

# California Management Review



Mortgage Guarantee Programs  
and the Subprime Crisis

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Federal policy affecting housing is dominated by indirect and off-budget activities directed towards homeowners—tax expenditure policies and federal credit, insurance, and guarantee programs—rather than the direct provision of housing or the payment of housing allowances to deserving renter households. The avowed goal of the current administration, increasing homeownership, was articulated most recently by the Secretary of the Department of Housing and Urban Development (HUD) in 2005, and the federal objective of “an ownership society” for those struggling to achieve middle class status in America was made quite explicit.<sup>1</sup> Since 2005, however, there has been a sea change in the mortgage and credit markets; millions of homeowners, particularly lower-income and first-time homeowners, have been affected. During the first quarter of 2008, almost one in ten mortgages in the U.S. was “in trouble.” Delinquencies (i.e., home loans with payments at least thirty days overdue) were 6.5 percent of all outstanding mortgages, and 2.5 percent of all home mortgages were in foreclosure. (See the National Delinquency Survey of the Mortgage Bankers Association, August 2008.)

This article provides a review of the indirect and off-budget activities supporting homeownership, with special emphasis on the mortgage insurance and guarantee programs. We begin with a brief review of housing subsidy programs, concentrating on the activities of off-budget agencies such as the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac), as well as the Veterans’ Administration (VA) and the

A much earlier version of this paper was presented at the NBER Conference on Measuring and Managing Financial Risk, Evanston, IL, February 2007. We are grateful for the comments of Deborah Lucas and Susan Wachter and for the research assistance of Claudia Sitgraves.

Federal Housing Administration (FHA). In particular, we suggest explicit FHA policies designed to protect potential homebuyers better from their own financial illiteracy and also from unscrupulous “predatory” lenders. This changed emphasis would give a new leadership role to the federal agency that promoted the long-term self-amortizing mortgage more than a half century ago.

## Federal Housing Programs: Direct Expenditures

As noted above, Federal housing policy is dominated by off-budget programs supporting homeownership and providing subsidies for middle- and upper-income homeowners and home purchasers. In contrast, direct Federal expenditures for housing programs, Congressional appropriations for housing in the annual budget, are concentrated upon programs for lower-income households and mostly for renter households.

Direct Federal expenditures on housing began with the Public Housing Act of 1937, which sought the “elimination of substandard and other inadequate housing.” Dwellings built under the program are financed by the Federal government, but are owned and operated by local housing authorities. Importantly, the rental terms for public housing specified by the Federal government ensure occupancy by low-income households, currently at rents no greater than thirty percent of their incomes.

This program of government construction of dwellings reserved for occupancy by low-income households was supplemented in the 1960s by a variety of programs inviting the participation of limited-dividend and nonprofit corporations. Section 8 of the Housing and Community Development Act of 1974 further increased the participation of private for-profit entities in the provision of housing for the poor. The act provided for federal funds for the “new construction or substantial rehabilitation” of dwellings for occupancy by low-income households. Low-income households participating in the program paid twenty-five (now thirty) percent of their incomes on rent, and the difference between tenant payments and the “fair market rent” (FMR) of the housing unit was made up by direct Federal payments to the owners of the properties.

Over time, crucial modifications to housing assistance policy were introduced, and ultimately payments were permitted to landlords on behalf of a specific tenant (rather than by a long-term contract with the landlord). This change facilitated the more flexible voucher program introduced in 1987. Households in possession of vouchers receive the difference between the FMR in a locality (that is, the HUD-estimated median rent) and thirty percent of their incomes.<sup>2</sup> In 1998, legislation made vouchers and certificates “portable,” thereby increasing household choice and facilitating movement among regions in response to

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employment opportunities. The program was renamed the “Housing Choice Voucher Program;” it currently serves about 1.9 million low-income households.

In addition to these programs providing rental assistance, direct appropriations through HUD also support a few small programs encouraging homeownership, for example, down-payment assistance and sweat-equity grants.

Direct appropriations under all these programs amounted to \$37.7 billion in 2007; since 1990 these low-income housing programs have grown hardly at all—by only about 0.6 percent per year in real terms.

## Tax Expenditures

### *The Federal Tax Code*

The most widely distributed and notoriously expensive subsidy to housing is administered by the U.S. Internal Revenue Service. Under the tax code, investments in owner-occupied housing have always been treated differently from other investments. If taxpayers invest in other assets (such as equity shares), dividends are taxed as ordinary income, and profits realized upon the sale of the asset are taxed as capital gains. At the same time, the costs of acquiring or maintaining the investment are deductible as ordinary business expenses in computing a taxpayer’s net tax liability under the internal revenue code.

In contrast, if a taxpayer makes an equivalent investment in owner-occupied housing, the annual dividend (i.e., the value of housing services consumed in any year) is exempt from taxation. In addition, the first \$0.5 million (for married taxpayers) of capital gains realized on sale is exempt from taxation. Two important components of investment costs, mortgage interest payments (up to \$1.1 million for married taxpayers) and local property taxes, are considered to be deductible personal expenses. In contrast, depreciation, maintenance, and repair expenses are not deductible.

These benefits have been in effect since the enactment of the Internal Revenue Code (IRC). The budgetary costs of the program (i.e., the foregone income tax revenues resulting from these special provisions) are sensitive to monetary policy and tax policy. When interest rates increase, the value of the deduction for interest payments increases. If Federal or local tax rates are reduced, the value of the homeowner deduction declines.

The Federal tax code also provides two other forms of housing subsidy, both directed to renters rather than homeowners: housing tax credits and tax-exempt bonds.

The Low-Income Housing Tax Credit (LIHTC) Program provides direct subsidies for the construction or acquisition of new or substantially rehabilitated rental housing for occupancy by low-income households. The LIHTC Program permits states to issue federal tax credits that can be used by developers or property owners to offset taxes on other income, or which can be sold to raise initial development funds for a project. Rents for the dwellings produced are limited to

thirty percent of tenant income, and qualification requires that these units be set aside for occupancy by low-income households for a period of thirty years.<sup>3</sup>

In addition, states have always been permitted to issue debt, and the interest payments made by states (and their local governments) on this debt have been exempt from Federal taxation. The Tax Reform Act of 1986 placed, for the first time, a limit on the volume of bonds that could be issued by states for private purposes. "Private purposes" include the financing of most tax-exempt facilities (e.g., airports) as well as housing (multifamily construction and homeowner subsidies). The allocation of private-purpose bond authority among these activities is supervised by each state, and the priorities among states may vary substantially.<sup>4</sup>

As indicated above, the magnitude of tax expenditures for housing is dominated by the large and open-ended subsidies provided to those homeowners who itemize their deductions or who sell their residences in any year. For 2007, it was estimated that the homeowners' exclusion of imputed rental income cost the Federal treasury \$32.5 billion in foregone revenue. This is almost as much as *all* direct Congressional appropriations for low-income housing programs. The deduction for homeowners' mortgage payments represents an additional \$78.1 billion in tax expenditures. The property-tax exclusion costs an additional \$15.0 billion, and the exclusion of capital gains on housing from Federal taxation represents another \$43.0 billion in foregone revenues. In contrast, the Low-Income Housing Tax Credit costs only \$4.1 billion in foregone revenues. The issuance of tax-exempt bonds costs about \$1.4 billion in Federal revenue. Overall, Federal tax expenditures for homeowners in 2007 were \$166.1 billion, or about four times the tax expenditures for all other housing programs.<sup>5</sup>

### *Mortgage Credit*

Federal support for housing credit began in the aftermath of the great depression, with the establishment of the Federal Home Loan Bank (FHLB) System in 1932. FHLBs were chartered by Congress to provide short-term loans to retail mortgage institutions to help stabilize mortgage lending in local credit markets. Interest rates on these advances were determined by the low rates at which this government agency, the FHLB Board, could borrow in the credit market. In 1938, the Federal National Mortgage Association (FNMA) was established as a government corporation to facilitate a secondary market for mortgages issued under the newly established FHA mortgage program (described below). The willingness of the FNMA to buy these mortgages encouraged private lenders to make FHA, and later VA, loans.

In 1968, the Association was reconstituted as a Government Sponsored Enterprise (GSE), Fannie Mae. The change allowed Fannie Mae's financial activity to be excluded from the federal budget. Its existing portfolio of government-insured mortgages was transferred to a wholly owned government corporation, the newly established Ginnie Mae. In contrast, ownership shares in Fannie Mae were sold and publicly traded. Fannie Mae continued the practice of issuing debt to buy and hold mortgages, but focused its operations on the purchase of con-

ventional mortgages neither guaranteed nor insured by the federal government. Freddie Mac was chartered as a GSE two years later, in 1970, but its shares were not publicly traded until 1989. Originally, Freddie Mac chose not to hold purchased mortgages in its portfolio. Instead, mortgages were pooled; and interests in those pools, mortgage-backed securities (MBS), were sold to investors with the default risk guaranteed by Freddie Mac.

These mortgages, subject to specific balance limits and underwriting guidelines—referred to as “conforming conventional” mortgages—are securitized by Freddie Mac and Fannie Mae. These MBS are guaranteed against default risk by the GSEs themselves. The two mortgage GSEs, Fannie Mae and Freddie Mac, operate under congressionally conferred charters, which provide both benefits and obligations. Their foremost benefit has been an implicit U.S. government guarantee of their debt and MBS obligations. Their Federal charters oblige the GSEs to support the secondary market for residential mortgages, to assist mortgage funding for low- and moderate-income families, and to consider the geographic distribution of mortgage funding, including mortgage finance for underserved parts of urban areas.

The GSEs carry out this mission through two distinct business lines: they create and guarantee mortgage-backed securities; and they purchase and hold whole mortgages and MBS in their on-balance-sheet retained-mortgage portfolios. The GSEs claim that both business lines are required to meet their charter responsibilities—to support the secondary mortgage market and to monitor the geographic distribution of mortgage funding. Economists have been quick to point out, however, that the unhedged interest-rate risk embedded in the retained-mortgage portfolios creates a large contingent liability for the U.S. Treasury and a systemic risk for U.S. capital markets.<sup>6</sup> Since the GSEs issue MBS, it also seems clear that the retained-mortgage portfolios are not essential for the agencies to carry out their charter obligations.

The extent of the subsidy provided by Federal taxpayers is somewhat difficult to estimate, and the distribution of subsidies among recipients is a good bit more problematic. It is certainly clear that large public subsidies are provided to the GSEs. The GSEs benefit from their federal charters, which allow them to be treated, for some purposes, as agencies of the federal government rather than as private profit-seeking firms.<sup>7</sup> Estimates by the Congressional Budget Office of the value of this special treatment alone totaled about \$1.5 billion in 2003.<sup>8</sup>

The more important public subsidy to the GSEs has arisen from the government’s implicit guarantee of their primary debt and all their MBS obligations. Other financial institutions would surely be willing to pay a significant fee to receive a comparable guarantee from the Federal government. This special treatment of the GSEs arises in part because the Federal government views the securities issued by these organizations as safe and sound—if not, the government would not have exempted the GSEs from the protective regulations governing other similarly situated private entities. Thus, despite an explicit statement in every prospectus disavowing a federal guarantee, the GSEs enjoy lower financing costs than those of similarly situated private firms.<sup>9</sup>

The primary GSE debt obligations are classified as “agency securities” and are issued at interest yields somewhere between AAA corporate debt and U.S. Treasury obligations. This is despite the fact that the firms themselves have merited a lower credit rating in terms of the “risk to the government;” investors face less risk than the government because they are protected by the government’s guarantee.<sup>10</sup> An estimate of the cost of this implicit federal subsidy for the debt issued by the GSEs can be derived from the spread between the interest rates paid by the GSEs for the debt they issue and the rates paid by comparable private institutions. This comparison, in turn, depends upon the credit ratings, maturities, and other features of the bonds issued, as well as market interest rates and credit conditions. Quigley provides a detailed review of estimates of this spread that have been reported in different studies using different methodologies.<sup>11</sup> On the basis of this kind of evidence, the CBO has concluded that the overall funding advantage enjoyed by the GSEs is about 41 basis points.<sup>12</sup> The total Federal subsidy provided to GSE debt, in 2006 dollars, was estimated by the CBO to be \$4.7 billion in 1995, and \$13.7 billion in 2003. In large part, the tripling of this subsidy reflects the rapid growth of Fannie Mae and Freddie Mac during this period.<sup>13</sup>

The implicit federal guarantee provides an analogous advantage to GSE-issued MBS compared with MBS guaranteed by other private entities. The market requires a greater capital backing for a private guarantee than for a guarantee made by Fannie Mae or Freddie Mac, and the provision of this additional capital reserve is costly to private firms. The CBO has also estimated that the advantage enjoyed by the GSEs is thirty basis points. When this is applied to the MBS issued by the GSEs in 1995, the estimated subsidy is \$3.2 billion (in 2006 dollars). By 2003, the subsidy had grown to \$10.1 billion, again reflecting the rapid growth in Fannie Mae and Freddie Mac during the period.

The combined subsidies to the GSEs in 2003, the most recent available estimates, amounted to over \$25 billion in 2006 dollars. These subsidies could, in principle, either be passed through to mortgage borrowers in the form of lower mortgage rates, or be retained as profits by the GSEs. If an equivalent subsidy were provided to a competitive industry, it could be presumed that most, if not all, of the subsidy would be passed through to final consumers. There is evidence that Fannie Mae and Freddie Mac exercise considerable market power.<sup>14</sup> However, even duopolists have incentives to pass forward part of a subsidy, and there is evidence that a part—perhaps about half—of this subsidy is passed through by Fannie and Freddie to mortgage borrowers.<sup>15</sup> The residual fraction of this benefit is retained by the shareholders of the GSEs. This residual arises from the competitive advantage of the GSEs over other financial institutions and advantage conferred by their federal charters.

As noted, estimates of the reduction in mortgage interest rates attributable to this subsidy have some range—around, say, forty basis points.<sup>16</sup> If the conforming limit for GSE loans were set low enough, more of the benefits of this interest-rate reduction would accrue to moderate-income households. However, the limit has been set generously by the Federal Housing Finance Board. Before



passage of the Housing and Economic Recovery Act (HERA) in August 2008, conforming mortgages could be written for an eighty percent loan on a property selling for \$521,250 (\$781,875 in Alaska and Hawaii). As noted below, HERA greatly liberalized these limits.

## **The FHA and VA Insurance and Guarantee Programs**

### *The Great Depression Origins*

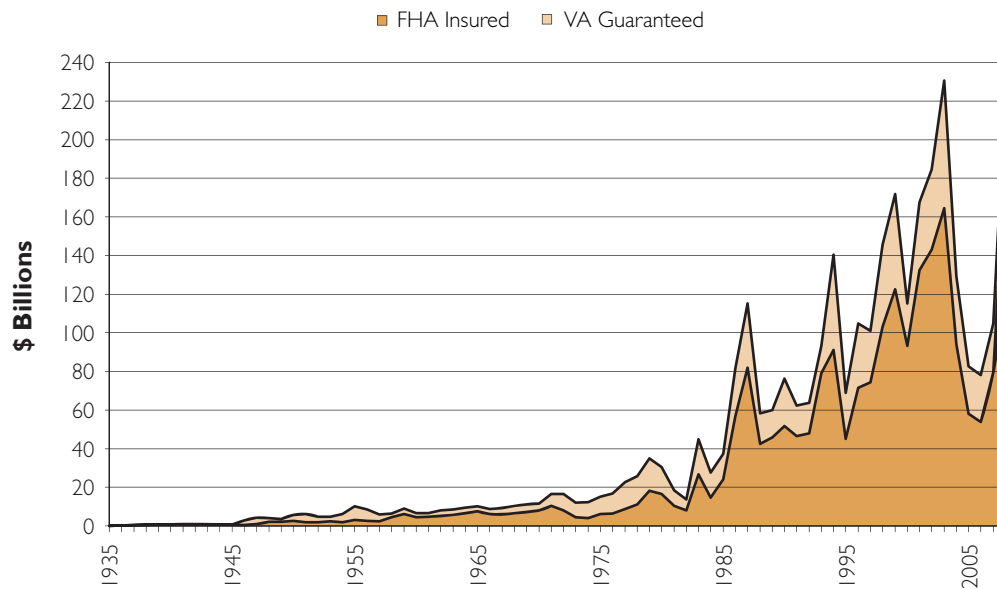
Before the depression of the 1930s, home mortgage instruments were typically of short terms (3-10 years) with loan-to-value ratios of sixty percent or less. Mortgages were non-amortizing, requiring a balloon payment at the expiration of the term. The onset of the Great Depression engendered a liquidity crisis beginning in 1930, precluding renewal of many outstanding contracts. Other borrowers were simply unable to make regular payments. The liquidity crisis affecting new mortgage loans, together with elevated default rates on existing loans, had catastrophic effects upon housing suppliers as well as housing consumers.

Despite voluntary forbearance on the part of some lending institutions and mandated forbearance enacted by many state legislatures, the system of mortgage lending, which existed in the early 1930s, continued to contract, and many lending institutions simply failed. The establishment of the Home Owners' Loan Corporation in 1933 within the Federal Home Loan Bank System (established a year earlier) provided stopgap refinancing for a million mortgages. Passage of the National Housing Act of 1934 established the structure of home mortgage insurance and facilitated the growth of the modern system of mortgage finance in the U.S.

The 1934 Act established the Federal Housing Administration (FHA) to oversee a program of home mortgage insurance against default. Insurance was funded by the proceeds of a fixed premium charged on unpaid loan balances. These revenues were deposited in Treasury securities and managed as a mutual insurance fund. Significantly, default insurance was offered on "economically sound" self-amortizing mortgages with terms as long as twenty years and with loan-to-value ratios up to eighty percent.

Diffusion of this product across the country required national standardization of underwriting procedures. Appraisals were required, and borrowers' credit histories and financial capacities were reported and evaluated systematically. The modern standardized mortgage was born.<sup>17</sup>

The Mutual Mortgage Insurance Fund, which was established to manage the reserve of annual premiums, was required to be actuarially sound. This was generally understood to involve very small redistributions from high-income to low-income FHA mortgagees.<sup>18</sup> By its original design, the FHA was clearly intended to serve the vast majority of homeowners. Initial loan amounts were restricted to be no larger than \$16,000 at a time when the median house price was \$5,304.<sup>19</sup>

**FIGURE I.** Dollar Volume of FHA and VA Mortgage Originations, 1935-2008

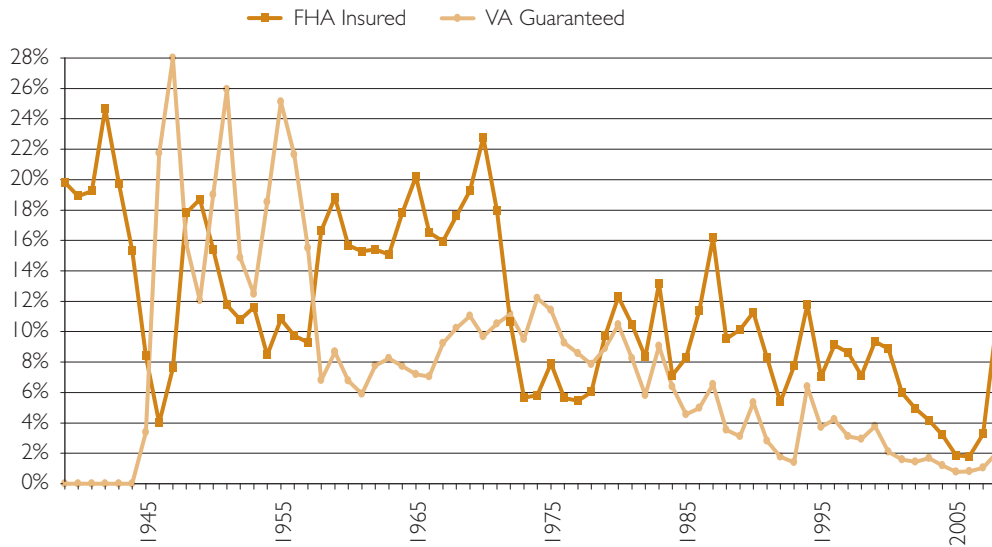
Note: 2008 covers the first half of the year, reported at an annual rate.

Sources: Historical Statistics of the United States, OFHEO, and Inside Mortgage Finance.

Near the end of World War II, it was widely feared that the peacetime economy would return the housing market to its depression-era performance. Indeed, housing starts in 1944 were at about the same level as they had been a decade earlier. The VA loan program, passed as a part of the GI bill in 1944, rapidly evolved from a temporary “readjustment” program to a long-range housing program available to veterans for a decade or more after returning to civilian life. This transformation contributed to the boom in the residential construction industry that began in the late 1940s. Ultimately, a liberal program of veterans’ home loans was established in 1950 and subsequently extended. In contrast to the insurance provided by the FHA, the VA provided a federal guarantee for up to sixty percent of the face value of a mortgage loan made to an eligible veteran, subject to a legislated maximum. The VA program facilitated loans by private lenders on favorable terms with no down payments at moderate interest rates.

### *The FHA and VA Programs in the Post World War II Housing Market*

The two programs, FHA and VA, providing government insurance and mortgage guarantees brought homeownership opportunities to middle class American households in a short space of time. Since 1950, annual housing starts have rarely fallen below one million, and this remained true through 2007, even with the collapse of the subprime housing market.<sup>20</sup> Figure 1 shows

**FIGURE 2.** FHA and VA Mortgage Originations, Share of Total Originations, 1939-2008

Note: 2008 covers the first half of the year, reported at an annual rate.

Sources: Historical Statistics of the United States, OFHEO, and Inside Mortgage Finance.

the remarkable growth of mortgage originations attributable to these programs.<sup>21</sup> In 1960, about \$5 billion in FHA insured mortgages and \$2 billion in VA guaranteed mortgages were issued. The programs reached their all-time peak volume (in real as well as nominal terms) in 2003, when the FHA insured about \$165 billion and the VA guaranteed about \$66 billion in mortgages. Since 2003, the volumes of mortgage originations in both programs have declined significantly. By 2006, they had declined by two thirds from their peak volumes, to about \$54 billion in FHA-insured and about \$25 billion in VA-insured mortgages. A significant rise is evident in 2008 as these programs replaced the private markets as the subprime crisis unfolded.

The fraction of total mortgage originations attributable to the FHA and VA has also declined systematically over time. Figure 2 reports that the FHA mortgage origination share (based on dollar volume) declined from the peak share of about 25 percent in 1970 to under 2 percent in 2006, albeit with a significant recovery in 2008. The VA-guaranteed mortgage share has similarly declined from a peak share of almost 28 percent in 1947 to under one percent in 2006.

The secular decline in the market share of the two programs and the precipitous decline in both market shares and dollar volumes after 2003 raise serious policy issues concerning the future of the two programs. A reasoned policy response requires a clear understanding of the forces that have contributed to these absolute and relative declines in the programs' activities.

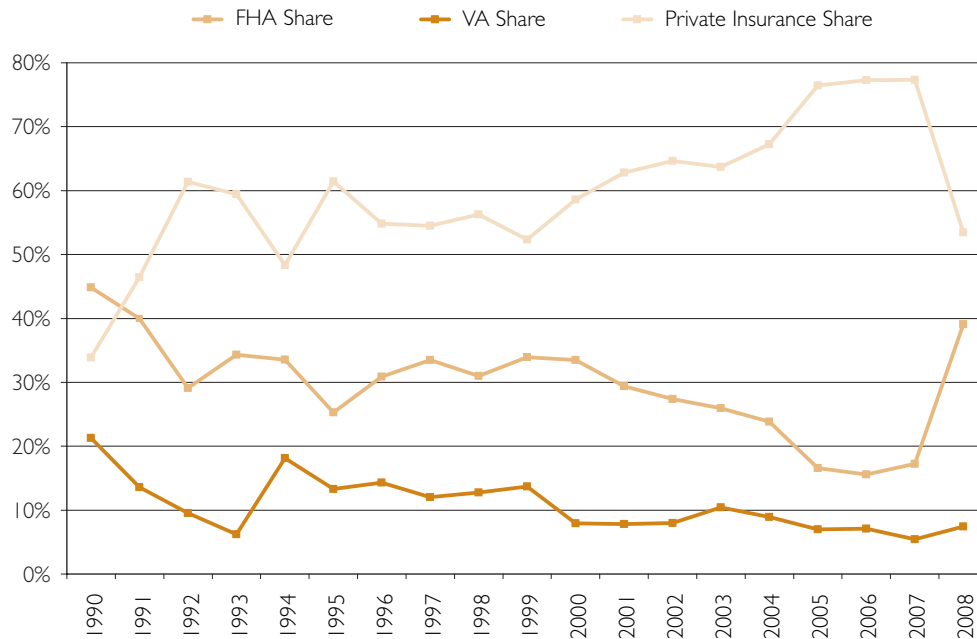
### ***The Declining FHA and VA Market Shares: Long-Term Causes***

The long-run decline in FHA and VA originations has arisen from two primary factors, both relating to the development of the private mortgage insurance (PMI) industry. This industry first developed in the U.S. during the housing boom of the 1920s. Firms offering mortgage insurance quickly went bankrupt in the early years of the Great Depression, and there were allegations of fraud and mismanagement as well. The recreation of a PMI industry began in 1957, aided by the evident success of the FHA and VA programs.<sup>22</sup> Until the experience of FHA/VA mortgages had been accumulated, it was not well known or widely appreciated just how safe home mortgages typically are. Balances in the FHA Mutual Mortgage Insurance Fund were easily observable to private actors. The development of the PMI industry was also abetted by the expansion of Fannie Mae and Freddie Mac, whose charters require that credit enhancement be provided on all mortgages they purchase or guarantee with loan-to-value ratios above eighty percent. PMI has been the dominant form of this credit enhancement.

Secondly, the rules governing FHA and VA coverage affect the government-insured market share of the total insured market (that is, the market covering both private and government mortgage insurance). In particular, fixed-dollar limitations on government insured mortgages significantly reduced the ability of the FHA and the VA programs to serve middle- and upper-middle-income households. Figure 3 reports FHA and VA insured mortgage originations as a fraction of all insured originations. As the figure shows, FHA/VA mortgages were almost two-thirds of all insured mortgages in 1990. This fraction, however, significantly declined to little more than one quarter of all insured mortgages by 2007, prior to the abrupt recovery in 2008.

### ***The Recent Collapse in FHA and VA Program Activity***

Although the FHA program was initially developed to support the bulk of the mortgage market, for the past quarter century its focus has been on lower-income borrowers. Indeed, the Housing and Community Development Act of 1981 explicitly established specific targets for serving low-income borrowers. The availability of low-down-payment FHA mortgages for those with a less-than-perfect credit rating has meant that FHA's market share of originations has been larger for those traditionally disadvantaged in the home ownership market. As a result, the overwhelming fraction of FHA borrowers have obtained mortgages with loan-to-value ratios of 95 to 98 percent or more, including a large number of borrowers with "nontraditional" credit histories or with imperfect credit records. Data released under the Home Mortgage Disclosure Act (HMDA) include measures of the income and minority status of borrowers, as well as the census tracts in which they reside. By comparing insured and uninsured mortgage originations, it is possible to gauge how well the FHA succeeds in serving these clientele.<sup>23</sup> As an example, Figure 4 reports FHA-VA market share information by the fraction of minorities living in the census tract of origination. In 1997, for example, the FHA and VA were originating over forty percent of all

**FIGURE 3.** Insured Mortgage Originations by Share of Total Insured Originations

Note: 2008 covers the first half of the year; reported at an annual rate.

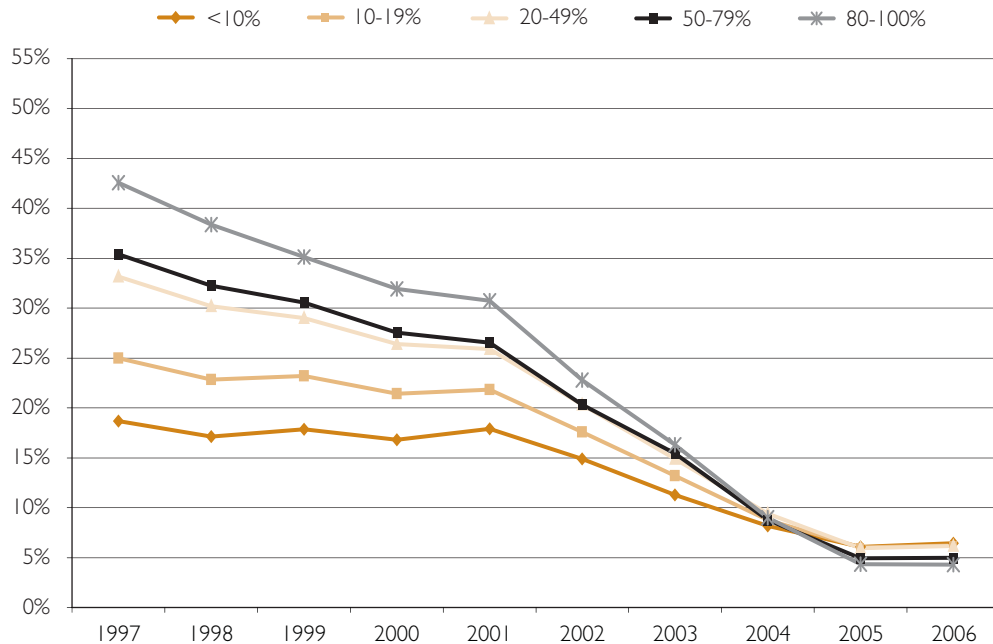
Sources: Historical Statistics of the United States, OFHEO, and Inside Mortgage Finance.

mortgages issued in the census tracts with the highest concentration of minority borrowers. By 2005, all the market shares had fallen rapidly and dramatically to shares of only about five percent. A time trend in FHA-VA market share similar to Figure 4 can be observed in stratifications based on income and race as well.<sup>24</sup>

Four specific factors are responsible for this precipitous decline in FHA and VA originations: subprime lending, predatory lending, GSE competition, and the failure of the FHA to be innovative in mortgage lending.

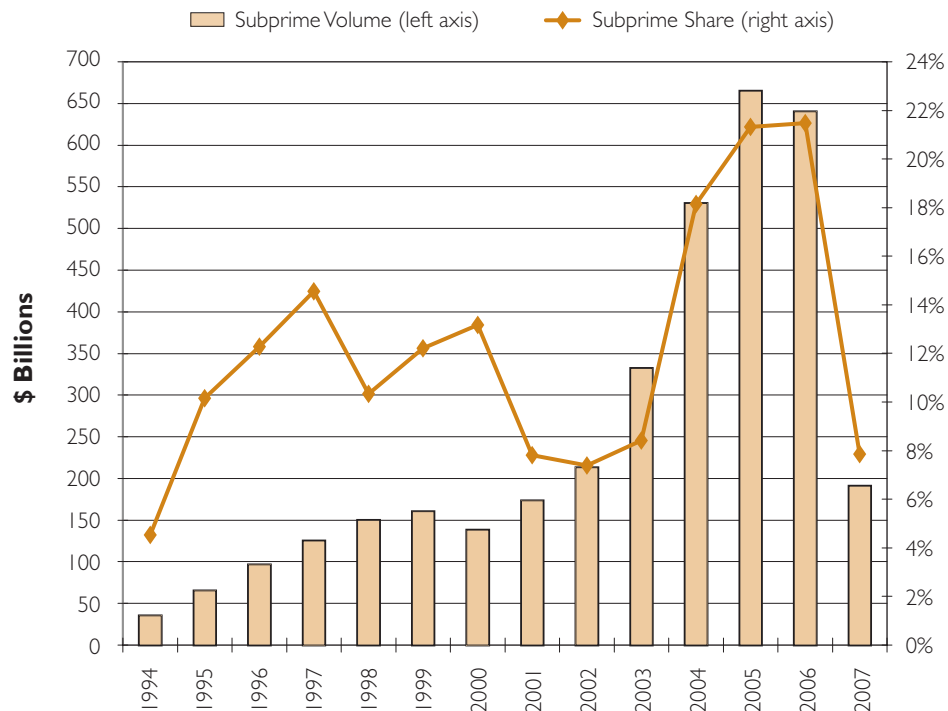
#### *Subprime Lending*<sup>25</sup>

Figure 5 shows the dramatic inroads that conventional subprime lending has made as a share of total home mortgage originations. As recently as 2002, subprime lending represented only seven percent of total mortgage originations, but its market share rose to more than 21 percent by 2006. This 14-percentage-point increase in market share coincides with the precipitous decline in FHA and VA lending. Correlation need not imply causation, but subprime lenders and the government-insured programs would seem to share a very similar clientele—focusing on borrowers with lower credit scores, offering lower down payments, and so on. So it seems self evident that the expansion of the subprime loan mar-

**FIGURE 4.** FHA and VA Share of Originations by Census Tract Percent Minority Population, 1997-2000

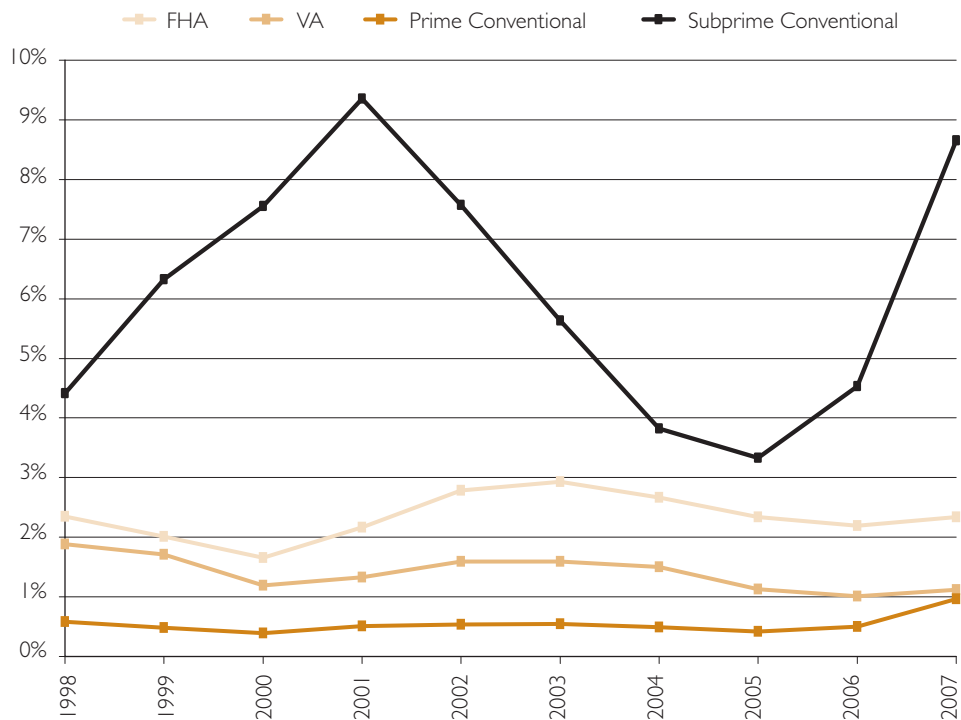
ket is the source of some, and perhaps most, of the decline in the market share of the FHA and VA programs.

It is useful in this respect to compare the foreclosure rates on subprime mortgages with the comparable rates for FHA and VA mortgages. Figure 6 compares the foreclosure rates on various categories of mortgages since 1998, based on data from the Mortgage Bankers' Association (MBA). Prior to 1998, the annual default rates for the available categories never exceeded two percent. In contrast, the foreclosure rates on subprime loans, with data starting in 1998, are almost an order of magnitude higher, exceeding nine percent annually in 2001 and approaching that level again at year-end 2007; the first quarter of 2008 shows foreclosure rates above ten percent. It is not surprising, of course, that as lenders and investors learned of the rapidly rising foreclosure rates for subprime mortgages, starting in the second half of 2006, this form of lending would plummet (as depicted in Figure 5). In contrast, the FHA foreclosure rate, while somewhat higher than its historical average, still remains below three percent, and the VA foreclosure rate remains below two percent. The foreclosure rate on prime conventional loans, in contrast, has been very stable at about one half percent, just approaching one percent in 2007.

**FIGURE 5.** Subprime Lending and Total Mortgage Originations

The rise of the subprime loan market as a competitor to the FHA and VA programs raises the deeper question: why did the subprime market expand so suddenly. Three factors are crucial:

- *Technology*—Access to large bodies of information concerning current borrowers and past loan outcomes has been combined with computing power and statistical methods to extract new and useful information concerning likely default rates and loan costs, especially for higher-risk borrowers.
- *Contract Innovation*—The mortgage markets have created new “alternative” mortgage contracts (including interest-only, optional-payment, and incomplete-document loans).<sup>26</sup> They have also expanded the use of traditional formats (such as adjustable-rate and negative-amortization mortgages) as alternatives to the standard, fixed-rate, long-term mortgages offered by FHA and VA.
- *Securitization*—Many of the lenders utilizing this new technology and sponsoring innovative contracts have a limited capacity to hold mortgages, so it has been essential that the new techniques of mortgage-backed and asset-backed securitization have provided them an efficient mechanism for selling newly originated loans in the secondary market.

**FIGURE 6.** Foreclosure Rate, Year-End Inventory

### *Predatory Lending*

Headlines in the popular press as well as the business press have drawn attention to predatory lending practices as well as subprime mortgages. Predatory loans generally refer to loans that the borrower would have rejected with full knowledge and understanding of their terms and the terms of alternatives available to them. In practice, predatory loans rely on a range of practices including deception, fraud, and manipulation in order to design loans with terms that are highly disadvantageous to the borrower, thus creating a high likelihood of default (to which the lender is generally immune).<sup>27</sup> Predatory loans share two key features: first, the borrower would not have agreed to the loan had he or she understood the terms and conditions; second, the lender earns an acceptable return even if the borrower defaults. These features contrast with a typical subprime loan, in which the borrower benefits from the loan, and in which the lender (or loan investor) suffers a loss if the borrower defaults.

Regulatory structures exist at the federal, state, and local levels to prohibit predatory lending, and further modifications are in process. At the federal level, banking regulators, the Federal Trade Commission, the Department of Housing and Urban Development, and the Department of Justice all oversee rules and regulations prohibiting specific predatory lending activities.<sup>28</sup> In addition, many



cities and states have now passed anti-predatory lending statutes.<sup>29</sup> Excessively tight regulation of subprime lending terms, however, risks discouraging appropriate and efficient subprime lending as well as predatory lending. One problem is that the proposed regulations generally focus on the easily quantifiable aspects of loans, such as defining a maximum spread for the contract rate relative to treasury rates or imposing fixed limits on the number of points paid. While limits such as these will no doubt stop some predatory loans, they will also discourage some, perhaps even more, sensible subprime loans. In addition, regulations that place limits on computed values such as the annual percentage rate (APR) may be readily manipulated by predatory lenders.

#### *The Government Sponsored Enterprises (GSEs) Go “Down Market”*

The expansion of the GSE mortgage portfolios into riskier mortgages is a third important factor that has reduced the market share of the FHA and VA government insurance programs. The GSE expansion was partly profit-motivated, since the GSEs require new markets if they are to expand beyond their traditional domain of prime conforming mortgages. However, it is also regulatory-based, since the GSEs face “affordable housing goals,” which require that they allocate specified shares of their lending activity to various classes of lower-income borrowers.<sup>30</sup>

The results of this expansion into subprime lending by the GSEs have been disastrous, as the firms have increasingly reported large loan losses throughout 2008. As a result, the Housing and Economic Recovery Act of 2008 has created a new and stronger regulator for the GSEs and has provided a Treasury backstop to allow investors to continue to hold their debt without risk. The legislation also includes a continuing role for the GSEs in supporting mortgages for lower-income borrowers.

#### *Failures in Contract Innovation and in Underwriting at the FHA*

As subprime, predatory, and GSE competition greatly reduced the market share of FHA and VA loans in recent years, it is natural to ask why the government programs have not responded with innovative contracts and underwriting methods of their own. Indeed, historically, the FHA was responsible for crucial innovations in the U.S. mortgage market: the fixed-payment, long-term, fully amortizing mortgage in the 1930s and the first mortgage-backed securitization program—Ginnie Mae—in the 1970s. In recent years, however, the FHA has shown a distinct disinclination to innovate.

One major impediment is the FHA's outdated credit-scoring model, which suggests that the FHA cannot judge adequately the quality of borrowers or loans, nor can it implement risk-based pricing by charging higher insurance fees on demonstrably riskier mortgages.<sup>31</sup> Given that most of the recent mortgage innovations have involved somewhat riskier contracts, it is essential that these risks be reflected in the insurance premiums (unless a subsidy to riskier borrowers is an explicit policy). To be sure, the FHA requires Congressional approval before it can carry out these and related innovations. Mobilizing Congress to act

is, at the least, a time-consuming friction, one that surely inhibits the innovative process.<sup>32</sup>

There is also a sense that the failure of the FHA to innovate reflects to some degree the agency's complacent philosophy. This has been apparent for a decade. It is confirmed in the report commissioned by HUD in 1995, at a time when the FHA was also facing soul searching about its future. A major part of that report argues that the FHA clientele is "unique," with no significant overlap with either private mortgage insurance or the GSEs. The report dismisses what were the early signs that the conventional mortgage market was making headway in meeting the needs of underserved borrowers:

"Only FHA allows for a combination of credit histories, cash balances, down payments, and payment ratios, which provide mortgage credit opportunities to families with past credit problems and broken income streams. Because of this, private market initiatives will grow as they attract new homeowners, but they will not significantly diminish the core business of FHA."<sup>33</sup>

A bit later, the report lists some "distinctive" FHA benefits:

- up to full financing of up-front loan closing costs and insurance premiums;
- lower down-payment requirements on both home purchase and refinancing loans;
- higher allowances for seller-paid closing costs; and
- greater protections against foreclosure.

These FHA "benefits" are hardly distinctive, and they are certainly not unique.

The FHA has also resisted implementation of risk-based pricing for its insurance premiums. From its inception in 1934 through 1983, the FHA charged a flat annual insurance premium of 0.5 percent on the outstanding loan balance, very low by current standards. In 1983, the FHA switched to a 3.8 percent, one-time, up-front fee which was revenue neutral overall when compared to the earlier system. As a result of worsening underwriting experience during the 1980s, the 1990 National Affordable Housing Act (NAHA) required an increase in the FHA premiums and, for the first time, imposed higher premiums on loans with higher loan-to-value ratios. However, in practice, this component of risk-based pricing was quantitatively minor; the major change mandated by NAHA was that FHA premiums were, for the first time, significantly higher than the PMI premiums a borrower would pay if she qualified for both insurance programs. Since rational borrowers who are eligible for both FHA and PMI loans would always choose the lower-cost PMI option, the FHA could argue that, at least in principle, there is no effective overlap between the FHA and PMI clientele.

### ***FHA Single-family Program Subsidies***

The mortgage insurance fund for FHA's single-family housing insurance program has remained solvent continuously, and, with the exception of a few brief intervals, the fund has remained actuarially sound as well. The FHA has

also reported, under the budget accounting rules specified in the Federal Credit Reform Act of 1990 (FCRA), that the program provides a net surplus to the government, as much as \$1.5 billion during fiscal year 2003. This is an important factor because the FHA is a “discretionary” program and otherwise would require an annual appropriation for any explicit subsidy costs.

The Congressional Budget Office, however, has challenged the FCRA method and contends that when the actuarial costs are computed appropriately the Mutual Mortgage Insurance program actually requires a subsidy from the federal treasury.<sup>34</sup> There are two main elements of contention. The first element is that the FCRA method excludes administrative expenses from the subsidy computation. Indeed, were administrative costs included, then the FCRA method indicates that the FHA received a modest subsidy from federal taxpayers in fiscal year 2007.

The second element is that expected future losses from insurance activity are computed as a single average present value under the FCRA method. This ignores the dispersion of possible losses, including the likelihood that the greatest losses will occur when the economy is in a recession. The CBO contends that the covariation between potentially realized losses and weak states of the overall economy requires that a “risk premium” be added to the computation. The CBO quantifies this risk premium as the difference between the insurance premiums charged by the private mortgage insurance (PMI) industry and the premiums charged by the FHA on comparable mortgages. Using this benchmark, the CBO estimates that the FHA program actually required a taxpayer subsidy of about \$2 billion for fiscal year 2007 (compared to the small surplus computed using the FCRA method).

The FHA disagrees with the principle behind the CBO’s risk premium adjustment. In the FHA view, the Federal guarantee that backs its insurance and the FHA’s privilege to borrow from the U.S. Treasury at risk-free interest rates are fundamental features of the program, which allow the FHA to operate with vastly lower capital ratios than its PMI competitors. As a *quid pro quo* for these features, the FHA program serves a much riskier clientele. In the FHA view, an accurate actuarial computation of its expected losses relative to the premiums charged is the appropriate basis for determining the cost, if any, that the program imposes on the Federal budget.

The proper computation of the program’s subsidy is important if Congress is to make sensible appropriations for the FHA programs, in comparison with all other discretionary government expenditures and also in the evaluation of alternative means for subsidizing housing (for example in comparing HUD voucher programs and FHA mortgage insurance). A proper computation of the subsidy amount would also help to avoid unexpected and unpleasant budgetary surprises, which may otherwise occur.

## **Policy Actions and Options in Response to the Subprime Mortgage Crisis**

In July 2008, two major regulatory actions were taken in response to the subprime mortgage crisis. First, the Federal Reserve issued final rules creating major modifications to the Truth in Lending regulations, as a means to protect borrowers from predatory lending. Second, Congress passed and the President signed the Housing and National Economic Recovery Act of 2008. This Act created a new regulatory structure for the GSEs, a new FHA program to help borrowers facing imminent foreclosure, and made a variety of other changes in federal housing policy.

### ***Policy Responses to Predatory Lending***

On July 14, 2008, the Federal Reserve adopted final rules expanding the home mortgage provisions of Regulation Z (Truth in Lending), using its regulatory power under the preexisting Home Ownership and Equity Protection Act (HOEPA). Compliance with the new rules is required beginning between April 2010 and October 2011 depending on the particular regulation. The Truth in Lending and HOEPA regulations have long been used to provide consumer protections with regard to home purchases and mortgage loans. Regulations administered by the Department of Housing and Urban Development (HUD) under the Real Estate Settlement Procedures Act (RESPA) is a second vehicle, and HUD is currently reformulating these regulations as well.

The new Truth in Lending regulations can be separated into two basic categories: those affecting only “higher-priced residential mortgages,” and those affecting all residential mortgages.

### ***New Regulations Regarding Higher-Priced Mortgages***

These regulations are explicitly intended to protect future subprime borrowers from predatory lending. The metric of higher-priced mortgages is used as a simple and direct means to identify subprime mortgages. Under the rules, “higher-priced mortgages” are defined as first-lien mortgages with contract rates 1.5 percentage points or more above the corresponding “prime mortgage” rate, and as second-lien mortgages with contracts rates 3.5 percentage points or more above the prime mortgage rate. Higher-priced mortgages are then subject to the following rules:

- Borrower Suitability—Lenders must consider the borrower’s ability to repay the loan from income and non-housing assets, in part, by assessing her ability to make the highest scheduled payments during the first seven years of the mortgage.
- Information Verification—Lenders must verify the income and asset information they rely on in determining the borrower’s ability to repay the loan.
- Prepayment Penalty Ban—Prepayment penalties are banned on any loan in which the loan payment can change during the first four years. For all

higher-priced loans, a prepayment penalty period cannot extend more than two years.

- Required Escrow Accounts—Lenders must establish escrow accounts for property taxes and homeowners' insurance. Borrowers may remove the escrow if they wish after the first year.

#### *New Regulations for All Residential Mortgages*

- Accurate Appraisals—Lenders and mortgage brokers cannot coerce appraisers to create false home appraisals.
- Servicer Rules—Loan servicers must promptly credit payments and provide statements, and they may not engage in certain practices such as the pyramiding of late fees.
- Loan Cost Estimates—Lenders must provide prompt loan cost estimates on a good faith basis, and until that disclosure is made, the only allowable fee is one required to verify the borrower's credit rating.
- Advertising Standards—The rule expands the required disclosures for rates, payments, and related loan features, while banning seven deceptive practices, such as representing a loan as fixed-rate when in fact the payment may change.

#### *Discussion*

The "higher-priced mortgage" metric means that a mortgage will become subject to the new rules even if it is not a subprime loan. For example, during 2008, interest rates on jumbo mortgages—large mortgages above the conforming limit for the GSEs—have reached the "higher-priced" standard, even though the borrowers and the loans were prime. This raises a concern that in these situations the rules could limit mortgage supply for no reason. The Federal Reserve appears aware of this possibility and has indicated it will take action if it finds that significant problems do arise.

The more serious concern with the new rules concerns the "suitability standard" that requires the lender to take into account borrowers' ability to repay the loan. The rule raises the possibility that lenders will become excessively cautious and turn away subprime borrowers even when the loan is in the best interests of the borrower. In our view, the principle of a suitability standard is sensible, and the real issue is to find a practical means to implement it. In this regard, the long experience with a suitability standard imposed upon stockbrokers is instructive. Ever since 1938, the National Association of Securities Dealers (NASD) has required that brokerage firms be held responsible for recommending investments that are financially suitable to the economic circumstances of their customers (Rule 2310). NASD arbitration panels routinely adjudicate claims of "unsuitability," awarding damages to customers and imposing sanctions upon firms that have sold securities unsuitable to their clients. A large plaintiff bar has arisen to police overly aggressive brokers. The result has been a functional system, and we are hopeful a comparable system can evolve for mortgage lenders.

Of course, one could object to the need for any government intervention in these markets on the principle that the operation of a “fully competitive” market should itself protect less-informed market participants. That is, if a segment of borrowers were accepting contracts that provided excess returns to “predatory” lenders, other lenders could enter the market offering superior terms to these borrowers. However, the wide range of consumer protection legislation enacted in the U.S. suggests that policy makers are not entirely confident that competitive markets can be depended on to perform this role. Many of the features of the subprime mortgage crisis of 2007-2008 reinforced this view. Government intervention in these ways no doubt reflects some paternalism, but, as Sunstein and Thaler argue, financial decisions by consumers often reflect framing and other behavioral factors, with the result that an element of low-cost paternalism might be judged to be highly beneficial overall.<sup>35</sup>

### ***Policy Responses to Reform GSE Regulation***

Beginning in late 2007 and accelerating during 2008, Fannie Mae and Freddie Mac, the two major mortgage GSEs, reported significant losses from both mortgage defaults and interest rate changes. By late spring 2008, there was serious concern that the GSEs would be unable to roll over their maturing debt. This would have forced them into bankruptcy and most likely would have created a systemic crisis in U.S. mortgage and financial markets. As a result, Secretary of the Treasury Paulson proposed a temporary backup line of credit to eliminate any uncertainty about the ability of the GSEs to roll over their maturing debt. This action made an explicit government guarantee of the senior debt of the GSEs. (Of course, this guarantee had been implicit since the establishment of the GSEs.)

This action was codified in the Housing and National Housing Recovery Act of 2008. In addition, the act created a new Federal Housing Finance Agency (FHFA) to oversee and regulate the GSEs as well as the Federal Home Loan Banks. The new agency has substantially stronger powers than its predecessor, the Office of Federal Housing Enterprise Oversight, particularly in the areas of capital requirements, approved activities, and enforcement.

The Act also changes the regulation of the GSEs in two significant ways:

- The GSEs are required to pay an annual fee of 4.2 basis point per dollar of new business mortgage purchases, beginning with fiscal year 2009, with the fee dedicated to help lower-income homeowners and renters.
- The conforming limits which determine the maximum loan size for loans purchased by the GSEs are permanently raised to 115 percent of the median house price in each region, subject to a \$625,000 maximum, effective January 1, 2009. (These limits replace even higher limits created under the Economic Stimulus Act of 2008 and that expire on December 31, 2008).

### *Discussion*

The expanded powers granted to the FHFA appear highly appropriate as a response to the current financial distress at the GSEs. The critical issue, however, is how they are implemented. The most contested issue concerns the GSEs' retained mortgage portfolios, through which they hold approximately \$1.5 trillion in mortgages on their balance sheets. These portfolios have been the primary source of the firms' recent losses, from both interest-rate risk and credit losses. The firms also underwrite mortgage backed securities (MBS), currently with about \$3.5 trillion outstanding. These MBS create no interest-rate risk because they are held by third-party investors, and the underlying mortgages appear to be of substantially higher quality than those in the retained portfolios. It seems clear that the mission of the GSEs could be carried out with MBS underwriting alone. It is thus important for the new regulator to eliminate the risk created by the retained portfolios, by imposing high capital and safety standards, reducing their size, or possibly eliminating them entirely.

The 4.2 basis point fee imposed on the GSEs appears to be part of a political compromise to allow the regulatory reform to be passed in exchange for creating financial resources to support lower-income mortgage borrowers.<sup>36</sup> The fee raises a fundamental question of the appropriate role of the GSEs in supporting the mortgage market for low-income borrowers. The answer to this question, of course, must involve the future role of the FHA as well.

The permanent increases in the conforming limits for the GSEs represents a somewhat schizophrenic policy position. On the one hand, as just noted, the funds provided by the new 4.2 basis point GSE fee will be fully directed to lower income homeowners. On the other hand, permanently raising the conforming loan limits operates in the opposite manner, providing the GSEs with an expanded opportunity to focus their resources on serving middle and upper income borrowers.

### ***The Housing and Economic Recovery Act and the Subprime Crisis***

The Housing and Economic Recovery Act (HERA) introduces a large number of changes in the FHA program. Important examples include:

- Raising the FHA loan limits to the greater of \$271,000 or 115 percent of local area median home prices, capped at \$625,000.
- Raising FHA down-payment requirements to 3.5 percent of the loan amount from 3 percent.
- Placing a moratorium on risk-based FHA pricing through October 2009.

The most significant change for the FHA is the new Hope for Homeownership plan. This is an innovative program designed to save homes in imminent danger of foreclosure by private lenders. The program allows the loans, instead, to be refinanced through the FHA. Participation in the plan is voluntary and requires the agreement of both the mortgage borrower and the current mortgage holder.

On participating loans, mortgage holders are required to write down the loan amount to no more than 90 percent of the current appraised home value. Mortgage holders must also waive all prepayment penalties and fees, and arrange for release of all subordinate liens. Mortgage holders will presumably participate only if they expect this to improve their cash receipts relative to carrying out a foreclosure. Mortgage holders may find participation an attractive alternative because foreclosure is itself costly and commonly creates significant decreases in house value.<sup>37</sup>

The mortgage borrowers, for their part, must agree to share with the FHA any gains they realize upon the sale of the house relative to the reduced mortgage amount. They must also certify that the loan is for an owner-occupied home, they have not intentionally defaulted, and their debt payment-to-income ratio is greater than 31 percent.

The CBO estimates that the Hope program will have a subsidy rate of about one percent of the loan value, creating a net cost over the next five years of approximately \$715 million.<sup>38</sup> This amount is to be funded entirely by the 4.2 basis-point fee imposed on the GSEs. GSE fees in excess of the Hope program costs will be placed in new government trust funds dedicated to providing rental dwellings for lower-income households.

In addition to these changes in the FHA program, HERA provides a variety of additional changes in government support for housing. Key changes include:

- A refundable tax credit up to \$7,500 for first-time homebuyers. This is a small interest-free loan (repayable over 15 years).
- An increase in the deduction for property taxes (up to \$1,000 for married couples) available to taxpayers who use the standard deduction.
- An expanded nationwide registry and licensing system for the residential mortgage industry.
- The provision of nearly \$4 billion in grants for states and localities to purchase and redevelop foreclosed properties.
- A modernized Low Income Housing Tax Credit program to make it more efficient.

### ***A Future Role for the FHA***

The rapid decline in the volume of FHA mortgage originations in the past few years raised fundamental questions about the future of the agencies. Indeed, there were suggestions that the agencies simply be closed. However, the subprime mortgage meltdown and the enormous number of mortgage foreclosures created have dramatically changed the FHA's prospects. In particular, the FHA is now seen as the primary mechanism through which the government may provide aid to defaulting subprime borrowers in order to avoid foreclosures on their mortgages. This leaves open, of course, the longer-term role for the FHA once the emergency conditions of the subprime crisis have passed.



### *A More Innovative Role for the FHA*

One approach would allow the FHA to continue to function, but to require that it become much more aggressive in using technology: to improve its underwriting policies for high-risk borrowers; to develop innovative mortgage contracts that will appeal to these borrowers; and to incorporate risk-based pricing in federal mortgage products. This would entail an expanded legislative mandate for the agency, increasing loan limits, eliminating statutory down-payment requirements, and encouraging risk-based pricing of mortgage products. While HERA did raise the FHA loan limits, it also raised the down-payment requirements and placed a moratorium on risk-based pricing. In addition, concerns have been raised that the FHA will not have the expertise to manage a more creative underwriting program entailing more complicated and riskier loans, and that risk-based pricing will eliminate what some consider the current beneficial pattern of cross-subsidization of riskier borrowers by safer borrowers.<sup>39</sup>

### *A Demonstrable FHA Alternative to Predatory Loans*

An alternative means to expand the role of the FHA is to focus on its potential to mitigate predatory lending. As noted above, current regulatory actions to eliminate predatory lending often focus on quantitative restrictions, such as ceilings on loan rates, points, and prepayment penalties. These restrictions, if enforced, would no doubt reduce the extent of predatory lending, but it is equally clear that they would also reduce the incidence of subprime loans beneficial to borrowers. Indeed, with imperfect enforcement, it is quite plausible that the primary impact would be to reduce beneficial subprime loans. For this reason, many economists have suggested that aggressive direct regulation of the subprime mortgage market could be counterproductive.<sup>40</sup>

The details of modern mortgage contracts are sufficiently technical and specialized that it may be more efficient and effective to regulate predatory lending in quite a different fashion. In particular, we suggest that an aggressive and innovative loan demonstration by the FHA can be an efficient and effective means to reverse the inroads that predatory lenders have achieved as a result of the inherently complex nature of the new mortgage contracts. Suppose, for example, legislation enabled the FHA to offer risk-based pricing, adjustable-rate mortgages, and so forth and, at the same time, the FHA was directed to develop new alternative mortgage contracts—contracts that would offer competitive terms to those currently eligible for FHA financing, but who were being attracted to the private subprime market, in some instances by unscrupulous lenders.

Disclosures concerning these new alternative FHA mortgages could be of enormous value in deterring predatory lending to lower-income home purchasers. Comparable actions by government entities can be found in other markets. The United States Postal Service, for example, provides mailing services that compete with Federal Express and the United Parcel Service. And the Departments of Insurance in a number of states provide comprehensive information

on the auto insurance and homeowner insurance options available to consumers based on the rate filings of their registered insurers.<sup>41</sup>

To apply this technique to the subprime mortgage market, the FHA would have to provide a borrower with one or more alternative mortgages several days before a scheduled house closing. To allow the FHA to prepare these loan offers, information about such things as borrower credit worthiness, assets, and home appraisal would have to be transmitted to the FHA in advance of a contemplated mortgage transaction by any lender contemplating a loan to a household eligible for FHA financing. The concept of requiring subprime lenders to make unique disclosures prior to the origination of a loan is already a crucial component of the Homeowner and Equity Protection Act (HOEPA). The FHA would be directed to use this information to produce one or more specific loans for consideration by the contracting household. These terms would be transmitted to the household in a side-by-side comparison with those offered by the subprime lender. Mortgage contracts would not be enforceable unless the contracting household had explicitly declined the terms of an FHA mortgage in favor of the private market subprime loan. This requirement—together with the suitability rules, described earlier, patterned after those of the NASD—could provide powerful deterrents to predatory lending.

The disclosure requirements envisioned here would provide the borrower with an explicit alternative in the form of an available FHA loan, as well as the full set of information already suggested by the Congress:

This new disclosure should include a table clearly displaying a full payment schedule over the life of the loan, all fees associated with the loan, an explanation of the “alternative features” of the loan (i.e., negative amortization) and a full explanation of the risks associating with taking advantage of those features, including the timeframe in which borrowers were likely to feel the negative effects of those risks.<sup>42</sup>

This proposal would require FHA-eligible households to consider and reject the terms of competitive FHA mortgages before contracting for private market subprime mortgage finance. In making this decision, borrowers would have the full set of mortgage information, and they would have a specific alternative to consider. If, after consideration of the terms proffered, a household chose subprime mortgage finance, it would not be on the basis of incomplete information or the misrepresentation of alternatives. This is probably the best one can hope for in guiding the choices of others in a market economy.

## Notes

1. See, for example, “Statement of the Honorable Alphonso Jackson, Secretary, U.S. Department of Housing and Urban Development,” before the United States House of Representatives Committee on Financial Services, April 13, 2005.
2. Households in possession of a voucher may choose to pay more than the fair market rent for any particular dwelling, up to forty percent of their incomes, making up the difference themselves. They may also pocket the difference if they can rent a HUD-approved dwelling for less than the FMR.

3. Federal tax credit authority is transmitted to each state, on a per capita basis, for its subsequent distribution to the developers of qualified projects. The credits distributed by the states are provided annually for ten years, so a "dollar" of tax credit authority issued today has a present value of 6 to 8 dollars.
4. As with the subsidy provided by the IRC, the subsidy provided by tax-exempt bonds (i.e., the net difference between the market interest rate and the rate for tax-exempt paper), varies with changes in federal tax rates and with macroeconomic policy. When interest rates are low and the spread between taxable and tax-exempt interest rates is small, state and local governments may not issue tax-exempt bonds, since the costs of issue (e.g., underwriting, bond counsel) are relatively high.
5. For detailed discussions, see John M. Quigley, "A Decent Home: Housing Policy in Perspective," *Brookings Papers on Urban Affairs*, 1/1 (2000): 53-100; Dwight Jaffee and John M. Quigley, "Housing Subsidies and Homeowners: What Role for Government-Sponsored Enterprises?" *Brookings Papers on Urban Affairs*, 6/1 (2007): 103-150; Dwight Jaffee and John M. Quigley, "Housing Policy, Subprime Mortgage Policy, and the Federal Housing Administration," Working Paper 2007-001, January 2007.
6. John M. Quigley, "Federal Credit and Insurance Programs: Housing," *Federal Reserve Bank of St. Louis Review*, 88/4 (2006): 281-310.
7. Under the legislation establishing Fannie Mae and Freddie Mac, the GSEs are exempt from state and local income taxation and from Securities and Exchange Commission registration requirements and fees. The GSEs may use the Federal Reserve as their fiscal agent, and at the time they were provided a \$2.25 billion line of credit at the U.S. Treasury. GSE debt is eligible for use as collateral for public deposits, for unlimited investment by federally chartered banks and thrifts, and for purchase by the Federal Reserve in open-market operations. GSE securities are also exempt from the provisions of many state investor-protection laws. These privileges provide direct monetary savings to the GSEs, and these privileges have not been granted to any other shareholder-owned companies.
8. Congressional Budget Office, *Updated Estimates of the Subsidies to the Housing GSEs* (Washington, D.C.: U.S. Government Printing Office, 2004).
9. This benefit can be measured either in terms of the subsidized cost of GSE borrowing or in terms of the expected costs that would be imposed on the government if it had to make restitution to GSE bondholders and MSB investors.
10. The Congressional Budget Office estimated that without GSE status the housing enterprises would have credit ratings between AA and A. Congressional Budget Office, *Federal Subsidies and the Housing GSEs* (Washington, D.C.: U.S. Government Printing Office, 2001). On August 11, 2008, however, Standard and Poor's "risk to the government" rating for Fannie Mae was lowered from A+ to A, and for Freddie Mac it was lowered from AA- to A. The senior unsecured debt of both firms remains rated as AAA in terms of the risk to investors, while the ratings of both firms' subordinated debt and preferred shares were lowered from AA- to A-.
11. Quigley (2006), op. cit.
12. CBO (2001), op. cit.
13. Congressional Budget Office, "Subsidy Estimate for FHA Mortgage Guarantee," 2004.
14. See Benjamin Hermalin and Dwight Jaffee, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," in *Studies on Privatizing Fannie Mae and Freddie Mac* (Washington, D.C.: HUD, 1996), pp. 225-302.
15. Differing estimates of the reduction in mortgage rates created by the subsidy has resulted in a quite contentious literature. Perhaps the lowest estimate, 7 basis points, is provided by Federal Reserve economists in Passmore, Sherlund, and Burgess. A much higher estimate is provided by Blinder, Flannery, and Kamihachi in a study funded and published by Fannie Mae. Wayne Passmore, Shane M. Sherlund, and Gillian Burgess, "The Effect of Housing Government-Sponsored Enterprises on Mortgage Rates," *Real Estate Economics*, 33/3 (2005): 427-463; Alan Blinder, Mark Flannery, and James Kamihachi, "The Value of Housing-Related Government Sponsored Enterprises: A Review of a Preliminary Draft Paper by Wayne Passmore," *Fannie Mae Papers*, 3/2 (May 2004).
16. See Quigley (2006), op. cit.
17. For an extensive discussion of this history, see Richard Green and Susan Wachter, "The American Mortgage in Historical and International Context," *Journal of Economic Perspectives*, 19/4, (2005): 93-114.
18. See, for example, Henry J. Aaron, *Shelter and Subsidies: Who Benefits from Federal Housing Programs?* (Washington, D.C.: The Brookings Institution, 1972).

19. The FHA ceiling was reduced to \$6,000 in 1938, but that level was still above the price of the median house at the time, \$5,804.
20. See Karl E. Case and John M. Quigley, "How Housing Booms Unwind: Income Effects, Price Effects, and Feedbacks through Financial Markets," *European Journal of Housing Policy*, 8/2 (2008): 161-180.
21. This figure reflects the single-family insurance programs of the FHA and VA agencies. The original mission for the FHA also included multifamily housing, and starting in the 1960s the FHA multifamily programs became significant in size and scale. Indeed, the multifamily program became quite notorious for allegations of waste, fraud, and corruption; see Vandell (1995) and Quigley (2006). However, multifamily loans never exceeded 15 percent of the total FHA portfolio and today they are less than 10 percent. In this article, we consider only the single-family program. Kerry D. Vandell, "FHA Restructuring Proposals: Alternatives and Implications," *Housing Policy Debate*, 6/2 (1995): 299-393; Quigley (2006), op. cit.
22. In 1957, MGIC became the first private mortgage guarantee firm established since the Great Depression.
23. Quigley analyzed the same data for the period just before the sharp decline of the last three years. GAO (2007), published after the first version of this paper had been circulated, also analyzes these data, but only during the 1996-2005 period. Quigley (2006), op. cit.; U.S. General Accounting Office, "Federal Housing Administration: Decline in the Agency's Market Share was Associated with Product and Process Development of Other Mortgage Market Participants," GAO-07-646, June 2007 (2007a).
24. See Jaffee and Quigley (2007), op. cit.
25. For a useful primer on subprime mortgages, see Edward Murphy, "Subprime Mortgages: Primer on Current Lending and Foreclosure Issues," *Congressional Research Service Report RL33930*, March 2007.
26. For a discussion of the new alternative mortgages based on the concepts of security design, see Tomasz Piskorski and Alexei Tchisti, "Optimal Mortgage Design," paper presented to NBER Real Estate Conference, July 25, 2007.
27. Specific devices include loan flipping (repeated refinancing with excessive prepayment penalties), unexpected balloon payments, and mandatory arbitration. See U.S. General Accounting Office, "Alternative Mortgage Products," GAO-06-1021, September 2006 (2006a).
28. For the details and the applicable laws and statutes, see GAO (2004), op. cit.
29. For details, see Ho and Pennington-Cross, 2006, Holder and Manuel, 2007, and Litan, 2001.), Giang Ho and Anthony Pennington-Cross, "The Impact of Local Predatory Lending Laws on the Flow of Subprime Credit," *Journal of Urban Economics*, 60 (2006): 210-228; Kamilah Holder and Kate Manuel, "Predatory Lending: A Comparison of State Laws to the Federal Home Ownership and Equity Protection Act," *Congressional Research Service Report RL32784*, March 2007; Robert Litan, "A Prudent Approach to Preventing 'Predatory' Lending," Brookings Institution, February 2001.
30. For detailed discussions of the goals, see John Weicher, "Commentary," *Federal Reserve Bank of St. Louis Review* (July/August 2006); Jaffee and Quigley (2007), op. cit.
31. See GAO (2006a), op. cit.
32. See Weicher, op. cit.
33. U.S. Department of Housing and Urban Development, "An Analysis of FHA's Single-Family Insurance Program," October 1995, p. 7-2.
34. See CBO (2003), op. cit.; Congressional Budget Office, "Assessing the Government's Costs for Mortgage Insurance provide by the Federal Housing Administration," July 2006.
35. Cass Sunstein and Richard Thaler, "Libertarian Paternalism is Not an Oxymoron," *The University of Chicago Law Review*, 70/4 (2003): 1159-1187.
36. We proposed this—a guarantee fee—in February 2007 as one of a series of measures to improve the efficiency of the GSEs. See Jaffee and Quigley (2007), op. cit.
37. See Vassilis Lekkas, John M. Quigley, and Robert Van Order, "Loan Loss Severity and Optimal Mortgage Default," *The AREUEA Journal*, 21/4 (1993): 353-371.
38. Congressional Budget Office, *Cost Estimate for Federal Housing Finance Regulatory Reform Act of 2008* (Washington, D.C.: U.S. Government Printing Office, June 9, 2008).
39. See General Accounting Office, "Modernization Proposals Would Have Program and Budget Implications and Require Continued Improvements in Risk Management," GAO-07-708, June 2007 (2007b); Inside Mortgage Finance, "Optimism Remains High on FHA Reform Despite Critical HUD IG, GAO Reports," March 23, 2007 (2007a); Inside Mortgage Finance,

"MBA Calls for Cautious Approach to FHA Reform, Even as New Bills Tout Remedies to Program's Ills," April 6, 2007 (2007b).

40. For a recent example, see Kristopher Gerardi, Harvey Rosen, and Paul Willen, "Do Households Benefit from Financial Deregulation and Innovation? The Case of the Mortgage Market," NBER Working Paper 12967, March 2007.
41. For example, in California auto insurance premiums are regularly published by the state government. See <http://interactive.web.insurance.ca.gov/survey/survey?type=autoSurvey&event=autoSearch>. For Berkeley California, for example, the highest rates reported are more than double the lowest rates.
42. Joint Economic Committee, "Sheltering Neighborhoods from the Subprime Foreclosure Storm," June 22, 2007.





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