Policy Options for the Housing and Financial Markets

April 2008

The Congress of the United States ■ Congressional Budget Office

Notes

All of the years referred to in this report are calendar years.

Some of the figures use shaded vertical bars to indicate periods of recession. (A recession extends from the peak of a business cycle to its trough.)

Preface

The housing and financial markets are in the midst of severe adjustments. House prices are falling rapidly, and they are expected to continue to fall. Mortgage foreclosures, particularly among subprime borrowers, have risen to record levels and are still rising. The financial markets are having severe difficulties adjusting to losses on mortgage-backed assets.

In response to a request from the Chairman of the Senate Budget Committee, the Congressional Budget Office (CBO) has examined the potential role of federal institutions and federal support in resolving the difficulties in the financial and housing markets. This paper updates and expands on issues raised in a January 2008 CBO paper, *Options for Responding to Short-Term Economic Weakness*.

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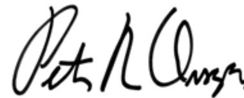
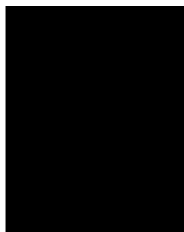


Peter R. Orszag
Director

April 2008



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CHAPTER

1

Introduction

Problems in the housing and mortgage markets have now spread to a broader array of financial markets. At this point, the nation faces a serious disruption to the functioning of its financial markets that could substantially impair economic activity in the near term. Since the end of the unusual housing boom from 2003 to early 2006, delinquencies and foreclosures on mortgages have risen, particularly on subprime adjustable-rate mortgage loans (ARMs), reflecting a retreat of house prices from unsustainable levels, the use of lax credit standards to make the loans, weak local economies, and in some cases, higher interest rates on ARMs whose interest rates had reset as scheduled in their loan contracts.[1] (Subprime loans are made to borrowers with low credit scores or other impairments to their credit histories.) The problems are not limited to subprime ARMs, however. Delinquencies have also risen for prime ARMs and on so-called alt-A mortgage loans, which are often made on the basis of little or no documentation of the borrower's income and may include low-downpayment loans, loans that are not for the owner's principal residence, interest-only loans, and loans whose balances rise over time. Because most mortgages are resold as mortgage-backed securities (MBSs), the rise in delinquencies has caused the value of MBSs to decline, in some cases quite sharply.

The problems in mortgage markets have spread to the wider financial markets for several reasons. Although highly uncertain, the number of bad mortgages and, consequently, losses on MBSs are expected to be large. The use of complex instruments to fund subprime lending, such as collateralized debt obligations (CDOs), also has made it difficult for participants in financial markets to identify the magnitude of the exposure of other participants to losses.[2] Moreover, a number of financial institutions borrowed heavily to finance their mortgage holdings, further increasing their risk exposure.

Those losses on mortgage assets, and the resulting contraction of the availability of credit to businesses and households, pose a significant threat to the pace of economic activity. Given the elevated uncertainty about their exposure to risk, financial institutions have tightened their lending standards and pulled back from all types of risky lending, preferring to conserve capital to guard against potential losses. Following a period in which the risk premium (the higher return required to compensate investors for assuming the risk of default) had been unusually low, the price of risk has risen, in some cases significantly. That pullback has extended to short-term lending between banks. In response, the Federal Reserve and some foreign central banks have intervened to provide large infusions of liquidity (that is, short-term financing) to keep financial markets from freezing up. Moreover, large numbers of foreclosures could trigger a downward spiral of house prices that could take them below what would be justified on the basis of normal relationships to income and production costs. Such a downward spiral would exacerbate the problems in the financial markets and could reduce consumption spending by reducing household wealth, increasing the likelihood and severity of a recession.

Policymakers have already taken steps to help the housing and financial markets cope with the aftereffects of the housing boom. In the wake of continuing weakness in those markets, though, additional actions have

1. The percentage of homes with subprime ARMs entering foreclosure was a record 5.3 percent in the fourth quarter of 2007, up from 2.7 percent at the end of 2006 and 1.6 percent at the end of 2005. At the end of 2007, more than 13 percent of subprime ARMs were in the process of foreclosure.

2. CDOs repackage assets such as mortgage bonds, buyout loans, and other debt (including other CDOs) into new securities.

Box 1-1.

Federal Support for Housing

The government currently supports homeownership through various channels. The effects of that support in normal times are to increase the number of people who own their homes rather than rent and also to increase land prices, the average size and price of houses, and the proportion of wealth that is in the form of housing (as opposed to other forms of investment). There are also distributional consequences that favor homeowners relative to renters.

The federal government, through the Department of Housing and Urban Development (HUD), undertakes activities that reduce mortgage rates. The Federal Housing Administration (FHA) provides mortgage insurance on loans made by FHA-approved lenders that meet certain requirements. The Government National Mortgage Association (Ginnie Mae) provides liquidity to the secondary mortgage market by guaranteeing investors the timely payment of principal and interest on mortgage-backed securities backed by federally insured or guaranteed loans—mainly loans insured by the FHA or guaranteed by the Department of Veterans Affairs. Other guarantors or issuers of loans eligible as collateral for securities guaranteed by Ginnie Mae include the Department of Agriculture's Rural Housing Service and HUD's Office of Public and Indian Housing.

In addition, two privately owned government-sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, provide capital to the mortgage markets by purchasing conforming mortgages, securitizing them, and charging a guarantee fee to investors. Although there is no explicit government guarantee of those securities, it is commonly perceived that the government would prevent a default. That implicit guarantee makes the cost of funds to the GSEs lower than it otherwise would be.[1]

1. Congressional Budget Office, *Federal Subsidies and the Housing GSEs* (May 2001).

Continued

been proposed. (See Box 1-1 for a discussion of current federal housing policy.) Some of those actions would involve lenders (seeking to promote the modification of troubled mortgages), while others would expand the role of the federal government (providing or guaranteeing credit to mortgage markets). Such actions could help reduce the number of foreclosures, attenuating one source of downward pressure on house prices—although they would not address more important influences on prices. Many policy options, moreover, would significantly shift the risk involved in mortgage losses from current lenders and investors to taxpayers. (Policymakers are also considering new supervisory guidelines and regulations for financial institutions to address weaknesses that contributed to the problems in financial markets; this paper does not address those potential changes.)

Whether additional policy interventions in the housing and mortgage markets are advisable depends in part on their objective:

- If the objective is to assist homeowners in distress, some of the policies seem likely to succeed, at least to some degree. Many policies intended to help homeowners may produce significant benefits for lenders as well. Avoiding some unintended effects will be virtually impossible because it is difficult to distinguish among homeowners who were victims of their poor judgment or of predatory lenders, those who overstretched their finances for purchasing investment properties, and those who exploited poor underwriting standards.

- If the objective is to avoid foreclosures and abandonment of properties, intervention might break a downward spiral in which foreclosures put houses on the market, pushing down house prices and producing more foreclosures. Although many analysts believe that house prices remain too high relative to people's incomes, such a spiral, without intervention, could reduce prices even below their long-run ratio to incomes and production costs.

Box 1-1. Continued

Federal Support for Housing

The tax system is a major source of support for homeownership. Owner-occupied housing receives more favorable tax treatment from the federal government than most other privately held assets.[2] Much of the income generated by assets owned by businesses is subject to corporate or personal income taxes. However, the value of the services generated by owner-occupied housing is excluded from taxable income. Even so, owners may deduct certain expenses, such as interest paid on mortgage and home-equity loans and property tax payments. Most capital gains from the sale of an owner-occupied house are also tax-exempt.

The tax advantages for investing in one's home have been estimated to increase homeownership by between 2.5 percent and 5.4 percent, depending on people's income.[3] Furthermore, those advantages have been estimated to increase the amount of housing purchased by homeowners by between 5 percent and 21 percent, again depending on owners' income. The study from which those estimates are derived assumes that additional land and other inputs for housing are available at no increase in cost, so none of the increase in purchases is absorbed in higher prices for houses and land. Those conditions seem more likely to exist on the outskirts of cities and in rural areas than in developed neighborhoods within large metropolitan areas, where limits on further development often exist. How much of the tax advantage is absorbed in higher prices inside metropolitan areas is disputed.[4]

2. See Congressional Budget Office, *Taxing Capital Income: Effective Rates and Approaches to Reform* (October 2005).

3. Harvey S. Rosen, "Housing Decisions and the U.S. Income Tax," *Journal of Public Economics,* vol. 11, no. 1 (February 1979), pp. 1–23. Rosen reports the amount by which taxing homeownership like other investments would reduce the rate of homeownership and the amount of housing purchased. The estimates in Table 4 under Regime 2 have been converted above to increases from the tax advantage.

4. Dennis R. Capozza, Richard K. Green, and Patric H. Hendershott, "Taxes, Mortgage Borrowing, and Residential Land Prices," in Henry J. Aaron and William G. Gale, eds., *Economics of Fundamental Tax Reform* (Washington, D.C.: Brookings Institution Press, 1996), pp. 171–198. Also see Donald Bruce and Douglas Holtz-Eakin, "Fundamental Tax Reform and Residential Housing," *Journal of Housing and Economics,* vol. 8, no. 4 (December 1999), pp. 249–271; and Jane G. Gravelle, *The Flat Tax and Other Proposals: Effects on Housing,* CRS Report for Congress 96-379 (April 29, 1996).

- If the objective is to arrest the decline in house prices, however, the policies are less likely to succeed. Perhaps the most important short-term influence on house prices is the elevated number of unoccupied houses for sale (the inventory overhang). That overhang is likely to remain until house prices fall enough to stimulate additional home sales. Put simply, none of the policies can (or presumably should) guarantee that house prices will stabilize in the near term. Furthermore, attempting to avoid (as opposed to attenuating) the market's necessary adjustments may not only be unrealistic, but even if it were to succeed, might ultimately serve only to delay the recovery of financial markets and impair the pace of economic activity.

- Finally, if the objective is to stabilize the overall economy, the policies under discussion will probably have only a limited effect because most of them are likely to exert only a modest influence directly on the housing market. (The Congressional Budget Office discussed policies more specifically related to general economic stimulus in a January 2008 paper, *Options for Responding to Short-Term Economic Weakness*.) They might affect the economy indirectly, through their effects on consumer and investor confidence, though that is harder to predict.

CHAPTER

2

The Current Economic Situation

The current economic situation is quite fragile. The turmoil in financial markets, the drop in house prices, and the rise in energy prices have combined to slow economic activity. Credit flows have dropped significantly as financial institutions have reduced their activity; nonfinancial firms face new constraints on their borrowing as well. The outlook for economic activity in 2008 has worsened, with private-sector payroll employment falling for the past four months and a growing number of economists indicating that the economy is in a recession. Nevertheless, both the tax rebates that will begin arriving late this spring (as part of the recently enacted economic stimulus package) and the Federal Reserve's reduction of short-term interest rates and injections of liquidity will help boost the economy. It remains unclear at this point whether the National Bureau of Economic Research will ultimately determine officially that there was a recession.

Economic Activity

Economic activity has slowed sharply since last summer. Annualized growth of real (inflation-adjusted) gross domestic product (GDP) declined to just 0.6 percent in the fourth quarter of 2007 from a robust 4.9 percent in the third quarter, and growth appears to have slowed even further this year. Employment fell by 300,000 between November 2007 and March 2008; such a decline in employment over several months strongly suggests that the economy has entered a recession. Real consumer spending has been essentially flat between November and February. Some of that weakness is related to high energy prices and slower gains in real disposable income, but some may also be a result of the effect of lower house prices on households' wealth. The pace of residential construction has been decreasing rapidly, and declining numbers of building permits for new construction suggest that those declines will persist in the near term. Business fixed investment also appears to have contracted in the first quarter, partly because financing for new projects has become more difficult to obtain. Offsetting some of that weakness has been strong growth in exports.

Concerns about inflation may constrain policymakers' efforts to stimulate the economy further. The sharp drop in the value of the dollar over the past year and the increase in a broad array of commodity prices have raised fears of higher inflation this year. Although most forecasters do not anticipate an increase in inflation during 2008, further monetary stimulus may set the stage for higher inflation in 2009.

House Prices and Mortgage Markets

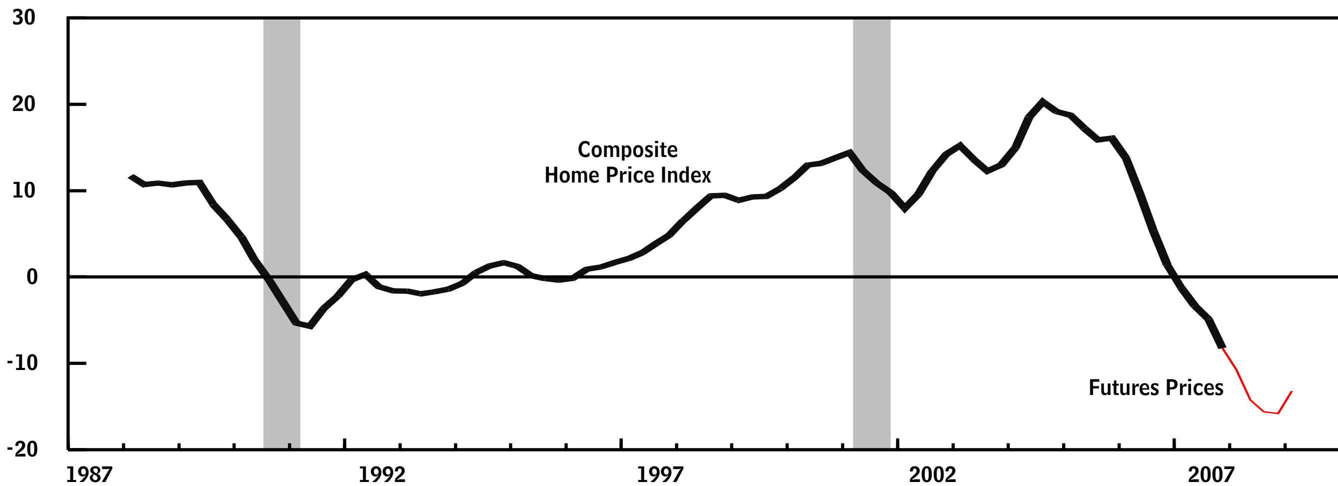
House prices are falling across the country, with some of the steepest declines occurring in areas that had experienced some of the largest gains. Delinquencies and foreclosures on mortgages are also rising across the nation. Some states experiencing large price declines have also experienced high rates of delinquencies and foreclosures. However, prices of mortgage-backed securities have stabilized close to their recent lows, suggesting that investors' expectations about future losses on MBSs are no longer worsening.

House Prices. Prices for houses have fallen sharply since their peak in the middle of 2006, and the decline appears to be accelerating. A number of indexes are available to track prices; each has its limitations, but together they give a sense of trends. One measure, the S&P/Case-Shiller national price index for single-family homes, was down by about 9 percent in the fourth quarter of 2007 as compared with the fourth quarter of 2006, after a 4.6 percent decline in the year ending in the third quarter of 2007. In real terms, the decline last year was almost 12 percent. Rapid declines in house prices continued in January: A narrower S&P/Case-Shiller index for 20 cities (reported monthly) fell by 10.7 percent in the year ending in January, while the monthly index for the

Figure 2-1.

S&P/Case-Shiller 10-City Composite Home Price Index and Implied Values from Futures Prices

(Percentage change from a year ago)



Sources: Congressional Budget Office; Bloomberg; Chicago Mercantile Exchange.

Note: The S&P/Case-Shiller 10-city composite home price index tracks price changes in 10 metropolitan areas on the basis of a house's previous sale. Data are quarterly and are plotted through the first quarter of 2009. The figure includes implied values from futures prices for the second quarter of 2008 through the first quarter of 2009.

S&P/Case-Shiller index for 10 cities was down by 11.4 percent over the same period. Those trends are generally confirmed by a third price index, published by Radar Logic, a real estate and data-analysis firm. Another widely used index, the purchase-only index published by the Office of Federal Housing Enterprise Oversight (OFHEO), did not begin to decline until May 2007. The difference between the movement of that index and the movement of the other indexes may reflect the fact that OFHEO's index excludes homes with nonconforming (for example, subprime) mortgages and thus omits the parts of the market that have seen the greatest difficulties in recent months.[1]

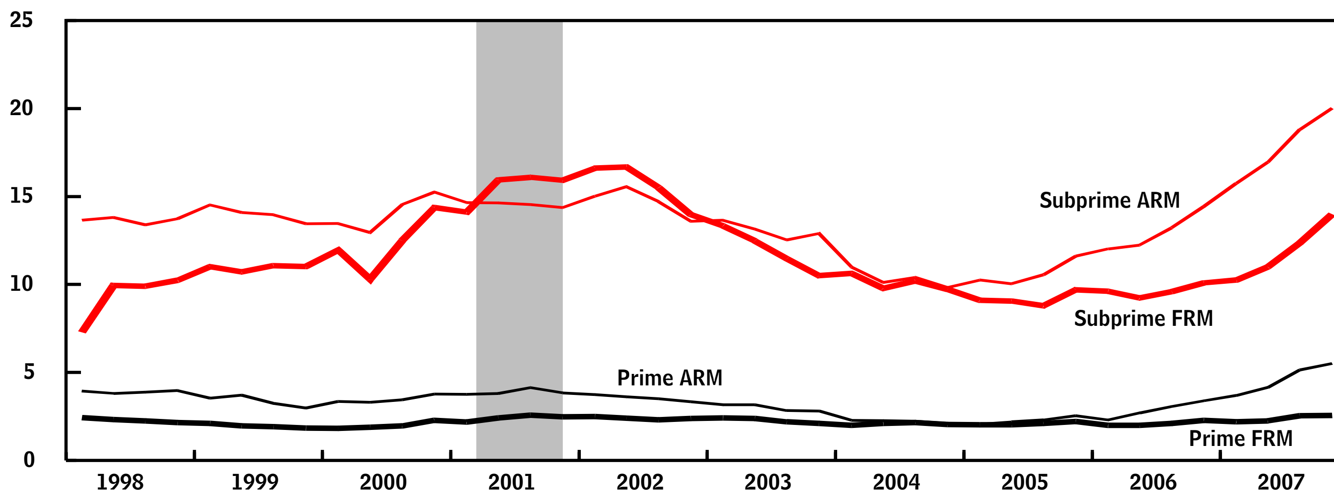
The outlook for house prices is highly uncertain, but prices are likely to continue to fall, on average, at least through the end of 2008. Expectations of such a decline are widespread. Prices implied by futures contracts, for example, indicate that market participants expect large additional drops in house prices. Futures contracts on the S&P/Case-Shiller index for 10 cities project a decline of

1. Measures of house prices differ substantially in their coverage and how they handle changes in quality. OFHEO's index covers all areas of the country and has a relatively sophisticated adjustment for quality—which is a big issue in house prices—but it is restricted to houses with conforming mortgages (those eligible for purchase by Fannie Mae and Freddie Mac, two government-sponsored enterprises). The S&P/Case-Shiller indexes use the same adjustment for quality but cover fewer geographic areas. However, they include all homes in a covered area, whatever the type of mortgage. The Radar Logic composite index covers just 25 metropolitan housing markets and is not intended to represent the national market. It reflects all transactions, including sales of condominiums, and is updated daily. Its only quality adjustment, however, is for the size of the residence.

Figure 2-2.

Mortgage Delinquencies

(Percentage of loans)



Sources: Congressional Budget Office; Mortgage Bankers Association.

Notes: Data are quarterly and are plotted through the fourth quarter of 2007.

ARM = adjustable-rate mortgage; FRM = fixed-rate mortgage.

Subprime loans are made to borrowers with low credit scores or other impairments to their credit histories.

about 13 percent in nominal prices over the coming year and 16 percent by November 2009 (see Figure 2-1).[2]

Another measure, based on Radar Logic's composite index of 25 cities, projects declines of 13 percent over the next year and 21 percent over the next three years. (However, those indexes may not indicate what is expected to happen to house prices nationwide.)

Private forecasters and investment firms also expect significant declines in nominal house prices. Macroeconomic Advisers, for its March 2008 forecast, assumed a 5.6 percent fall in prices from the end of 2007 to mid-2009. Global Insight, another economic consulting firm, projects a 12 percent decline over the same period in its April forecast.

Delinquencies and Foreclosures of Mortgages. National delinquency and foreclosure rates are rising for both prime and subprime loans, particularly for adjustable-rate loans.[3] In the fourth quarter of 2007, 17.3 percent of all subprime loans were delinquent, up from 13.3 percent at the end of 2006. For subprime ARMs, 20 percent were delinquent in the fourth quarter of 2007, up from 14.4 percent in the fourth quarter of 2006. The delinquency rate on prime ARMs has also risen, from 3.4 percent at the end of 2006 to 5.5 percent at the end of last year (see Figure 2-2). In addition, the share of

2. Futures contracts based on that index trade on the Chicago Mercantile Exchange. Trading in those contracts is akin to taking a position on what the value of the index will be in the future, say 12 months ahead. If, after that time, the value of the index is above the futures price the buyer paid, the seller pays the buyer the difference between the index and the futures price. However, if the value of the index is below the futures price, the buyer pays the seller the difference. Such contracts may be useful as a hedge against the real estate market. Futures prices may not be a reliable guide to expectations, though, particularly for longer periods. Futures contracts of this kind do not trade frequently or in large numbers and therefore may not represent a consensus of investors.

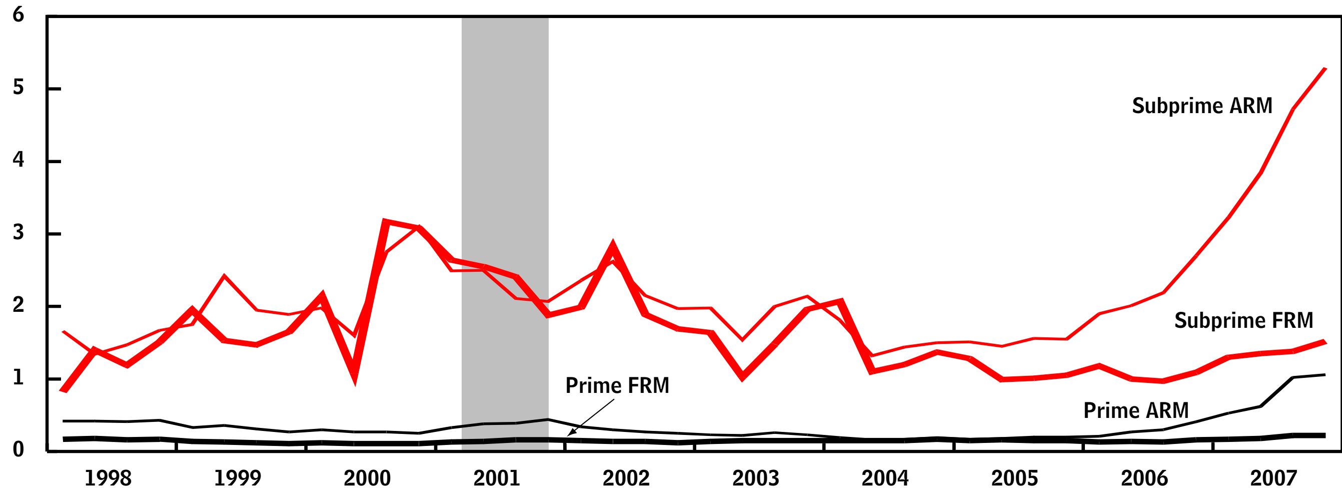
   The S&P/Case-Shiller 10-City Composite Home Price Index tracks changes in the value of residential real estate in 10 metropolitan regions. No futures markets are associated with the S&P/Case-Shiller 20-city or national price indexes.

3. A loan is delinquent when a borrower misses a contractual payment. The numbers cited in the text refer to loans that are at least 30 days overdue. Foreclosure is a legal proceeding to terminate a borrower's interest in a property, instituted by the lender either to gain title or to force a sale to satisfy the unpaid debt secured by the property.

Figure 2-3.

Mortgage Foreclosures Initiated

(Percentage of loans)



Sources: Congressional Budget Office; Mortgage Bankers Association.

Notes: Data are quarterly and are plotted through the fourth quarter of 2007.

ARM = adjustable-rate mortgage; FRM = fixed-rate mortgage.

Subprime loans are made to borrowers with low credit scores or other impairments to their credit histories.

subprime ARMs entering foreclosure more than tripled, increasing from an average of 1.5 percent in 2004 and 2005 to 5.3 percent in the fourth quarter of 2007 (see Figure 2-3). Although the rate of delinquency on fixed-rate subprime loans has also grown, it is still much lower and has risen more slowly than that on subprime ARMs.

Rates of foreclosure are particularly high in areas experiencing economic weakness or large declines in house prices. Of the 10 states with the highest percentage of loans in foreclosure, 5 are among the 10 states with the largest declines in house prices.

Interest Rates on Mortgage Loans. Mortgage interest rates continue to reflect the heightened aversion to risk in financial markets. The interest rate on 30-year conforming mortgages, which can be securitized by the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac, has fallen below 6 percent (see Figure 2-4). Although that rate is about one-half of a percentage point lower than it was in the past two years, the spread between that mortgage rate and the rate on seven-year Treasury notes—a measure of the market's current preference for the safest and most liquid collateral—continued to widen earlier this year.[4] Moreover, the rate on jumbo loans (those that exceed Fannie Mae's and Freddie Mac's loan limits) has moved up sharply since early February and currently is about 2 percentage points higher than the rate on conforming mortgages.

Initial rates for adjustable-rate mortgages, by contrast, dropped sharply earlier this year. In addition, the benchmark interest rate typically used for resetting the interest rate on subprime ARMs—the six-month Libor rate—has fallen significantly in the past few months and is now back down to levels last seen in the beginning of 2005 (see Figure 2-5).[5] That decline reflects the large amount of liquidity added by the Federal Reserve and other central banks in response to the turmoil in financial markets. As a result, the risk that resetting interest rates on subprime ARMs will lead to a substantial number of additional mortgage defaults has fallen.

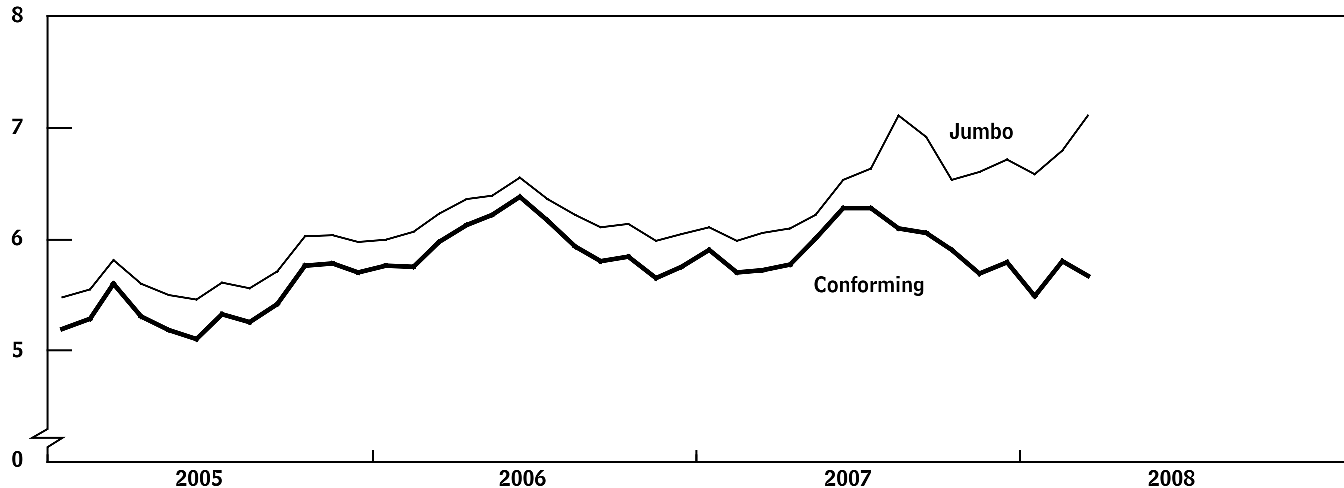
4. On average, mortgages actually last only about seven years because people sell or refinance. Thus, the appropriate comparison is to a seven-year Treasury note rather than to an investment with a longer term to maturity.

5. Libor, the London Interbank Offered Rate, is the rate at which banks lend to each other for short terms.

Figure 2-4.

Rates on 30-Year Mortgages

(Percent)



Sources: Congressional Budget Office; Bankrate.com; Bloomberg.

Notes: Data are monthly and are plotted through March 2008.

Jumbo loans exceed the loan limits of Fannie Mae and Freddie Mac.

Prices of Mortgage-Backed Securities. The very high rates of delinquency on recent subprime mortgage loans surprised investors last year, who pulled back sharply from potential exposure to such lending in their investments during the summer. Lenders have virtually stopped making new subprime loans. Trading of existing subprime MBSs has diminished because of uncertainty about their value, particularly in view of investors' loss of confidence in the securities' credit ratings. Indeed, price declines on those MBSs have been striking, especially for subprime MBSs that were issued more recently and whose mortgages have experienced unusually high rates of defaults.

The values of subprime mortgage securities (MBS tranches) can be inferred from ABX indexes related to those securities.[6] Those indexes are available for MBS tranches with different initial credit ratings.[7] As of late March 2008, the index for subprime MBSs issued in the second half of 2006 and initially rated BBB was 9 cents on the dollar, and the index for those initially rated AAA was 57 cents on the dollar (see Figure 2-6).[8] In both cases, index values a year ago were closer to 100 cents on the dollar. For subprime MBSs issued earlier, in the last half of 2005, prices have not fallen as much. Prices ranged from 17 cents on the dollar for the BBB-rated securities to 88 cents for the AAA-rated securities.

Financial Markets

The broader financial markets have also experienced significant turmoil recently. Lending in some markets remains depressed, as financial institutions continue to struggle to find ways of adequately dealing with losses on their leveraged financing of very risky mortgage loans and

6. ABX.HE indexes are calculated by the Markit Group Limited. ABX index values are based on the up-front premiums for credit default swaps on underlying subprime MBSs. The values of ABX indexes move inversely with the cost of ensuring that the holder of an MBS will receive all principal and interest payments.

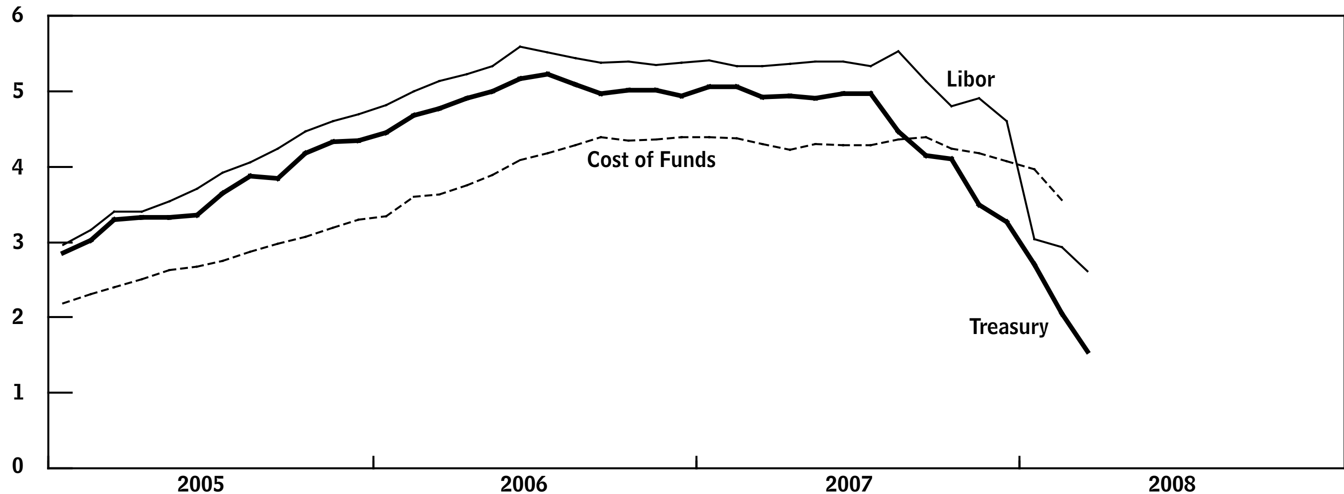
7. Mortgage-backed securities are repackaged in tranches, or securities of different seniority, in payment from the MBSs. An MBS with higher seniority, such as the most senior of the AAA-rated tranches, is entitled to payments before those in tranches with lower seniority, such as a less senior AAA tranche or any lower-rated tranche. In other words, a less senior tranche realizes a loss on an MBS before a more senior tranche.

8. Usually it is the most junior tranche of a given credit rating that is selected for the index. There are no indexes for MBSs based on subprime securities originated in the second half of 2007 because almost no such mortgages were originated.

Figure 2-5.

Popular Adjustable-Rate-Mortgage Indexes

(Percent)



Sources: Congressional Budget Office; Bloomberg.

Notes: The indexes shown are for the one-year constant maturity Treasury bill, the six-month Libor, and the 11th District Federal Home Loan Bank's cost of funds.

Data are monthly. The Libor and Treasury-bill rates are plotted through March 2008; the cost of funds rate is through February 2008.

other risky assets.[9] Consequently, the risk of a systemic crisis in financial markets spurred by the collapse of one or more important financial institutions or markets remains elevated.

Credit Markets. Interest rates on investment-grade corporate bonds have remained relatively steady, but because the yield on the 10-year Treasury note has fallen sharply since last June, the interest rate spread has widened. Investors' tolerance for risk appears to have decreased as yields on below-investment-grade corporate securities have risen, particularly those with the lowest credit ratings (see Figure 2-7). Issuances of new corporate debt have fallen noticeably, as have those for asset-backed corporate paper. The interbank market for short-term loans also continues to experience problems; despite efforts by the Federal Reserve and some foreign central banks to shore up this market, the spread between the three-month Libor rate and the expected federal funds rate has moved upward recently (see Figure 2-8).[10]

The Potential for Mortgage Losses. The ultimate volume of defaulted mortgages, which will affect both homeowners and investors, depends in part on the overall performance of the economy and on the size of the remaining gap between house prices and sustainable levels. A severe recession would result in larger mortgage losses than a mild recession or a short period of slow growth because a substantial recession would further depress house prices and homeowners' ability to finance their mortgages. Similarly, to the extent that house prices have farther to fall, losses will be larger than if prices have already declined to close to sustainable levels. The wide range of estimates of losses quoted in the media is due in part to the great uncertainty about the outlook for the overall economy and the ultimate level of house prices.

With sluggish but continued economic growth or a mild recession, as well as further declines of roughly 10 percent

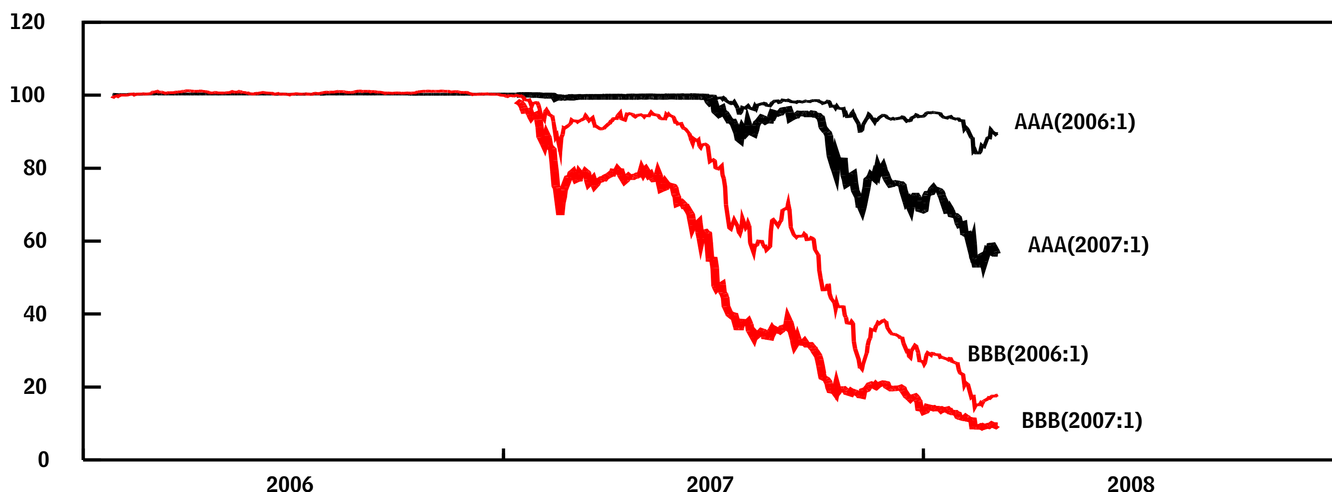
9. See Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2008 to 2018* (January 2008), Chapter 2, for a fuller discussion of recent problems in financial markets.

10. The spread between those two rates is an indicator of credit risk. The three-month Libor provides funding among participants who may not have access to Federal Reserve liquidity facilities. Federal funds, in contrast, are overnight and shorter-term funding between banks with access to the Federal Reserve discount window. They typically have higher collateral standards than for Libor.

Figure 2-6.

Inferred Prices of Subprime Mortgage Tranches

(Cents, 100 is par)



Source: Congressional Budget Office based on data from the Markit Group.

Notes: Prices are inferred from the Markit ABX.HE index for the BBB (next to the lowest investment grade) and AAA (highest investment grade) tranches of mortgage-backed securities. The 2006:1 vintage reflects mortgages available for securitization from July 19, 2005, to January 5, 2006. The 2007:1 vintage reflects mortgages available for securitization from July 19, 2006, to January 5, 2007. Data are daily and are plotted through March 28, 2008.

Subprime loans are made to borrowers with low credit scores or other impairments to their credit histories.

to 15 percent in average national house prices by mid-2009, the value of all mortgages that will enter foreclosure without further policy action could be about $500 billion to $600 billion over the next two years.[11] The ultimate losses on those mortgages will be smaller, possibly in the range of $100 billion to $250 billion, because some of the houses will not end up being repossessed. Also, considerable value will probably be recovered from new agreements worked out between borrowers and lenders and from foreclosure sales, for example. However, the recovery rate will most likely be lower than it has been in the past, particularly in some areas of the country, and sales of foreclosed properties may take several years to materialize.

Financial institutions worldwide have already recognized about $230 billion in losses from the broader credit problem that began last year in subprime loans.[12] The International Monetary Fund recently estimated that total losses to all financial institutions around the world would approach $1 trillion, with more than half of that coming from residential mortgages and the rest coming from commercial mortgages, credit card loans, and automobile loans, among others. That amount would represent a notable loss of capital among the world's financial institutions, enough to significantly reduce the availability of credit.

Risks to the Financial System. The existence of substantial unrealized losses and uncertainty about which institutions are exposed to such losses may further impede the flow of credit in the United States and abroad. The possibility of large undisclosed losses has driven investors away

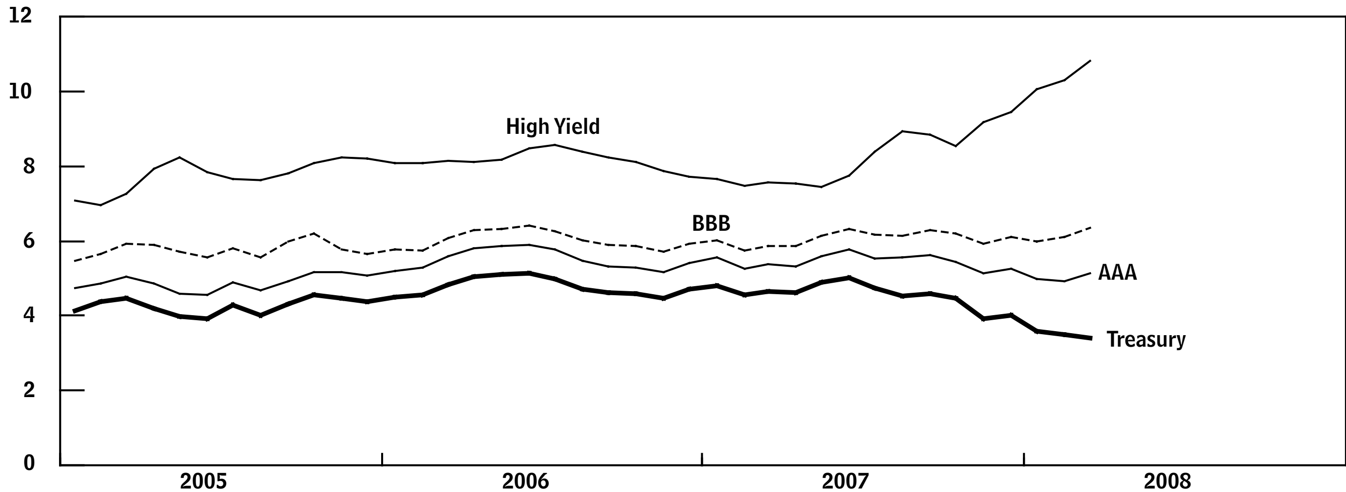
11. The $500 billion figure is calculated by CBO from estimates in David Greenlaw and others, "Leveraged Losses: Lessons from the Mortgage Market Meltdown" (U.S. Monetary Policy Forum Conference Draft, February 2008). That figure represents 4.6 percent of the value of outstanding mortgages. The $600 billion figure was calculated on the basis of the statement of Mark Zandi, Moody's Economy.com, "The Looming Foreclosure Crisis: How to Help Families Save Their Homes," before the Senate Committee on the Judiciary (December 5, 2007), in which the author estimated 2.8 million mortgages, or over 5 percent, would enter foreclosure through 2009.

12. Bloomberg LLC, Asset write-downs and credit losses table, April 1, 2008.

Figure 2-7.

Yields on 10-Year Bonds

(Percent)



Sources: Congressional Budget Office; Bloomberg.

Note: Data are monthly and are plotted through March 2008.

from both the long- and short-term obligations of financial institutions. For the same reasons, financial institutions have become increasingly wary of lending to one another. In addition, institutions with assets of uncertain value on their balance sheets are likely to find it difficult to raise capital until the true value of those assets has been recognized because new investors will not want to share possible losses with current shareholders.

So far, problems in financial markets have not become severe enough to create a complete breakdown in the credit system. Such a breakdown could occur if lenders felt that they could not determine the risk they would be taking by lending to other entities: In that case, lending would stop, at least for a time. In such a scenario, even creditworthy borrowers could find credit difficult to obtain. Markets are still able to distinguish between those institutions that are creditworthy and those that are less so, as evidenced by sharp differences in the movement of stock prices of different banks. However, the near collapse of another major financial institution would further undermine the market's confidence and could severely cripple the financial system. That possibility is why the Federal Reserve has taken extraordinary actions to prevent such a failure.

Government Actions to Support Economic Activity and Stabilize Financial Markets

Both monetary and fiscal policymakers have taken significant steps to contain the economic damage caused by the turmoil in financial markets, but it remains unclear whether even those actions will prove sufficient to avoid a major recession. Fiscal policymakers have adopted an economic stimulus package whose effects should begin to manifest themselves late this spring. In addition, and perhaps more important, the Federal Reserve has taken extraordinary measures in addition to rapidly reducing the federal funds rate. In essence, the Federal Reserve has used its unmatched credit rating and large lending capacity to serve as an intermediary among financial institutions.

Fiscal Stimulus

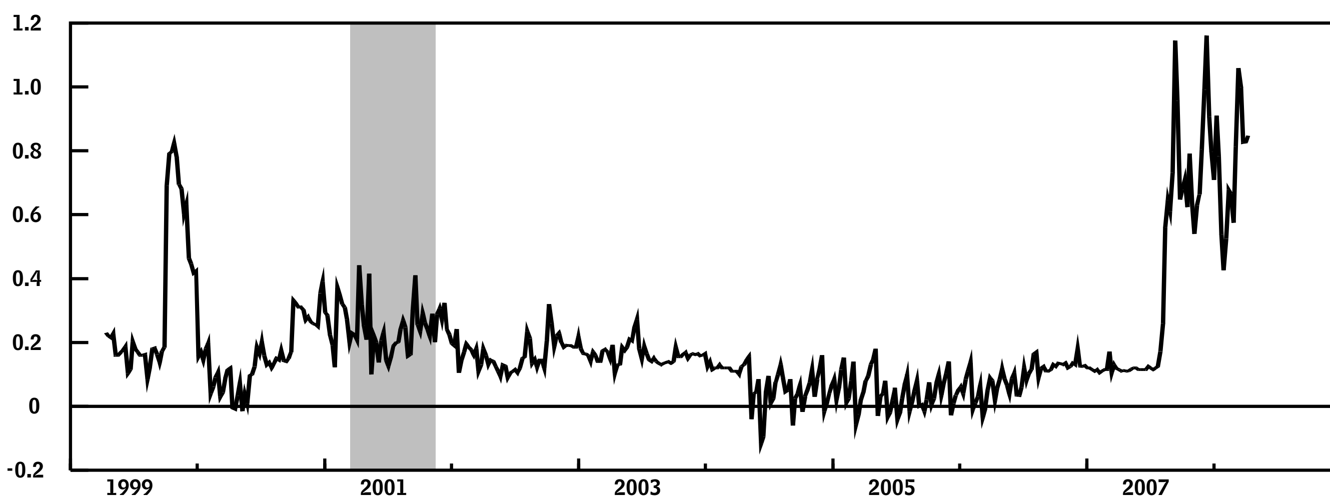
In February, lawmakers enacted the Economic Stimulus Act of 2008.[13] That law provides tax rebates of up to $600 to individual filers, up to $1,200 for couples, and $300 per child. In addition, the law allows businesses to take additional deductions for accelerated depreciation and immediate expensing of capital purchases. That

13. Public Law 110-185; 122 Stat. 613.

Figure 2-8.

Spread Between the Three-Month Libor Rate and the Expected Federal Funds Rate

(Percentage points)



Sources: Congressional Budget Office; Bloomberg.

Note: Data are weekly and are plotted through April 4, 2008. The expected federal funds rate is based on the futures price two months ahead.

legislation will add an estimated $152 billion to the federal deficit in 2008 and another $16 billion in 2009. Overall, the Congressional Budget Office estimates that the law's provisions will add about 0.7 percentage points to the growth of real GDP in 2008.[14]

Actions by the Federal Reserve

The Federal Reserve instituted several actions in March to quell a crisis of confidence in the markets. The most extraordinary of those were creating a Primary Dealer Credit Facility and facilitating the acquisition of Bear Stearns by J.P. Morgan Chase.

The Primary Dealer Credit Facility allows all primary dealers to borrow funds overnight directly from the Federal Reserve.[15] Previously, that privilege was extended only to deposit-taking commercial banks. That step implies that the Federal Reserve is taking responsibility for ensuring liquidity not just to commercial banks, but also to a much broader swath of the financial market. In less unsettled times, ensuring that commercial banks have enough liquidity would be sufficient because those banks could then lend to the rest of the market. The need to provide liquidity directly to primary dealers is an indication of the breakdown of the usual flow of credit.

In another such indication, during the week ending Friday, March 14, other financial institutions lost confidence in Bear Stearns, the nation's fifth-largest investment bank, creating a potential liquidity crisis. Over that weekend, the Federal Reserve was involved in negotiations for J.P. Morgan's acquisition of Bear Stearns. The Federal Reserve lent $29 billion to J.P. Morgan against a portfolio of $30 billion of Bear Stearns' less liquid assets. In the event of losses on those assets, J.P. Morgan would be responsible for the first $1 billion in losses, and the Federal Reserve Bank of New York—and ultimately taxpayers—would absorb any remaining losses. (Taxpayers would be involved because any such losses would diminish the amount of the Federal Reserve's surplus that is turned over to the Treasury and recorded as federal revenues.)

The Federal Reserve has also continued to use its conventional tools. At the March 18 Federal Open Market Committee meeting, the federal funds target rate was reduced by 75 basis points, to 2.25 percent. The spread between the discount rate and the federal funds target

14. The law's provisions will subtract about 0.4 percentage points from growth of real GDP in 2009, CBO estimates, as most of the stimulus is removed.

15. Primary dealers are banks or securities broker-dealers who may trade directly with the Federal Reserve System.

rate was reduced to 25 basis points.[16] In its continuing effort to reduce strains in financial markets, the central bank has also enhanced its mechanisms for lending funds to financial institutions against illiquid collateral (investments that cannot be readily converted into cash). The Federal Reserve enlarged the amount of funds available to be lent under the twice-monthly Term Auction Facility from $30 billion to $50 billion. It also announced that it would lend up to an additional $100 billion to primary dealers in the form of 28-day repurchase agreements—another step to provide liquidity to that market.

Following those actions by the Federal Reserve and other central banks, short-term interest rates have fallen, but the perceived riskiness of the interbank loan market has not changed greatly. The spread between the cost of three-month Libor funding and the expected federal funds rate over the same period did narrow, but only modestly, and that spread remains well above typical levels.

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16. The discount rate is the rate paid by banks borrowing from the Federal Reserve. The Federal Reserve sets a target rate for the federal funds, the rate banks charge each other for overnight loans. The Board of Governors of the Federal Reserve System can cut discount rates only when it has a request to do so from a Federal Reserve Bank. By March 20, all banks had requested cuts to a new spread of 25 basis points over the target for the federal funds rate. (A basis point is one-hundredth of a percentage point.)

CHAPTER

3

Policy Options

Policymakers have already taken steps to help the housing and mortgage markets cope with the effects of the end of the housing boom, and additional actions are under consideration. Some of those actions involve new ways of promoting the modification of troubled mortgages, while others involve having the federal government directly provide or guarantee credit to mortgage markets. Such actions would help avoid foreclosures and ease the downward pressure on house prices, helping the market adjust in a more orderly manner.[1] Many policy options, however, would also significantly shift the risk involved in mortgage losses from current lenders and investors to taxpayers. (Policymakers are also considering new supervisory guidelines and regulations for financial institutions to address weaknesses that contributed to the problems in financial markets. Those issues are not addressed in this paper.)

Considerations for Policymakers

Several possible short-term goals could motivate policy interventions:

- Assist borrowers who unwittingly overcommitted their income to mortgage payments. Many of those borrowers may have lacked sufficient financial sophistication to understand the nature of the risks they were undertaking. A related objective could be to lessen the social costs of having large numbers of people move out of their houses and into others.

- Avoid excessive declines in asset prices—house prices as well as prices of mortgage-related assets. That task may be very difficult to achieve because of the near impossibility of determining fair values in current markets. House prices, in particular, are expected to continue to fall for at least a year because of the overhang of unoccupied units, and such an adjustment is necessary to allow the housing market to function again. However, there is a risk that the price adjustment may get out of hand in some areas, as forced or panic selling causes prices to decline too much.

- Reduce the costs of loan modification, refinancing, or foreclosure.

- Stimulate the economy as a whole in order to avoid or mitigate a recession. The housing market's troubles affect the rest of the economy by reducing activity in the housing market itself, by decreasing homeowners' wealth (which gives them less collateral for borrowing and tends to constrain their spending), and by contributing to problems in financial markets.

- Support credit markets to mitigate turbulence in financial markets. Financial markets play a crucial role in a modern economy, and intervening to keep them working smoothly may help mitigate broader costs to the economy.

- Facilitate the cleaning up of balance sheets. The availability of credit to financial institutions, and hence to businesses and households that borrow from those institutions, could be limited if assets on their balance sheets are difficult to value. Moreover, institutions will have greater difficulty raising capital because potential investors will not know what they are buying and will not wish to share losses on current assets with existing shareholders.

Those goals are not always mutually compatible, and different policy interventions may fulfill some objectives but not others. For instance, supporting financial institutions

1. Six of the largest mortgage servicers, accounting for 50 percent of the mortgage-servicing market, announced on February 12 a plan called Project Lifeline, which specifies the conditions under which a mortgage borrower who is 90 days or more delinquent may be allowed an extra 30 days to work out a loan modification.

in difficulty to prevent broader problems in financial markets may conflict with the goal of recognizing losses as quickly as possible to clean up balance sheets. Keeping homeowners in their houses may delay the necessary revaluation of the housing stock.

Whatever policymakers' goals, a key consideration is to avoid policies that distort incentives excessively. For example, homeowners who otherwise are capable of making their payments might take on additional debt or miss mortgage payments in order to create an impression of financial difficulty if doing so qualified them for mortgage assistance. Pressuring lenders to modify existing contracts may appear to benefit current borrowers, but such action could also ultimately raise interest rates on future credit transactions and thereby harm future borrowers.

One contribution that federal policymakers can make is to encourage a standard package for restructuring mortgages, including such things as how to determine what monthly payment the borrower can manage and how to distribute losses among first- and second-lien holders. Such a standard package, if it is sufficiently realistic, could be useful even if it is voluntary and even if it does not provide any federal monetary support. In that case, it could reduce the number of decisions that need to be made in a restructuring, speeding up the process. In addition, having a standard for restructuring could help gain assent from the various stakeholders—including second-lien holders and holders of low-ranked MBS tranches. Having rules for the restructuring is essential if there is to be a federal monetary commitment.

Loan Restructuring

A number of proposals aim to facilitate the restructuring of existing mortgages to help homeowners avoid foreclosure and stay in their current residences. Loan restructurings fall into two broad but not mutually exclusive categories: reducing the principal of a mortgage and changing the terms of a mortgage. A goal of many of the proposals is to make loan repayment more attractive to borrowers while providing lenders with a greater return than that realized from foreclosure (see Box 3-1).[2]

Impediments to Voluntary Loan Restructuring

There are several legal and economic reasons that lenders may be reluctant to use loan restructurings to resolve mortgage repayment problems. Legal impediments arise in cases in which borrowers have a second mortgage or have a mortgage that has been securitized (that is, sold as a part of a mortgage-backed security). Economic impediments include imperfect information about borrowers and the perverse incentives that can be created for some borrowers by restructuring the loans of other borrowers.

Legal Impediments. One impediment to restructuring mortgages occurs when the borrower has a second mortgage. During the housing boom, a significant percentage of borrowers took on second mortgages. In February 2008, about 30 percent of subprime and alt-A loans had second mortgages.[3] The holders of the first mortgage and the second mortgage often have substantially different interests and bargaining powers. Given the decline in house prices, the market value of many second mortgages has often disappeared, and they would be worthless under foreclosure. Second-lien holders in such situations would seek to avoid foreclosure or a short sale because either would eliminate the potential for their loans to regain value if prices recovered in the future.[4] (In effect, second-lien holders have a call option on the value of the house—if the value goes down, they are not subject to further losses, but they will gain if prices recover.) To avoid the costly foreclosure process, the first-lien holder may have an interest in reducing the payment obligation of the borrower or permitting a short sale. Because the priority of liens generally follows the order in which they

2. Hope Now, an alliance of various participants in mortgage markets, reports that since July 2007, it has helped more than 1 million borrowers, about 640,000 of whom have subprime credit ratings. Loans were modified for about 25 percent of the borrowers assisted by Hope Now.

3. In some cases, borrowers took out two mortgages: a first mortgage (or lien) at 80 percent of the value of the home and a second mortgage for as much as the remaining 20 percent of the home's value. The second mortgage financed some or all of the down-payment and allowed borrowers to avoid paying mortgage insurance on the first lien.

4. A short sale is a sale at a price that is lower than the total value of the mortgages on the house.

Box 3-1.

The Costs of Foreclosure

With house prices falling in most areas of the country, some mortgage lenders are likely to suffer substantial losses from defaults and foreclosures. Estimates of the losses when a house is repossessed range from 30 percent to 60 percent of the value of the loan.[1] About half of those losses occur prior to the foreclosure process—that is, from the decline in the price of the house, missed interest payments, and unpaid property taxes.[2] The other half of the losses reflect the costs of preparing the house for sale (which includes lost interest payments during the time it is on the market); the expense of selling it; and, if the house is foreclosed, associated legal expenses. Those latter costs are the primary costs of foreclosure itself. (Any missed loan payments and any decline in the price of the house before foreclosure are not considered costs of foreclosure.) Lenders typically are unable to recover such losses. The losses will be realized regardless of whether the homeowner leaves voluntarily or through foreclosure.

In addition to those costs, in foreclosure the lender loses the opportunity to share in the potential appreciation of the house. Although it is difficult to value that opportunity, a reasonable expectation might be 3 percent of the value of the house.[3] That calculation implies that 50 percent to 55 percent of the loss to lenders might be avoided under alternatives to foreclosure—in other words, about 20 percent to 25 percent of the outstanding balance of the mortgage.

1. That range comes from Charles Capone, *Providing Alternatives to Mortgage Foreclosure: A Report to Congress* (Department of Housing and Urban Development, March 1996). An estimate in March 2008 by consultant organization Clayton Holdings set the average loss from delinquencies on first-lien subprime and alt-A loans at about 40 percent. A third estimate, which used a 50 percent loss for all mortgages, comes from David Greenlaw and others, "Leverage Losses: Lessons from the Mortgage Market Meltdown" (U.S. Monetary Policy Forum Conference Draft, February 2008).
2. Amy Crew Cutts and William Merrill, "Interventions in Mortgage Default: Policies and Practices to Prevent Home Loss and Lower Costs" (Freddie Mac Working Paper, March 2008).
3. The 3 percent estimate is based on the price of an at-the-money call option that expires after five years on an asset with an expected price decline of 1.5 percent per year and a volatility of 6 percent.

are recorded, for a refinancing lender to have the senior lien, a second lien must also be repaid or resubordinated.[5] The second-lien holders, however, may withhold their consent to resubordination (if required) or threaten foreclosure to bargain with both the homeowner and the first-lien holder. In many cases, the ability to help borrowers having difficulty may first require coordination and agreement between the holders of the first and second mortgages.[6]

A second impediment concerns securitization. In some cases, complex interests inherent in securitization could impede the ability of a loan servicer to modify loans that belong to a securitized pool. To receive favorable tax and accounting treatment, the special-purpose entities that issue MBSs must avoid becoming active managers in a

5. Priority among lien holders is determined by state property law. A minority (but growing) view among the states is that a previously subordinate lien will be resubordinated as a matter of law unless the new loan modifies the obligations of the borrower in a way that is materially prejudicial to the holders of the junior liens. Examples of modifications that may be prejudicial include increasing the principal of the first lien or increasing the interest rate. See Restatement (Third) of Property: Mortgages §7.6 (1997); *Bank of America v. Prestance Corp.*, 160 P.3d 17, 21 (Wash. 2007); and Grant S. Nelson and Dale A. Whitman, "Adopting Restatement Mortgage Subrogation Principles: Saving Billions of Dollars for Refinancing Homeowners," *Brigham Young University Law Review* (2006), p. 305. The majority view is that a previously subordinate lien will not be resubordinated if the refinancing lender has actual knowledge of the other liens. The remaining states would withhold resubordination if the refinancing lender has even constructive knowledge of the other liens or if the refinancing lender is a volunteer to the transaction.
6. The transaction costs associated with obtaining such agreement are avoided in states where second liens are automatically resubordinate.

technical sense defined by the tax laws. Many mitigation efforts are permissible under current law because the Internal Revenue Service (IRS) and the Chief Accountant of the Securities and Exchange Commission (SEC) determined that as long as servicers follow a certain set of industry guidelines (the ASF Framework), their actions would not jeopardize the tax and accounting status of the special-purpose entities.[7] Proposals for mitigation efforts outside the ASF Framework, however, must address how to maintain the current tax and accounting treatment.

In addition, contractual terms may sometimes restrict servicers' actions.[8] For example, pooling and servicing agreements may prevent the exchange of an existing loan for a new loan, such as one that allows participation in equity appreciation in exchange for modification of existing terms. Most recent pooling and servicing agreements give servicers authority to modify securitized loans if that action is in the interest of maximizing the value of the loan pool, but some agreements may be more restrictive. Pooling and servicing agreements can be amended with the consent of investors. However, investors in different tranches of mortgage-backed securities share losses unequally, which may limit servicers' ability to obtain permission to engage in additional mitigation actions.

7. The ASF Framework is the American Securitization Forum's "Statement of Principles, Recommendations, and Guidelines for a Streamlined Foreclosure and Loss Avoidance Framework for Securitized Subprime Adjustable Rate Mortgage Loans." See Rev. Proc. 2007-72, 2007-52 I.R.B. 1257; SEC Office of Chief Accountant letter, January 8, 2008, available at www.sec.gov/info/accountants/staffletters/hanish010808.pdf. The ASF Framework applies to first-lien subprime residential adjustable-rate mortgage loans that have an initial fixed-rate period of 36 months or less (including "2/28s" and "3/27s"); were originated between January 1, 2005, and July 31, 2007; are included in securitized pools; and have an initial interest rate that resets between January 1, 2008, and July 31, 2010.

   The framework provides a fast-track procedure for modifying loans and details the criteria for determining which loans are eligible for the procedure. In a fast-track modification, the interest rate on the affected loan will be kept at the existing rate, generally for five years after the date on which the rate would have reset had the modification not occurred.

8. Most of the pooling and servicing agreements were executed before the IRS and the Chief Accountant of the Securities and Exchange Commission reached their decisions regarding the ASF Framework. Consequently, some of those agreements may contain provisions that are more restrictive than what could now be permitted under the framework.

The Congress is considering various proposals to protect servicers of securitized loans who agree to restructure mortgages (through modifications, partial discharge of principal, or short sales)—if the servicers believe that such restructuring will increase the value received on the loans over that which would be received through foreclosure.[9] Proponents argue that by providing servicers with legal certainty, the proposals would increase the number of mortgages that servicers chose to restructure. Opponents argue that the proposals are unnecessary because servicers already are protected if they compare all of the loss-mitigation options and choose the one that maximizes the return to the loan pool.

Economic Impediments. Lenders may be unwilling to adjust a loan's balance, despite the potential benefits, for two reasons. First, although some borrowers walk away from their homes when the home's value drops below the mortgage balance, more do not.[10] There is no workable way to distinguish between those types of borrowers ahead of time, and the cost of reworking every distressed loan would be far greater than dealing with the foreclosure expenses of only those borrowers who walked away. Moreover, offering a reduction of principal to "distressed" homeowners might encourage people who were otherwise capable of making payments to attempt to qualify for the benefit by taking on additional debt or missing several mortgage payments to suggest financial difficulties. Second, lenders would have no confidence that a borrower whose mortgage was rewritten would not choose to walk away if house prices fell even lower. Although Federal Reserve Chairman Ben Bernanke has urged loan servicers to consider reducing the principal on outstanding loans, voluntary reductions are likely to be rare.

9. See H.R. 5579, the Emergency Mortgage Loan Modification Act of 2008, and the amendments intended to be proposed by Senator Specter (No. 4408) and by Senator Reid for Senator Clinton (No. 4492) to H.R. 3221, the New Direction for Energy Independence, National Security, and Consumer Protection Act.

10. Until recently, borrowers had faced taxes based on the loss forced upon the mortgage holder when the lender took back ownership of the home. That served as a disincentive to walk away. However, the Congress temporarily excluded from taxation the gains on certain mortgage debt forgiven on principal residences and extended the deduction for premiums paid on private mortgage insurance in the Mortgage Forgiveness Debt Relief Act of 2007 (Public Law 110-142; 121 Stat. 1803).

Proposals to Facilitate Changing Mortgage Terms

A number of plans would keep a borrower's mortgage principal unchanged but lower the monthly payment for a possibly limited time. Under those plans, lenders would voluntarily negotiate such payment forbearance on a case-by-case basis. Most proposals have focused on preventing an increase in the interest rate on adjustable-rate subprime loans that are scheduled for their first interest rate reset in the next two years. (The decline in short-term interest rates engineered by the Federal Reserve has sharply reduced the size of any increase in initial resets and may even lower rates for some ARM borrowers this year.) Some proposals would lower payments both for adjustable-rate loans even when their rates have not changed and for fixed-rate loans. Lenders would find such proposals more attractive if borrowers' missed payments were added to their principal. If lenders bear the cost of the lower payments, such proposals are in many ways similar to reducing the loan principal.

Rate Freezes on Adjustable-Rate Loans. The Administration reached a voluntary agreement with some lenders in December 2007 to freeze interest rates for generally five years on certain types of subprime loans.[11] Eligibility is limited to subprime borrowers who face an initial adjustment to their mortgage interest rate between January 1, 2008, and July 31, 2010, and meet the eligibility criteria of the ASF Framework (see footnote 7). Although lenders would bear losses from the lower-than-agreed-upon interest rate, those losses might not be recognized immediately (unlike a principal reduction), depending on the accounting treatment. With the reduction in short-term interest rates, this freeze may have little impact in the coming year but may be more important when economic activity recovers and those rates rise.[12]

Other proponents have offered broader freezes. Some proposals would freeze rates on all subprime loans for up to seven years regardless of borrowers' equity or payment history. Others would go beyond subprime loans and would freeze rates for all adjustable-rate loans. Although broader plans would help more needy borrowers, they also would offer a windfall to borrowers who were not in difficulty at the expense of the holders of those mortgages. Convincing lenders to freeze scheduled adjustments of interest rates for a wider range of borrowers without adequate compensation would probably require some compulsion or financial inducements from the federal government. To the extent that lenders perceived a broad-scale freeze as a significant change in contractual terms (which is more likely under a compulsory change), the result would probably be higher interest rates on mortgages and other credit transactions in the future. In particular, lenders would require some compensation to protect against the risk that policymakers would again freeze interest rates or intervene in some other way.

If the goal of interest rate freezes is to help borrowers remain in their homes, the success would depend in part on their net equity in the homes as well as other factors, such as the borrowers' ties to their homes and costs of moving. In the current environment of lower short-term interest rates, borrowers' equity in their homes may be a more important determinant of the likelihood of foreclosures and walking away from homes with burdensome monthly payments.[13] As long as the market value of the house exceeds the mortgage balance, a borrower has an ability and an incentive to sell or refinance the home rather than walk away, even when payments are perceived to be onerous.

Other Ways to Lower Mortgage Payments. Some proposals would mandate that lenders allow borrowers to lower their payments in exchange for a greater stake in the equity of the home or an increase in the mortgage balance. That is, the restructuring would substitute a shared appreciation loan or a negative amortization loan for the current loan. A shared appreciation loan entitles lenders

11. That agreement was arranged by the Treasury Department and the Department of Housing and Urban Development, with lenders, servicers, mortgage counselors, and investors.

12. In "The Potential Effect of Rate Freezes on S&P-Rated U.S. First-Lien Subprime RMBS" (December 14, 2007), Standard & Poor's estimated that about 20 percent of the 1.2 million subprime adjustable-rate first mortgages would be eligible for fast-track modification. In March, it was reported that the Clayton Group expected about 50,000 of those loans eventually to be modified under terms of the voluntary agreement.

    In "The Mixed Impact of Falling Rates on U.S. Alt-A and Subprime Borrowers," Standard & Poor's (March 26, 2008), the authors found that because of the sharp drop in the Libor, subprime borrowers facing an interest rate reset will on average pay a rate just 1 percentage point higher than their initial "teaser" rate. They also found that the lower Libor had "virtually eliminated Alt-A payment shock."

13. Kristopher Gerardi, Adam Shapiro, and Paul Willen, "Subprime Outcomes: Risky Mortgages, Homeownership Experiences, and Foreclosures" (Federal Reserve Bank of Boston Working Paper, December 2007).

to receive a share of any increase in the value of a house in exchange for giving the borrower a below-market interest rate (thus lowering the monthly payment).[14] Borrowers who do not have much initial equity in their homes are better off with the lower payments when house prices decline. Negative amortization or deferred-interest loans offer lower payments and capitalize the shortfall into a larger principal balance. Borrowers have the option to make a minimum payment, one that is less than the original interest due. The amount that the payment falls short of the interest owed is added to the principal. Negative amortization loans might make sense for borrowers expecting their income to increase in the future, but such loans would merely defer problems for borrowers whose loan amounts exceeded what they could afford in the longer term. Some proposals to modify bankruptcy law also would allow changing mortgage terms.

Proposals to Facilitate the Reduction of Mortgage Balances

Proposals to reduce mortgage balances aim to help people stay in their homes, which may also help stabilize the current housing market. Those proposals provide incentives to dissuade homeowners whose loan balance is greater than the current market value of their homes from walking away from their mortgages when they can afford to pay them.[15] Studies have shown that the greater the shortfall between the value of a house and the amount of a borrower's mortgage, the greater the likelihood that the borrower will default on his or her mortgage.[16] Under certain conditions, lenders might prefer to voluntarily rewrite a mortgage for the current value of a home rather than have a borrower walk away, especially in a declining housing market. Rewriting the principal balance of the loan avoids a costly foreclosure in a depressed market and gives the borrower an incentive to continue repaying the loan.

Determining the fair value of a house, and hence the appropriate write-down of the mortgage principal, may be difficult in the current circumstances, however. The national housing market is not likely to stabilize for some time, and house prices will probably continue to fall. That process of moving to stability is not likely to proceed evenly—some regions experienced larger price increases and building expansions than others, and thus they may take longer to adjust. In some neighborhoods, home prices may even dip below levels needed to stabilize the market when there are a large number of foreclosures or panic sales.

Some proposals involve changing federal bankruptcy law to allow bankruptcy judges to restructure certain mortgages on principal residences under Chapter 13, by limiting a mortgage to the current value of a home, for instance, or by changing the terms of a loan. Under current law, Chapter 13 halts foreclosure proceedings by lenders, giving homeowners an opportunity to restructure their financial situation. While Chapter 13 gives courts leeway to adjust many financial obligations, it currently does not generally allow the terms of a mortgage on a principal residence to be modified.[17] Changing that provision of Chapter 13 would allow bankruptcy courts to treat mortgages on a primary residence in the same way as secured debts on other items, such as motor vehicles, vacation homes, investment properties, and personal businesses. (In practice, bankruptcy judges seldom restructure mortgages on vacation or investment properties.)

Allowing a bankruptcy court to modify the amount or terms of mortgages changes incentives for both borrowers

14. Proposals for shared-appreciation loans must ensure that the obligations would be legal, valid, and binding and receive the intended priority in foreclosure and bankruptcy proceedings.

15. Borrowers would face some consequences by defaulting: a lower credit rating and, in some states, an attempt by lenders to gain title to some of their other assets (although recovery of that type has been rare so far).

16. Gerardi, Shapiro, and Willen, "Subprime Outcomes." Borrowers have what essentially amounts to a put option—if the value of the house falls below the amount owed, they may be better off abandoning the house. See, for example, Ronel Elul, "Residential Mortgage Default," *Business Review* (Federal Reserve Bank of Philadelphia, 2006); and Michael LaCour-Little, "Equity Dilution: An Alternative Perspective on Mortgage Default," *Real Estate Economics* (September 2004).

17. 11 U.S.C. §1322(b)(2). Furthermore, the Supreme Court held that even when the value of the debt exceeds the value of the property—a partially secured debt—courts may not modify that debt. See *Nobleman v. Am. Savings Bank*, 508 U.S. 324 (1993). Conversely, when a second (or third) mortgage is wholly unsecured because the value of the property is insufficient to satisfy the first mortgage, such subordinated debt may be discharged; *Tanner v. FirstPlus Fin. Inc.* (*In re Tanner*), 217 F. 3d 1357 (11th Cir. 2000) announced what has become the dominant view among the circuit courts of appeals. Hence, the claims of partially secured creditors are protected by bankruptcy law, but the claims of unsecured creditors are not.

and lenders. It gives borrowers an incentive to file for bankruptcy as a way to lower their mortgage payments and avert foreclosure. Consequently, lenders would have a greater incentive to restructure loans voluntarily. Lenders would also have a greater incentive to be more prudent in making loans, which could help avoid future excesses in the mortgage markets. In doing so, lenders might raise mortgage rates, particularly for high-risk borrowers, to offset any expected greater losses from loan modifications in bankruptcy. However, there are divergent views on how much mortgage interest rates would rise.[18] The increase may be limited in part because lenders might also change other lending terms to reduce their exposure to losses. Changing the bankruptcy law could also add to the caseload of the bankruptcy court system.[19]

Federal Assistance to Participants in the Mortgage Market

Although private participants in mortgage and financial markets will probably try to address the problems in those markets on their own, some plans would have the government (that is, taxpayers) contribute resources to encourage certain types of outcomes. Indeed, the government has already begun to do so, through initiatives involving the Federal Reserve and agencies involved in housing. Proposals for increasing that intervention revolve around extending federal credit or insurance to new and existing borrowers or mortgage lenders. The existing regulatory framework permits some expansion of federal housing and banking agencies' activity without Congressional action. Alternatively, a new agency could be created for the purpose, as it was during the Depression and in the thrift crisis of the 1980s. Finally, some proposals would rely on state and local governments.

If policymakers conclude that some commitment of resources is appropriate, they also will have to determine who should benefit from such resources. Acquiring loans in order to refinance them would directly assist borrowers and could help them avert foreclosure, thus limiting the likelihood of a downward spiral in house prices. Purchases or guarantees that were targeted to relieve lenders or mortgage pools of the risk from the most troubled loans would provide investors with more confidence in mortgage-backed securities and financial intermediaries. Providing credit to lenders without intervening in mortgage arrangements would help them keep their doors open and could be used as an incentive for lenders to work out a solution for their at-risk borrowers.

All such proposals, however, have downsides (beyond their budgetary costs). In the short term, extending credit to borrowers or lenders in a precarious financial position might encourage borrowers who were able to pay their debts to stop paying them in order to qualify for federal assistance. In the long run, some observers are concerned that expanding the federal role in mortgage markets risks undermining incentives for lenders and borrowers to make prudent decisions. If the federal government is expected to step in when economic times are bad, then lenders and borrowers do not need to consider the possibility of bad times when making decisions. The inability of current risk models to anticipate such bad times contributed to the present economic situation. Narrowly targeting federal interventions and ensuring that borrowers and lenders bear a substantial share of the costs could minimize the distortion of incentives to consider extreme risks.

It is also important to recognize that although those types of policy interventions may attenuate pricing pressures and allow a more orderly correction in the housing market, no feasible policy intervention is likely to completely stabilize house prices and mortgage markets. The main reason is that the extraordinary size of the housing market (see Table 3-1) and the magnitude of the problem would require a massive increase in the federal commitment to housing.

Large-scale federal intervention in housing markets could lead to a less efficient allocation of capital in the future. Increasing federal credit subsidies for housing would drive loan capital toward housing and away from investments that are more productive (see Box 1-1).

18. See Adam J. Levitin and Joshua Goodman, *The Effect of Bankruptcy Strip-Down on Mortgage Markets,* Business Economics and Regulatory Policy Working Paper No. 1087816 (Georgetown University Law Center, February 6, 2008).

19. Congressional Budget Office, cost estimate for H.R. 3609, the Emergency Home Ownership and Mortgage Equity Protection Act of 2007, as ordered reported by the House Committee on the Judiciary on December 12, 2007 (February 5, 2008).

Table 3-1.

Measures of the Size of the Housing Market

	2006	2007 [a]
Annual Housing Sales (Trillions of dollars)	1.9	1.4
Housing Sales as a Share of Owner-Occupied Housing (Percent)	9	7
Total Housing Wealth (Trillions of dollars)	19.5	20.2

Source: Congressional Budget Office based on data from the Bureau of the Census, the National Association of Realtors, and the Board of Governors of the Federal Reserve System.

Note: This table compares the state of the housing market in 2006, before the credit crisis began, with the state of the market in the second half of 2007, after the crisis had taken hold.

a. Data are from July through December.

Recent Activity by the Federal Government and Government-Sponsored Enterprises

A number of federal institutions and government-sponsored enterprises have already increased their participation in housing finance or been given more flexibility to do so.

Federal Reserve. The Federal Reserve has already started to take on some mortgage risk. On March 11, the Federal Reserve announced that it had created a new program, the Term Securities Lending Facility (TSLF), which will make loans to the 20 banks and securities firms that trade directly with the central bank. In the current situation, the Federal Reserve has found that it cannot simply provide liquidity to the overnight interbank market and expect it to flow smoothly into other parts of the financial markets. In the TSLF, the Federal Reserve offers to lend up to $200 billion of Treasury securities for 28-day terms against collateral including privately issued mortgage-backed securities.[20] The Federal Reserve has also extended through the Federal Reserve Bank of New York a loan of $29 billion to J.P. Morgan, backed by $30 billion worth of Bear Stearns' less liquid assets, in order to facilitate the acquisition of Bear Stearns by J.P. Morgan.[21]

Fannie Mae and Freddie Mac. These two large federally regulated participants in the mortgage markets have recently been given more flexibility to assume additional mortgage risk. The institutions buy up pools of conforming mortgages and securitize and sell them to the secondary mortgage markets. They also hold both conforming and nonconforming mortgages as part of their portfolios. Although federal regulations restrict conforming mortgages to a certain size and creditworthiness, the size limit was recently increased from $417,000 to 125 percent of the median house price in each region (an amount up to $729,750). In addition to that temporary increase, regulators in mid-March reduced the capital reserves that the two institutions have to hold against their own portfolios of loans. According to OFHEO, that reduction is expected to provide up to $200 billion of liquidity to the MBS market.

Although a larger role for those government-sponsored enterprises helps borrowers, much of the additional underlying risk is implicitly shifted to taxpayers. Markets have taken note of the precarious financial position of Fannie Mae and Freddie Mac; the cost of purchasing insurance against default on their obligations has risen severalfold since June 2007.[22] Prices in the credit-default swap market imply about a 7 percent probability of default over the next 10 years (versus about 3 percent last June).[23] Moreover, Moody's has placed one of the key GSE credit ratings on review for possible downgrade. Nevertheless, the borrowing advantage of the GSEs over

20. Details of the program are available at the Federal Reserve's Web site, www.federalreserve.gov/monetarypolicy/tslf.htm.

21. A press release states that the Federal Reserve Bank of New York "will take, through a limited liability company formed for this purpose, control of a portfolio of assets valued at $30 billion as of March 14, 2008. The assets will be pledged as security for $29 billion in term financing from the New York Fed at its primary credit rate. JPMorgan Chase will bear the first $1 billion of any losses associated with the portfolio and any realized gains will accrue to the New York Fed. BlackRock Financial Management, Inc. will manage the portfolio under guidelines established by the New York Fed designed to minimize disruption to financial markets and maximize recovery value." See the Federal Reserve Bank of New York's "Statement on Financing Arrangement of JPMorgan Chase's Acquisition of Bear Stearns," available at www.newyorkfed.org/newsevents/news/markets/2008/rp080324.html.

22. The cost of $10 million of protection has climbed from about $8,000 in June to about $45,000 as of early April.

23. A credit default swap is a contractual arrangement in which the buyer pays a premium at periodic intervals in exchange for a contingent payment in the event of the default of some third party. The size of the premium paid relative to the contingent payment generally increases with the likelihood of default.

other corporations is likely to have increased since last summer, a demonstration of the value of the widely perceived implicit federal guarantee of their obligations.

Federal Home Loan Banks. Another set of GSEs, the Federal Home Loan Banks (FHLBs) have also intervened to support the banking industry and mortgage markets in response to the turmoil. The 12 Federal Home Loan Banks provide liquidity in housing finance markets by extending credit to various financial institutions. They take as collateral residential and commercial mortgage loans, MBSs, agency and government securities, small-business loans, and agricultural loans. During the second half of 2007, when the turmoil unfolded, FHLB advances to member financial institutions increased by $235 billion to a year-end level of $875 billion; loans to the 10 largest borrowers (including Citibank, Washington Mutual Bank, and Countrywide Bank) increased by $103 billion, to a level of $327 billion. In March, the Federal Housing Finance Board voted to double the FHLBs' authorized holdings of conforming Fannie Mae and Freddie Mac securities; the board believes that action could provide more than $100 billion to the MBS market.

Federal Housing Administration. The Federal Housing Administration (FHA) insures loans made by FHA-approved lenders and is the world's largest insurer of mortgages. It has a long tradition of assisting borrowers who would generally be considered candidates for today's troubled subprime and alt-A loans.

The economic stimulus package enacted in February increased the cap on the size of mortgages FHA may insure. That increase will allow the FHA to insure loans up to a maximum value of $729,750 in certain areas of the country.

To aid subprime ARM borrowers facing foreclosure, the Administration introduced FHA Secure in August 2007 and announced plans to expand the program in April. Originally, FHA Secure offered FHA-insured refinancing to borrowers with non-FHA adjustable-rate mortgages who were current on their loans up until the date of their first rate reset (if that reset occurs between June 2005 and December 2009). Through early April, only 2,500 mortgages of the 154,000 that FHA had refinanced since the creation of the FHA Secure program belonged to a borrower who had missed one or more payments on the previous mortgage. The remaining borrowers would have been eligible for FHA refinancing assistance that was available before the inception of FHA Secure. The program did little to assist borrowers who had missed a payment before their first reset;[24] could not afford to repay the outstanding balance under the new loan terms; or had insufficient equity in the property to meet FHA's maximum loan-to-value ratio of 97 percent.

The expanded FHA Secure program will broaden eligibility to subprime ARM borrowers who have missed up to three monthly mortgage payments irrespective of whether their inability to pay was associated with an interest rate reset. In addition, borrowers who have negotiated a reduction of loan principal with their current lender can qualify for FHA Secure insurance. For borrowers with no more than two missed monthly payments in the previous 12 months, the current lender will need to write the loan down to 97 percent or lower of the appraised value for the borrower to qualify for FHA insurance on the new loan. Borrowers with three missed monthly payments in the previous 12 months would be eligible if their loans had been written down to 90 percent or less of the currently appraised value. (See the discussion of this and related refinancing proposals under the heading "Facilitating Refinancings," below.)

Expanding the Role of the Federal Housing Administration

As the federal insurer of mortgages for nonprime borrowers, the FHA is an obvious candidate to implement an increase in direct credit intervention in the troubled sectors of the mortgage market. (Box 3-2 contains a discussion of the budgetary treatment of federal housing loan guarantees.)

Increasing FHA's Maximum Loan-to-Value Ratio. FHA is currently limited to insuring mortgages with a loan-to-value (LTV) ratio of at most 97 percent. That means FHA cannot insure restructured mortgages with no borrowers' equity. Allowing FHA to insure no-money-down mortgages might increase the resources flowing to that portion of the market.

Doing so would increase the risk to the FHA's portfolio—not because no-money-down mortgages would be significantly riskier than mortgages with a 97 percent loan-to-value ratio, but because moving into that portion

24. For adjustable-rate subprime mortgages made in 2006, about 10 percent had defaulted in the first 12 months. See Board of Governors of the Federal Reserve System, *Monetary Report to the Congress* (February 2008).

Box 3-2.

Credit Reform and Federal Housing Loan Guarantees

The budgetary treatment of actions that the federal government may take to influence housing or mortgage markets would depend on the nature of the action. Any proposals involving the direct purchase of mortgages or the issuance of insurance for privately held mortgages would follow the treatment specified in the Federal Credit Reform Act of 1990 (FCRA). Since enactment of FCRA, the federal budget has reflected the costs (or savings) from most government credit transactions on a present-value basis. For budgetary purposes, it would not matter if mortgage purchases or guarantees were made by an existing agency or a new agency created to deal with the current problems. Nearly all other (noncredit) transactions are recorded in the budget on a cash basis.

Under credit reform, the estimated net cost to the federal government of a direct loan or loan guarantee over the entire life of that loan is recorded as an outlay in the year that the loan is disbursed. The "subsidy" cost for a credit program in a particular year is the estimated net present value of all future cash flows associated with loans made during the year. Present-value calculations, known as discounting, are used to reflect the fact that the value today of $1 to be received in a future year is less than the value of $1 received now. FCRA rules require the calculation of present values by discounting expected cash flows at the interest rates on Treasury securities (the rates at which the government borrows money). The individual discounted cash flows, representing federal expenditures and receipts anticipated during each year of the expected life of the loans, are then summed to determine the total cost of the loans.

The Federal Housing Administration's (FHA's) Mutual Mortgage Insurance Fund is an example of a program subject to FCRA rules. Through the program, FHA provides a federal guarantee of mortgage loans funded through private lenders and state and local housing finance agencies. At the start of the 2008 budget year, FHA's portfolio of guarantees for mortgages on single-family homes was $322 billion, of which $98 billion (or 30 percent) was for mortgages that had been refinanced.

The subsidy estimate for FHA loan guarantees is calculated on the basis of the contract terms of the loan guarantee and a projection of future loan terminations from prepayments and defaults. Contract terms for FHA loan guarantees include the fees charged to borrowers and the default-related expenses of lenders that FHA will reimburse. The effects of proposals that would adjust those terms—such as an increase in loan-to-value ratios, a change in equity sharing, or a strengthening of collection mechanisms—would be reflected in the estimated cash flows and subsidy rates.

Legislative proposals that would expand FHA's authority to take on risk would increase the subsidy cost of its programs (measured on a discounted present-value basis), unless additional fees were charged to offset that cost. In contrast, the full amount of grants to nonfederal entities, such as community-based organizations, state housing agencies, or government-sponsored enterprises (for example, Fannie Mae and Freddie Mac), would be recorded as outlays at the time of payment, even if such grants were ultimately used to refinance mortgages. Proposals that would allow states to issue tax-exempt bonds would affect revenues because an increase in tax-exempt state borrowing would result in a loss of federal tax collections.

of the market would increase the number of high LTV mortgages insured. That increased risk could be offset by charging higher premiums on the riskier loans.

Facilitating Refinancings. FHA could also be used to facilitate the refinancing of outstanding mortgages that are most likely to enter a costly foreclosure. The expanded FHA Secure program announced on April 9, 2008, is one such plan. Several more expansive proposals also have been discussed. Some proponents suggest that the federal role would be largely administrative, simply taking the actions that private parties would have taken were it not for impediments to sales and renegotiations in a distressed mortgage market. Others suggest that any intervention will have little effect on foreclosures without a serious commitment of taxpayers' funds. (The viability of such programs, like that of the private-sector solutions described in the previous section, would depend on the ability of servicers to gain the agreement of all parties, including second-mortgage holders.)

In one version of those proposals, mortgage servicers would put up for sale and restructuring a set of problem mortgages (which may be in mortgage pools); FHA-insured lenders would purchase those mortgages and then issue new mortgages with lower principal balances and payments that borrowers could afford. The expanded FHA Secure program will operate in a similar way, although loans need not be sold to facilitate the write-down of principal to a lower value. In another version, mortgage lenders (presumably through servicers) would themselves restructure the loans, including both first and second liens.[25] Instead of the liens, borrowers would have a new first mortgage and an interest-only loan, with the latter carrying an FHA guarantee.

The money to finance those restructurings could come from four sources. One is the investors in the current mortgages in recognition of the decline in the value of the home—the collateral for the mortgage. A second is the mortgage servicers and investors in terms of the additional costs they would have to bear from other routes to restructuring, such as foreclosure. The third is the federal government in the form of subsidized insurance from the FHA. Finally, another source of financing is the value of possible future increases in the price of the house. That is, some of the gain from a higher price when the house is sold could be assigned to the lender or taxpayers, as in a shared-appreciation loan. Lenders would be more willing to write down their loan in exchange for a share of future appreciation in the property. Assigning some of the future gain to taxpayers would reduce the cost of the federal subsidy.

The number of borrowers that could be assisted by such proposals would depend directly on the amount of mortgage insurance subsidy that the government provides. With moderate refinancing fees, as embodied in most recent proposals, the federal subsidy would probably amount to less than 5 percent of the new loan principal, on average. Given that scale of subsidy, CBO expects that perhaps several hundred thousand borrowers would benefit from expanded FHA-insured refinancings over the next few years. Generating higher levels of participation would require substantially deeper subsidies, which would in turn significantly increase the federal budget cost. (Under current law, any subsidy costs for FHA loan guarantees are subject to appropriation of the necessary funds. Annual appropriation acts also generally limit the dollar amount of new federal loan guarantees that FHA can enter into for a given year.)

The creation of borrowers' equity is important to such proposals. Mortgages for which the outstanding balance exceeds the value of the property are most likely to go into foreclosure because borrowers who have no equity will find few options for refinancing and will be more willing to walk away from a mortgage that they are struggling to pay. Restructurings with no federal involvement are not likely to involve any significant borrowers' equity, either. Indeed, many would leave borrowers with lower monthly payments but negative equity in the house. Unfortunately, even restructurings that create positive equity may not be a permanent solution. In a declining housing market, such equity may be evanescent, and the risk of redefault is thus likely to grow until house prices stop falling.

Distribution of Benefits. The benefits of any resources that the federal government provides to support the restructuring of mortgages (such as subsidized FHA guarantees) are likely to be shared among borrowers and lenders. While borrowers whose loans are restructured will not have to move from one home to another and will have lower mortgage payments, some might get approximately the same benefits from a lender-initiated restructuring without federal intervention. Lenders (through their ser-

25. Mark M. Zandi, Richard Jaffee, and Daniel Melser, *Home Appreciation Mortgage Plan,* Moody's Economy.com, March 2008.

vicers) have strong incentives to avoid defaults and foreclosures. Lenders will receive a windfall on those loans that they would have restructured without federal assistance. Despite that, lenders will be willing to restructure more mortgages with federal subsidies than without them.

The distribution of benefits will have an impact on the decision of borrowers and lenders to participate in the program. In a purchase and refinance program, the government would separately set the level of assistance to borrowers and lenders. Those levels would need to be carefully chosen to ensure that borrowers and lenders had enough incentive to participate. For example, the government might offer a write-down for certain types of loans, and lenders would choose to offer eligible loans for sale at that write-down. Lenders will only offer up loans where they anticipate that the terms of sale exceed the value of the best alternative for dealing with each loan. Similarly, the assistance offered to borrowers would have to be generous enough to ensure that their new loan was affordable.

In a loan restructuring program (one that does not involve loan sales), the distribution of benefits would be decided by negotiation between borrowers and lenders, subject to any constraints imposed by the program's regulations. If regulations were to mandate, as a condition of federal support, a restructuring package that was too generous to borrowers, lenders might offer few mortgages for restructuring. If the restructuring package was not generous enough to borrowers, lenders might fear that the restructuring would not be effective at preventing further defaults. Moreover, borrowers might decide to walk away rather than accept the package. And even if regulation simply mandated that lenders use a single restructuring package—for example, writing down all loans by the same percentage below market and setting mortgage payments on the basis of the same interest rate—fewer loans might be restructured than if the lender could tailor the package to the borrower's credit and the lender's expectations of future price declines in the local housing market.

Price of a Loan. The price offered to holders of the existing mortgage (or mortgages) could be established by either a fixed write-down of the appraised value of the property or via an auction in which federally approved bidders would pay for pools of mortgage loans put up for sale by current servicers. Proponents of an auction argue that it could help reignite the secondary market for nonprime loans and enable a more efficient process of refinancing loans in bulk. The benefits of bulk refinancing might not materialize, however, as servicers would still need to decide on a case-by-case basis whether to offer loans into the program, and borrowers would still need to participate in the drafting of new loans.

Loan servicers will only sell a mortgage if they perceive that the price offered exceeds the price a private buyer might pay for it, the value of renegotiating the loan privately with the borrower, and the net proceeds from foreclosure. Servicers will be willing to take a substantial discount on the amount owed on loans for which foreclosure is the best alternative because of the high costs of foreclosure. One concern for taxpayers in a program that has a fixed write-down of the appraisal value is that it would give existing mortgage holders incentive to offer mortgages that were only worth less than that value. That adverse selection would impose higher costs on taxpayers for a given volume of guarantees.

Eligibility of Borrowers. The program would need to maintain a delicate balance between assisting borrowers who are unable to refinance or repay their current loans and excluding those borrowers who can. Screening borrowers using established affordability criteria would help, but borrowers would have incentives to understate their ability to pay. To discourage borrowers who do not need government assistance, the terms of the refinanced loan must be made sufficiently unattractive to make that loan desirable only to those with a true inability to pay. Such measures could include restricting program participants from taking second mortgages on the property, or forcing borrowers to share any equity gains in their loans with taxpayers.

Additional restrictions and provisions could be applied to refinanced loans to minimize the cost to taxpayers. FHA could compel borrowers to provide adequate documentation to certify that they can afford their new loans. Federal assistance might also be limited to owner-occupied principal residences. However, because verifying a claim of principal residence is difficult, many investors may be able to take advantage of such programs unless the process of verification is more stringent than the current underwriting process.[26]

26. Over the past several years, many mortgages for owner-occupied property were actually obtained by investors.

CBO

Many loan restructurings will end in default. To help reduce the cost of those defaults to the federal government, the program could specify that borrowers who subsequently default be subjected to stronger collection mechanisms, such as those in the Treasury Offset program. In the Treasury Offset program, an individual's federal transfer payments—such as Social Security payments and federal income tax refunds—can be used to pay down delinquent federal loans or guarantees. Such an approach would be a more severe collection program than borrowers would typically face from private lenders: In some states, lenders have no legal recourse to assets or income beyond the value of the property; and even where recourse is legally available, lenders often do not pursue it for subprime borrowers, who are not expected to have significant assets beyond the mortgage collateral.

Further Expanding the Role of Fannie Mae and Freddie Mac

The Congress could also consider mandating that Fannie Mae and Freddie Mac play a larger role in supporting the financing of subprime mortgages.[27]

The GSEs could be required to securitize subprime loans—a requirement that would offer the GSEs the opportunity to make money from guarantee fees, which would reflect the risk of those securities—or to hold more subprime or alt-A mortgages in their portfolios. Various legislative proposals also have been made to have the GSEs contribute to affordable housing funds, which would support lower-income subprime borrowers.

Minimizing the risk to taxpayers of such an increase in the GSEs' portfolios would require an increase in the GSEs' capital. Both housing GSEs have experienced recent governance, financial, and accounting control problems as well as large losses on their subprime mortgage holdings. Taxpayers have been protected from having those losses shifted to them, however, by the GSEs' capital. Even though financial markets are distressed, the GSEs are likely to be able to raise new funds for subprime mortgage lending. With the support of an implicit federal guarantee of their debt and other liabilities, Fannie Mae and Freddie Mac have privileged access to funds in the capital markets. During times of financial turmoil and uncertainty, when there is often a "flight to quality" by investors, the securities issued by those entities tend to be favored investments.

Working through the GSEs, however, would give the government less control over the use of taxpayers' money. The federal government could not dictate the terms of assistance as readily as it could if it expanded one of the federal agencies (such as FHA), because of the GSEs' for-profit charter.[28] Thus, there is a significant possibility that taxpayers might take on additional risk through the GSEs' expansion, but not all the value of that additional risk-bearing would go to the desired borrowers.

Expanding the Role of Federal Home Loan Banks

A less direct way to support the mortgage markets would be to follow the lead of the Federal Reserve by increasing the provision of liquidity to banks using the Federal Home Loan Banks as a conduit. The additional liquidity could be made conditional on banks' meeting specified refinancing, forbearance, or loan-modification objectives. That approach would put the onus on banks to devise specific strategies for resolving problems in the mortgage market. It would also make use of the banks' capital cushions, thus reducing the risk to taxpayers.

To do that, the FHLBs would need either more capital or reduced capital requirements. As with Fannie Mae and Freddie Mac, reducing capital requirements would increase the risk that taxpayers could be embroiled in a costly bailout if one or more of the banks failed.

Increasing Federal Assistance to Community-Based Organizations

Another approach would increase federal assistance to community-based organizations, such as community development corporations and community development financial institutions that provide services, counseling, and foreclosure protection to households.[29] Among other things, counseling may help steer borrowers to prime markets and away from subprime markets and may also be used to make delinquent borrowers aware of alterna-

27. Lawrence Summers, "This Is Where Fannie and Freddie Step In," *Financial Times,* August 26, 2007; and statement of Alex Pollock, resident fellow, American Enterprise Institute, "Legislative and Regulatory Options Regarding Mortgage Foreclosures," before the House Committee on Financial Services (September 20, 2007).

28. See Douglas W. Elmendorf, "What Should Be Done to Help Households Facing Foreclosure?" (Brookings Institution, November 2007), available at www.brookings.edu/opinions/2007/11_mortgages_elmendorf.aspx.

29. Edward M. Gramlich, *Subprime Mortgages: America's Latest Boom and Bust* (Washington, D.C.: Urban Institute Press, 2007).

tives to foreclosure. In 2008, the Congress appropriated $50 million for the Department of Housing and Urban Development's Housing Counseling Assistance Program. The program provides counseling services to eligible homeowners and tenants, including home purchase, financial management, and rental counseling. (The Home Ownership and Equity Protection Act of 1994 has no provisions requiring counseling; however, some states require lenders to notify borrowers of counseling opportunities.) In addition, the Congress provided $180 million to the Neighborhood Reinvestment Corporation for mortgage mitigation activities.[30] A bill passed by the House would require lenders to alert delinquent borrowers to counseling opportunities, some of which could be provided by housing advocacy groups.[31]

Creating a New Agency

Instead of using existing agencies, the government could create a new agency, either to buy subprime mortgages or to make loans directly to borrowers.

Although an existing agency could be given the same responsibilities as a new agency, a new limited-purpose agency would have a focused charter and could be set up to "sunset" (expire) after a reasonable amount of time. By contrast, expanding the scope of an existing agency's mission to include providing subsidies would force the new program to compete for resources and management time with the agency's other responsibilities. Moreover, the new responsibility could become regarded as part of the permanent mission of the agency, thus making it harder to end when the urgent need was over.

Setting up a new agency, however, is usually complicated and time-consuming. A recent example is provided by the Resolution Trust Corporation (RTC), which was created to address the thrift crisis of the 1980s. Although it was a new, independent agency, the RTC was staffed by employees from other federal agencies, mainly the Federal Deposit Insurance Corporation. During the six years it operated, the RTC resolved 747 failed thrifts with $394 billion of assets.[32] In its first 5 months, the RTC took over 318 failed thrifts but resolved only 37 of them. The situation for the RTC improved in the subsequent 12 months, and the RTC was able to resolve 315 institutions. The RTC's experience highlights two challenges with setting up a new agency. Policymakers faced significant difficulties in providing additional funding for the RTC after its initial $50 billion in funding proved insufficient. The agency also faced persistent criticism—some founded, some unfounded—about its operations and the complex management structure of the corporation and its oversight board.[33] Moreover, the RTC was in a situation that differs significantly from the current one: It was created to accelerate the breakup of the thrifts because, as long as they continued to operate, they were taking on ever-riskier investments.[34]

Buying Subprime Mortgages. A new agency could purchase problematic loans at steep discounts. That approach was used by the Home Owners' Loan Corporation, when it exchanged bonds for defaulted mortgages with lenders and investors at a discount and adjusted the loan terms to help borrowers during the Depression.

Proponents believe that such a program could put a floor on the prices of subprime mortgages and allow market participants to price the assets of financial institutions. The agency would aim to sell the mortgages at higher prices when financial markets were better able to price them and were more amenable to undertaking the risk. That would still leave the agency exposed to the risk of a delayed recovery in the housing market, which could keep mortgage prices depressed for many years and, hence, offer a poor return on investment to taxpayers.

Making Direct Loans to Borrowers. Instead of buying mortgages, a new agency could make loans directly to borrowers at affordable rates.[35] Borrowers would use the proceeds from the more affordable loans to prepay a fraction of their outstanding mortgage (or mortgages, if they

30. Consolidated Appropriations Act of 2008 (Public Law 110-161; 121 Stat. 1844).

31. H.R. 1852, *Expanding American Homeownership Act of 2007.*

32. Resolving the 747 failed thrifts cost the RTC $83 billion, financed by $76 billion from the U.S. Treasury and $7 billion from the private sector. See Timothy Curry and Lynn Shibut, "The Cost of the Saving and Loan Crisis: Truth and Consequences," *FDIC Banking Review,* vol. 13, no. 2 (2000).

33. See Lee Davison, "The Resolution Trust Corporation and Congress, 1989–1993 (Part I and II)," *FDIC Banking Review,* vol. 18, nos. 1 and 2 (2006).

34. Note, however, that deposit insurance transactions are reflected in the budget on a cash basis, unlike the costs of federal loans and loan guarantees, which are recorded on a present-value basis.

35. Martin Feldstein, "How to Stop the Mortgage Crisis," *The Wall Street Journal,* March 7, 2008.

had a second lien). That approach could get around the difficulty of obtaining agreement for mortgage restructuring from second-mortgage holders and MBS investors, since it would go through the procedures for prepayment established under the terms of their original mortgage contracts, including any penalties for early repayment.[36]

The number of borrowers with troubled mortgages who would be willing to take a federal loan would depend on the terms offered. Borrowers would have to be able to afford to make their combined monthly payment on the new loan and the remaining portion of the old loan. For the payment to be affordable for borrowers, the federal loan may need to offer below-market interest rates and a long term to maturity. In addition, the loan would need to replace a large enough portion of the original unaffordable mortgage.

Loans made at below-market terms to borrowers with negative equity in their property would be costly to taxpayers. The combination of negative equity and a history of missed payments on the original mortgage suggests that the probability of default on a direct loan would be high. A federal loan would be likely to have lower claim on the property than the borrower's preexisting loans. The government could strengthen the enforceability of the direct loan by making it nondischargeable in bankruptcy and subject to stronger collection mechanisms than privately issued loans. If the federal loan and original loans were adjustable-rate mortgages, affordability problems could resurface if short-term interest rates increased from their present historically low levels.

Like a purchase and refinance program, a direct lending program would face a similar challenge in restricting eligibility to borrowers who could not afford their existing mortgage but could afford their new mortgage. If the new loans carried interest rate terms that were significantly below those on prime mortgages, then borrowers of all types would be clamoring to participate.

Providing Mortgage Assistance Through States

Federal assistance to borrowers might also be channeled through states. Options for financing such assistance include expanding authority for tax-exempt bonds or providing direct grants to states. Less directly, federal grants to states might finance programs to help borrowers navigate through the process of restructuring their loans.

Currently, state-based housing agencies are eligible to issue tax-exempt bonds to finance new mortgages for first-time homebuyers. Tax-exempt debt allows states to finance at interest rates that are significantly lower than the rate on comparable taxable debt, the benefits of which can be passed on to borrowers. Expanding states' borrowing authority to refinance mortgages, however, would reduce federal income tax receipts.

Comparatively, tax-exempt financing is a less cost-effective means of transferring resources from the federal government to state and local governments. Because of the progressive structure of the federal income tax, the revenue loss to the federal government from those tax-exempt bonds exceeds the debt-service savings to states and localities. More direct means of transferring resources, such as grants, deliver more aid at a smaller cost to the federal government.

36. As of February 2008, about 70 percent of subprime loans and about 40 percent of alt-A loans featured prepayment penalties if the loan was prepaid within an initial period of generally two to three years, according to tabulations made by researchers at the New York Federal Reserve Bank from a sample of loans in First American Loan Performance's database.