. As we noted above, the three surges of prepayment activity that FHA experienced coincided with periods of declining interest rates. The rates of prepayment were highest in 2003, when mortgage interest rates reached a 30-year low. As figure 13 illustrates, the Fund's amortized insurance-in-force also declined in fiscal years 2003 and 2004 as prepaying borrowers left the portfolio. Mortgage interest rates have been even lower in the spring and early summer of 2005. Even if prepayments slow, should claim activity continue to be higher and FHA be unable to compete for new borrowers, the Fund's insurance-in-force may shrink. But if the net effect is that the size of the portfolio stabilizes or declines only slightly, higher claim activity could result in a lower capital ratio.

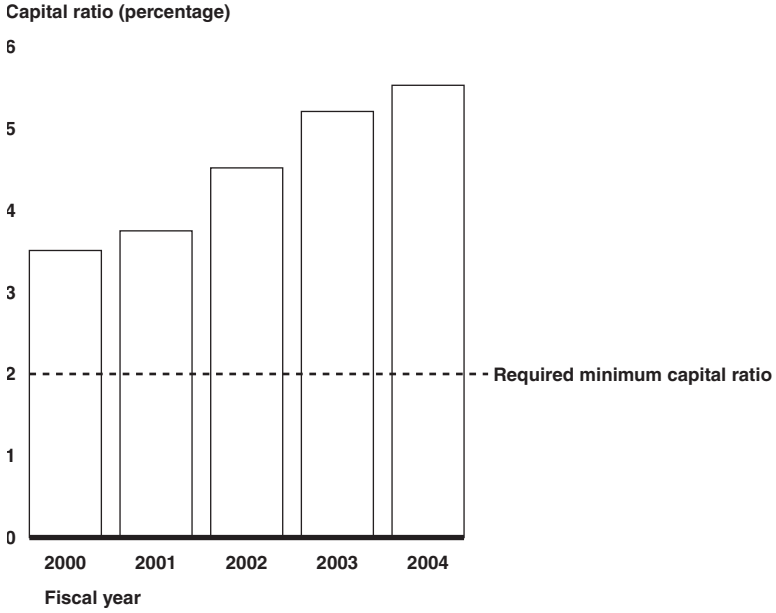
Figure 13: Amortized Insurance-In-Force, Fiscal Years 2000-2004



Source: GAO analysis of FHA data.

The long-term viability of the Fund depends on both the impact that the underlying change in loan performance may have on the capital ratio and the conditions or scenarios under which Congress expects the Fund to maintain its 2 percent minimum reserve. A lower capital ratio would mean that the Fund is less able to withstand adverse economic conditions. As figure 14 illustrates, the Fund's capital ratio has been well above the 2 percent minimum and rising since fiscal year 2000. But whether the currently estimated 5.5 percent capital ratio or a lower capital ratio is sufficient depends on what conditions the Fund is expected to survive while maintaining the minimum 2 percent reserve.

Figure 14: Minimum Required Capital Ratio Versus Actual Capital Ratio



Source: GAO analysis of FHA data.

Because economic downturns put downward pressure on house prices and incomes, they can stress FHA's ability to meet its obligations. Thus, it is reasonable that measures of the financial soundness of the Fund would be based on tests of the Fund's ability to withstand recent recessions or regional economic downturns. The 2004 actuarial review examines four stress scenarios, none of which are particularly severe. Three of the 4 stress tests examine one source of stress at a time, while one examines two stresses simultaneously. A severe stress test would examine the possibility of multiple stresses occurring simultaneously, such as a decrease in house prices coupled with a decrease in recoveries on the sale of foreclosed homes and an increase in the dispersion of house price changes across multiple regions. Neither Congress nor HUD has established criteria to determine how severe a stress the Fund should be able to withstand. While the Fund continues to maintain a capital ratio above the required minimum, we have recommended in the past that HUD develop criteria that specify the economic conditions the Fund should be able to withstand and the capital ratios currently consistent with those criteria. We also recommended that the annual actuarial analysis give more attention to tests of the Fund's ability to withstand appropriate stresses. Finally, we

recommended that HUD develop better tools for assessing the impact that policy changes may have on the volume and riskiness of the loans that FHA insures.[20]

Conclusions

There are two important ways that FHA can manage risks to the Fund and its ability to withstand economic downturns. First, FHA needs to be able to reliably estimate program costs. To do so, FHA needs to understand the factors that influence loan performance and, considering this information, accurately estimate future claims and prepayments and the resulting cash flows. Without better estimates of loan performance, FHA cannot reasonably estimate the economic net worth of the Fund or its capital ratio. Second, even if FHA can better estimate program costs, it still needs to know what conditions the Fund is expected to endure while maintaining the minimum 2 percent capital reserve.

Recommendations for Executive Action

To more reliably estimate program costs, the Secretary of HUD should direct the FHA Commissioner to study and report in the annual actuarial review the impact of variables that have been found in other studies to influence credit risk, such as payment-to-income ratios, credit scores, and the presence of down payment assistance, on the forecasting ability of the loan performance models used in FHA's actuarial reviews of the Fund. FHA also should report in its annual actuarial review the impact of any changes it makes to key variables, such as the burnout variable, on the forecasting ability of the loan performance models.

Agency Comments and Our Evaluation

We provided HUD, VA, and OMB with a draft of this report for their review and comment. We received written comments from HUD, which are reprinted in appendix III. We also received technical comments from HUD, which have been incorporated where appropriate. VA and OMB did not have comments on the draft.

HUD stated that it agrees with GAO's overall finding that higher than projected claims were a significant variable underlying the $7 billion reestimate, and that its 1995 underwriting changes help explain the

[20]See *Mortgage Financing: FHA's Fund Has Grown, but Options for Drawing on the Fund Have Uncertain Outcomes*, GAO-01-460 (Washington, D.C.: Feb. 28, 2001).

increase in claims. HUD also agreed with our description of the steps it has taken to better estimate claims in its recent actuarial reviews.

HUD raised a concern that our first recommendation would require FHA to direct its actuarial contractor to include certain variables in its loan performance models, and that this would compromise the requirement for an independent actuarial study of the Fund. In response, we recommend instead that FHA study and report in the annual actuarial review the impact of such variables on the forecasting ability of the loan performance models. HUD further noted that its contractor is actively considering the specific variables that we had recommended FHA include in its annual actuarial review.

In response to our second recommendation that FHA report in its actuarial review the impact of any changes it makes to key variables on the forecasting ability of its loan performance models, HUD noted that the actuarial reviews and appendices contain full documentation of the models and justifications for the selection of the included variables and their definitions. However, we found, for example, that the 2004 actuarial review did not fully document or justify the change in the definition of the burnout variable. Specifically, the 2004 actuarial review contained only a short statement regarding this change, with no accompanying analysis of its impact on the forecasting ability of FHA's loan performance models. We therefore continue to recommend that the annual actuarial review include analyses of the impact of changes made to key variables on the forecasting ability of the loan performance models.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to interested Members of Congress and congressional committees. We will also send copies to the Secretary of Housing and Urban Development and Director of the Office of Management and Budget and make copies available to others upon request. In addition, this report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-8678 or shearw@gao.gov. Contact points for our offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.

Sincerely yours,

William B. Shear
Director, Financial Markets and
Community Investment

Scope and Methodology

To assess the significance of the $7 billion reestimate, we interviewed officials at the Department of Housing and Urban Development's (HUD) Federal Housing Administration (FHA) and Office of the Inspector General (OIG) and staff from the Office of Management and Budget (OMB). We reviewed the fiscal year 2000-2004 audited financial statements for FHA to compare the size and direction of MMI reestimates over time. We analyzed data from the fiscal year 2005-2006 Federal Credit Supplements to compare the size and direction of reestimates, by cohort, among comparable loan guarantee programs at FHA, the Department of Veterans Affairs, and Department of Agriculture.

To determine what factors contributed to the $7 billion reestimate and the underlying loan performance variables influencing these factors, we collected and analyzed supporting documentation for the reestimate, including analyses prepared by FHA and work papers prepared by FHA's financial statement auditor. We collected and analyzed the fiscal year 2000-2004 actuarial reviews of the MMI Fund and related loan performance data to examine trends in loan performance and consider the impact that model changes may have had on estimated subsidy costs. We collected and analyzed fiscal year 2002-2003 credit subsidy cash flow models used to calculate the reestimates for those years, to consider the impact of loan performance on cash flows. We supplemented this analysis by interviewing the 2003 financial statement auditors, OMB staff, officials in the OIG, FHA staff, FHA contractors that assist in the preparation of the reestimate, and the 2004 actuarial review contractors for background information to verify our findings on the factors and underlying loan performance variables.

To assess the control procedures governing the loan performance data we collected, we reviewed the findings of our previous studies in which we assessed the reliability of data for FHA-insured loans that came from the same source as the data used in this report. While the data in these previous reports covered a limited number of loan cohorts, the control activities we reviewed apply to all cohorts. In 2004 we assessed the reliability of a random sample of FHA-insured loans from the 1996-1999 cohorts, comparing seven elements of the paper loan file to the electronic file to determine if they matched, and found no material errors. We also reviewed several years' worth of FHA financial statement audits and found no known or suspected problems with the relevant FHA information systems. From these steps, we concluded these data were sufficiently

reliable for our analyses.[1] In 2005 we obtained loan performance data on FHA-insured loans from the 1992, 1994, and 1996 cohorts. To verify this data, we met with FHA staff involved in generating the sample data set and discussed data quality procedures with appropriate FHA staff. FHA officials indicated that their data systems contain data entry checks and that data submitted by lenders were reviewed by FHA. As part of its annual financial statement audit, FHA's data system was audited by external auditors, and no major issues concerning data quality were raised. Based on these discussions, we determined that the FHA data were sufficiently reliable for our analyses.[2]

To assess how the loan performance variables underlying the reestimate could impact future estimates of new loans, we interviewed FHA officials and the contractors for the 2004 actuarial review regarding the causes of the loan performance variables and their impact on future estimates. We also discussed recent and planned changes to the loan performance models that may affect FHA's future estimates. We reviewed recent policy changes that may impact loan performance variables by analyzing relevant policy changes discussed in recent actuarial reviews and mortgagee letters issued by FHA through the HUD Web site.

To assess what the reestimate and its underlying loan performance variables mean for the long-term viability of the Fund, we analyzed FHA and other data on new loan products and home mortgage industry trends. We reviewed prior GAO reports describing changes in the home mortgage market and FHA loan performance and used professional judgment to opine on whether earlier concerns for the viability of the Fund persist.

[1]See *Home Inspections: Many Buyers Benefit from Inspections, but Mandating Their Use Is Questionable*, GAO-04-462 (Washington, D.C.: April 30, 2004).

[2]See *Mortgage Financing: Actions Needed to Help FHA Manage Risks from New Mortgage Loan Products*, GAO-05-194 (Washington, D.C.: Feb. 11, 2005).

Data for Figures Used in This Report

Table 1: Annual Credit Subsidy Reestimates For the MMI Fund, Fiscal Years 2000-2004 (Figure 3)

Dollars in millions	
Fiscal year	**Credit subsidy reestimate**
2000	$3,350
2001	-1,687
2002	1,526
2003	7,029
2004	$2,340

Source: GAO analysis of FHA data.

Table 2: Amount of the 2003 Reestimate Attributed to the 2001-2003 Cohorts, as a Percentage of the Original Loan Amount, For Single-Family Loan Guarantee Programs (Figure 4)

Agencies	Current reestimate as a percentage of total disbursements
FHA	1.22%
VA	0.46
USDA	0.50

Source: GAO analysis of Federal Credit Supplements, fiscal years 2005 and 2006.

Table 3: Original Estimated Credit Subsidy Rates and Most Recent Reestimated Rates for the FHA and VA Loan Guarantee Programs, 1992-2004 Cohorts (Figure 5)

Cohort	Original subsidy rate (MMI)	Fiscal year 2005 reestimate rate (MMI)
FHA		
1992	-2.60%	-3.03%
1993	-2.70	-2.55
1994	-2.79	-1.58
1995	-1.95	-0.44
1996	-2.77	-0.85
1997	-2.88	-1.10
1998	-2.99	-1.74
1999	-2.62	-1.95

(Continued From Previous Page)

Cohort	Original subsidy rate (MMI)	Fiscal year 2005 reestimate rate (MMI)
2000	-1.99	-0.55
2001	-2.15	-0.94
2002	-2.07	-1.07
2003	-2.53	-1.53
2004	-2.47	-1.61
2005	-1.82	
2006	-1.70	
VA		
1992	2.19%	1.72%
1993	2.33	0.31
1994	1.36	-0.02
1995	1.18	-0.13
1996	1.56	0
1997	0.74	-0.25
1998	0.49	0.01
1999	0.45	0.01
2000	0.68	-0.25
2001	0.29	0.35
2002	0.39	0.27
2003	0.81	0.44
2004	0.50	-0.07
2005	-0.32	
2006	-0.32	

Source: GAO analysis of Federal Credit Supplements, fiscal years 2005 and 2006.

Table 4: Primary Factors Contributing to the Fiscal Year 2003 MMI Credit Subsidy Reestimate (Figure 6)

Dollars in billions

Difference between estimated and actual cash flows for FY 2003	Change in estimated future cashflows	Interest on adjustment
$2.1	$3.9	$1.1

Source: GAO analysis of FHA data.

Table 5: Change in Future Cash Flow Estimates for the Fund from Fiscal Year 2002 to Fiscal Year 2003 (Figure 7)

Dollars in millions

Fiscal year	Amount
2002	$1,864
2003	-2,008

Source: GAO analysis of FHA financial statements, fiscal years 2002-2003.

Table 6: Variables Contributing to the $3.9 Billion Change in Estimated Cash Flows (Figure 8)

Dollars in billions

Loans originating in 2003	Other	Removal of loss mitigation adjustment	Change in conditional claim and prepayment rates
$1.0	-$0.5	-$1.7	-$2.7

Source: GAO analysis of FHA data.

Table 7: Increase in Estimated Net Cash Outflows from Removing the Loss Mitigation Adjustment Factor, 1992-2003 Cohorts (Figure 9)

Dollars in thousands

Cohort	Impact
1992	$10,979
1993	24,126
1994	32,926
1995	21,632
1996	40,131
1997	52,666
1998	108,630
1999	151,683
2000	142,118
2001	349,441
2002	451,067
2003	339,110

Source: GAO analysis of FHA data.

Table 8: Actual Versus Estimated Conditional Claim Rates for Fiscal Year 2003, 1993-2003 Cohorts (Figure 10)

Cohort	Estimated claims	Actual claims
1993	0.60%	0.48%
1994	0.58	0.53
1995	0.96	1.71
1996	0.93	1.69
1997	1.08	2.29
1998	0.95	1.75
1999	0.92	1.93
2000	1.58	4.03
2001	0.87	1.96
2002	0.32	0.50
2003	0.01	0.01

Source: GAO analysis of FHA data.

Table 9: Actual Versus Estimated Conditional Prepayment Rates for Fiscal Year 2003, 1993-2003 Cohorts (Figure 10)

Cohort	Estimated prepayments	Actual prepayments
1993	17.10%	34.33%
1994	16.32	32.13
1995	17.33	29.91
1996	17.58	32.45
1997	18.20	31.33
1998	17.36	36.54
1999	16.58	35.80
2000	22.73	34.67
2001	14.37	41.63
2002	7.78	33.81
2003	1.12	7.00

Source: GAO analysis of FHA data.

Table 10: Amount of FHA Prepayments During Fiscal Years 2000-2004 (Figure 11)

Dollars in millions

Fiscal year	Prepayment
2000	$37,576
2001	82,260
2002	121,154
2003	190,370
2004	123,029

Source: GAO analysis of FHA data.

Table 11: Capital Ratio Versus Economic Value of the MMI Fund, Fiscal Years 2000-2004 (Figure 12)

Dollars in millions

Fiscal year	Economic value	Capital ratio
2000	$16,962	3.51%
2001	18,510	3.75
2002	22,636	4.52
2003	22,736	5.21
2004	21,977	5.53

Source: GAO analysis of FHA data.

Table 12: Amortized Insurance-In-Force, Fiscal Years 2000-2004 (Figure 13)

Dollars in millions

Fiscal year	Amortized insurance in force
2000	$449,867
2001	459,305
2002	466,598
2003	406,619
2004	$372,373

Source: GAO analysis of FHA data.

Table 13: Minimum Required Capital Ratio Versus Actual Capital Ratio (Figure 14)

Fiscal year	Capital ratio	Required minimum capital ratio
2000	3.51%	0.02
2001	3.75	0.02
2002	4.52	0.02
2003	5.21	0.02
2004	5.53	0.02

Source: GAO analysis of FHA data.

Comments from the Department of Housing and Urban Development

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, D.C. 20410-8000

OFFICE OF THE ASSISTANT SECRETARY
FOR HOUSING-FEDERAL HOUSING COMMISSIONER

AUG 15 2005

Mr. William B. Shear
Director
Financial Markets and Community Investments
United Sates Government Accountability Office
Washington, D. C. 20548

Dear Mr. Shear:

The Department of Housing and Urban Development (HUD) appreciates the opportunity to address the Government Accountability Office (GAO) draft report entitled "FHA's $7 Billion Reestimate Reflects Higher Claims and Higher Loan Performance Estimates" (GAO-05-875).

The Department agrees with GAO's overall finding that higher than projected claims were a significant factor that resulted in a $7 billion credit subsidy re-estimate for the Mutual Mortgage Insurance Fund in FY 2003. FHA became aware that models developed by its independent actuarial review contractor were under-predicting claims for post-1995 books of business in early 2003. In FY 1995, FHA had implemented underwriting changes intended to expand the proportion of its insured borrowers who were first-time and minority homebuyers. These changes were successful, and FHA's share of first-time homebuyers increased from 60 percent to 80 percent and its share of minority homebuyers increased from 20 to 35 percent. Changing the composition of FHA borrowers, however, also reduced the effectiveness of FHA's existing models for predicting claims. In 2003, FHA worked with the contractor to include a simple indicator variable to capture the impact of these underwriting changes. The inclusion of this new variable in the FY 2003 actuarial review appropriately increased the predicted future claims on all post-1995 books of business and was the principal reason for the $7 billion re-estimate.

For the FY 2004 actuarial review, FHA selected a new contractor that was tasked with developing new models that would more accurately predict claims in the short- as well as the long-run. The contractor made a number of technical improvements to the econometric methodology used to model FHA conditional claim and prepayment rates. These changes resulted in more credible predictions of ultimate claim and prepayment rates, but still under-predicted claims for the most immediate termination years. This limitation was corrected in the FY 2004 actuarial review with the contractor's decision to use a one-time claim adjustment factor. For FY 2005, FHA has continued to work with the contractor to further refine the specifications of the conditional claim and prepayment models.

In its report, GAO recommends "the Secretary of HUD should direct the FHA Commissioner to include in FHA's loan performance models additional variables that have been found in other studies to influence credit risk, such as payment-to-income ratios, credit scores, and the presence of down payment assistance." While HUD can ask the independent contractor to consider certain variables, it cannot direct the contractor to do so, since that would violate the statutory requirement for an *independent* actuarial study of the MMI Fund. Selection of variables for FHA's conditional claim and prepayment models is determined by economic theory and by statistical tests that measure the accuracy of the models' predictions. Mandating the inclusion of variables could actually weaken rather than strengthen the models' predictiveness.

With regard to its specific recommendations to consider inclusion of credit scores, to acknowledge the presence of down payment assistance, and to reconsider the specification of the burnout factor, FHA informed GAO that FHA's actuarial contractor has these actions under active consideration. With regard to its general recommendation, "whenever making changes to the definitions of key variables FHA should determine whether and to what extent revisions of these definitions may have improved the forecasting ability of the loan performance models used in FHA's actuarial reviews of the Fund," FHA refers GAO to the actuarial review itself and its appendices that contain full documentation of the models and justifications for the selection of the included variables and their definitions.

Thank you for the opportunity to review the GAO report. FHA and its contractor are motivated by the desire to implement state-of-the-art models that meet the highest standards of technical performance. FHA believes that recent modeling improvements have reduced the likelihood of future sizable MMIF credit subsidy re-estimates.

Sincerely,

Brian D. Montgomery
Assistant Secretary for Housing-
Federal Housing Commissioner

GAO Contact and Staff Acknowledgments

GAO Contact

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