Notes on Policy Responses to the Subprime Mortgage Unraveling

Douglas W. Elmendorf

The Brookings Institution

September 17, 2007

I am grateful for research support from Laura Salisbury-Rowswell and helpful comments from Lawrence Summers, but I am solely responsible for the views expressed here.

In recent months, rising delinquencies and foreclosures of subprime mortgages have caused turmoil in broader financial markets, raised fears that many subprime borrowers could lose their homes, and led economic forecasters to boost their estimated odds of a recession next year. These economic and financial developments raise five broad policy questions:

- What should monetary policy do now?
- What should monetary policy have done differently in the past several years?
- What should be done to help households facing foreclosure?
- What should be changed in the regulation of mortgage lending?
- What should be changed in the regulation of financial institutions more generally?

These notes offer my answers to these questions. My goal is not to be original, but rather to present a compilation and critical appraisal of ideas that have been discussed by other analysts in the past few months. To preview, I conclude:

- The Federal Reserve should reduce, but not slash, the federal funds rate, unless stronger evidence emerges of a freezing-up in credit markets or a significant slowing in overall economic activity.
- Monetary policy should have been slightly less expansionary in 2004 and 2005, but this would not have materially altered recent events.
- The government should help struggling households to refinance their mortgages, but this help should be reasonably narrowly targeted and should avoid harming the mortgage market and other financial markets in the long run.
- The government should place greater restrictions on the mortgages offered to riskier borrowers, but it should try not to dampen financial innovation generally.
- Federal banking supervision does not need to be extended to all mortgage lenders. However, the government should strengthen its oversight of credit ratings agencies.

What Should Monetary Policy Do Now?

As Federal Reserve officials have stated, the Fed should focus on its dual objectives of maximum employment and price stability. It should not try to “bail out” financial market participants, nor should it lower interest rates to help alleviate their problems. At the same time, the Fed should not hesitate to lower interest rates to whatever extent is desirable for macroeconomic reasons just because such reduction would benefit certain economic actors. The Federal Reserve’s decisions on behalf of the overall economy invariably help and hurt some individuals and institutions that do not deserve to be helped or hurt, but those effects cannot be avoided.

It appears now that credit markets have slowed, but not stalled, and that economic activity is likely to be somewhat, but not dramatically, weaker than expected a few months ago. Let us presume that the Federal Reserve was correct at the end of June to view the risks as tilting toward higher inflation, and that subsequent readings on core PCE inflation would have moved the Fed to view the risks as balanced for both inflation and economic growth. With this backdrop, the Federal Reserve should now reduce the federal funds rate enough to reverse the tightening in financial conditions during the past few months.

Quantifying the extent of this tightening is beyond the scope of these notes. In qualitative terms, "borrowers face noticeably tighter terms and standards for all but conforming mortgages" (Bernanke, 2007b). For example, subprime mortgages have become extremely difficult to obtain, and yields on jumbo mortgages have risen about 60 basis points recently. News reports suggest that securitization of non-conforming mortgages has fallen off sharply, but at least some capital appears to be available from other sources, or jumbo rates would be much higher and anecdotal stories would be much worse. The cost of capital for some business ventures has risen as well, in part because of the sharp drop in demand for asset-backed commercial paper. However, "despite the hike in borrowing costs for higher-risk corporate borrowers and the illiquidity in markets for CLOs [collateralized loan obligations], it appears that financing for capital spending for most firms remains readily available on terms that have been little affected by the recent financial turmoil" (Yellen, 2007). In addition, stock prices have fallen, and the reduced availability of mortgage credit must have pushed down prospective house prices as well. This loss in wealth will damp consumer spending, although the effects are likely to be gradual over the next few years. Some observers have argued that the increased liquidity of housing wealth due to financial innovation has significantly magnified the effect of house prices on consumption, but the evidence for this view is not very strong (Mishkin, 2007).

Qualitatively, these increased borrowing costs and diminished wealth would appear to justify—under standard estimates of these effects and of the monetary transmission mechanism—reducing but not slashing the federal funds rate. Still, two important questions remain.

First, one can argue that the current distribution of risks is skewed to the downside, so that optimal risk management calls for a larger funds rate reduction than implied by this standard calculation. I do not find this view compelling. If financial markets freeze up at some point, that problem will be visible to the Federal Reserve and can be addressed then through discount-rate or funds-rate changes. Clearly, the Fed should continue to be ready to act as lender of last resort. However, the broader economic risks seem reasonably symmetric (conditional on a "standard" response from the funds rate). Although it is easy to tell stories in which the various damping forces cumulate to generate a very weak economy, one can also tell stories in which economic growth remains quite solid. After all, during the past year-and-a-half, residential construction directly subtracted about ¾ percentage point (average annual rate) from demand, and yet output increased roughly in line with potential output (judging from the unemployment rate, which changed little, on balance). Janet Yellen (2007) reminded us that it's "important to maintain a sense of perspective: past experience does show that financial turbulence can be resolved more quickly than seems likely when we're in the middle of it. Moreover, the effects of these disruptions can turn out to be surprisingly small. A good example is the aftermath of the Russian

debt default in 1998. Many forecasters predicted a sharp economic slowdown as a result; but instead, growth turned out to be robust."

Second, one can argue that reductions in the funds rate might have little effect on economic activity now. For example, LIBOR has deviated significantly from the funds rate in recent months; perhaps it would not respond to a cut in the funds rate, and other rates based on LIBOR would then not respond either. It seems unlikely, though, that LIBOR is now independent of the funds rate after years of moving with it very closely; rather, LIBOR is likely to adjust with the funds rate, although the spread between them may remain larger than usual. Alternatively, if banks had insufficient capital, then lower interest rates would not stimulate additional lending. Yet, the Federal Reserve (Carlson and Weinbach, 2007) recently reported that more than 99 percent of bank assets last year were at "well-capitalized" banks, and that these banks' capital ratios averaged roughly two percentage points above required ratios. This gap is calculated across a set of requirements, but it seems to suggest that banks have enough capital to increase lending by about a third or so. Lastly, some analysts have noted that lower rates will not fix the underlying problems in the mortgage market. This statement is true, but it does not demonstrate that other aspects of aggregate demand—including housing purchased using conforming mortgages—would be unresponsive to lower interest rates. In sum, I do not see a compelling reason to think that other interest rates would not respond to a funds-rate cut or that the economy would not respond to a general decline in interest rates. However, there is clearly greater uncertainty about the magnitude of these responses, and if either link in this chain proves disappointing, further reductions in the funds rate would be warranted.

What Should Monetary Policy Have Done Differently in the Past Several Years?

Some observers have argued that the Federal Reserve kept interest rates too low for too long coming out of the recession, and that the abundance of low-cost credit set the stage for current problems. If correct, this view could have important implications for the future conduct of monetary policy. However, I think the criticism is misguided. Subsequent macroeconomic outcomes suggest that the Fed should not have been quite so expansionary for so long, but the slightly better policy that one can envision with hindsight would likely *not* have materially altered recent events.[1]

As John Taylor (2007) noted at the recent Fed conference in Jackson Hole, the extended period of low interest rates certainly contributed to the run-up in housing construction and house prices. In addition, as Edward Leamer (2007) noted at the same time, residential investment traditionally has been more cyclical than some other categories of output. Neither observation is surprising: The Fed influences the economy by adjusting interest rates, so interest-sensitive sectors vary the most. More important, neither observation implies that the Fed should adjust its approach to monetary policy in order to reduce the volatility of housing. That conclusion requires a consideration of overall economic conditions, not conditions in a particular sector.

[1] For full disclosure, I worked in the Federal Reserve Board's Division of Research and Statistics from 2001 through 2007. However, the discussion in this section is based entirely on publicly available data and model results.

Let us review recent history using the predictions of FOMC members cited in the semiannual Monetary Policy Report to Congress. Between 2004 and 2007, core inflation consistently turned out higher than the FOMC had expected (figure 1). One important cause was probably the pass-through of rising oil prices. But this supply shock was not the only problem: The unemployment rate came in consistently below FOMC members' forecasts (figure 2), implying that resource utilization exceeded the FOMC's intentions. One clue to the source of this overshooting is that growth of real GDP regularly fell short of FOMC projections during this period (figure 3). In combination with the unemployment-rate surprise, we can surmise that FOMC members expected faster growth of potential output than actually occurred.

Although these charts imply that the Federal Reserve did not achieve a perfect soft landing, the errors to date have been quite small. Suppose that the FOMC began raising the target federal funds rate in April 2004 (rather than June 2004 as actually occurred) and raised it 25 basis points in each meeting for the next two years (as did actually occur). In this alternative scenario, the funds rate would have been 50 basis points higher from the third quarter of 2004 through the second quarter of 2006. Based on simulations of the Fed's large-scale econometric model (reported by Reifschneider, Tetlow, and Williams, 1999), this less-expansionary policy stance would have added about 0.4 percentage point to the unemployment rate and trimmed 0.3 percentage point from the inflation rate by mid-2006. Thus, the unemployment rate would have been close to 5 percent—which is apparently what FOMC members view as the NAIRU, because their projections show the unemployment rate heading back to 5 percent (from above in 2004 and 2005, and from below in late 2006 and 2007). In addition, the inflation rate would have been about 2 percent, which many observers view as the upper end of the Fed's comfort zone. Thus, from the perspective of the overall economy, this slightly tighter policy stance would have produced a better outcome to date.

What would have been the effect on the housing market? Because this question involves psychology as well as economics, it is difficult for me to answer. Alan Greenspan and others have argued that small adjustments to financial conditions cannot "defuse a bubble." On the other hand, perhaps the extra tightening described here would have been the straw that broke the camel's back early. My guess is that this small adjustment in policy would have only slightly damped the courses of construction, house prices, and mortgage lending.

Should the Federal Reserve have raised the funds rate even higher? Taylor explored a counterfactual scenario in which the funds rate was above its actual value beginning in 2002 and reached three percentage points above its actual value by early 2004. Certainly, this alternative policy would have led to quite different outcomes for the housing market and for the economy as a whole. However, the costs would have been very high, and the benefits very unclear. (Taylor showed the effects on housing, but he did not show or discuss the effects on the overall economy.) On the cost side, this policy would have raised the unemployment rate considerably when the economy was already dealing with significant unused labor resources. On the benefit side, the policy might have led to a lower unemployment rate over the next year or so.[2] However, recent surveys of economists by *Bloomberg* and the *Wall Street Journal* suggest that,

---

[2] The policy would also have reduced the number of households now struggling with high mortgage payments, but only at the cost of denying mortgages to many households who are meeting their payments. In any event, monetary policy is not a well-targeted substitute for regulatory policy, a topic I discuss below.

even with the recent turmoil, a moderate amount of Fed easing this fall is likely to keep the unemployment rate from rising above 5 percent next year. If recent events lead to a significant economic downturn, this question should be revisited, but that outcome should not be presupposed today.

What Should Be Done to Help Households Facing Foreclosure?

Mortgage foreclosure rates are likely to rise substantially further in the coming year, as rate resets push up payments for many households, and tightening credit standards and sliding house prices prevent these households from refinancing their mortgages. In my view, the government should help households facing foreclosure, but this help should be reasonably narrowly targeted and should avoid harming the mortgage market and other financial markets in the long run.

The following principles could guide government policy in this area:

- The government should balance the protection of vulnerable members of society with the need for people to bear responsibility for their decisions. In the current situation, some struggling borrowers are the victims of predatory lending practices, and others entered into mortgage contracts they did not fully understand. Others knew what they were doing and deliberately took risks, but we should still be sympathetic to low-income people who would have their lives disrupted by losing their homes, giving up any equity in their houses, and damaging their credit histories. That said, our economic system of letting people make their own decisions is sustainable only if people bear the consequences of those decisions. It is not fair for the government to help homeowners being foreclosed upon while not helping people who kept renting rather than taking out mortgages beyond their reach or who are now stretched to meet their mortgage payments but are making the sacrifices to do so. It is also unfair to help people who bought homes as investments, and this appears to be a notable share of houses being foreclosed upon. Moreover, helping people who took risks and lost can encourage excessive future risk-taking.

- To achieve this balance, the government should encourage and subsidize mortgage refinancing for households who can stay in their homes with a modest amount of help. Although many of these people would not own homes today if risks had been recognized fully during the past few years, forcing them out now would be very disruptive to their lives and to their neighborhoods (especially if concentrated in certain areas). Government policy should help to ease their transition to a world with appropriate recognition of risks. In addition, the recent turmoil in financial markets suggests that the availability of subprime mortgage credit has temporarily fallen below its long-run future level. At the same time, helping people who can remain in their homes only with large subsidies would be unfair to people who had been more cautious earlier. Note that programs to help people avoid foreclosure would also help some people who could remain in their homes without assistance. However, these other households might also have low income and have entered into mortgages they did not fully understand, so helping them does not seem like misplaced effort.

- The government should resist the temptation to finance aid for struggling borrowers by imposing that burden on so-called "irresponsible" lenders. Lenders who broke laws or ignored rules should be punished in the usual way, and lenders should be encouraged to see the value to them in renegotiating existing mortgages. However, punishing lenders for issuing mortgages that were acceptable at the time but look undesirable in regulatory hindsight would be unfair and would reduce the supply of mortgage credit—especially to subprime borrowers—in the future.

- Government support for refinancing should operate principally through the FHA (Federal Housing Administration) rather than Fannie Mae or Freddie Mac. This approach has several advantages: First, the magnitude, duration, and targeting of subsidies are chosen by the government explicitly rather than arising indirectly from Fannie and Freddie's decision-making. Second, the risk taken by the government can be estimated explicitly (and perhaps charged to borrowers) rather than arising indirectly from the government's exposure to Fannie and Freddie's decisions about what activities to undertake and how much capital to hold as a consequence. Third, the approach does not interfere with long-standing efforts to reform Fannie and Freddie and their regulatory oversight, in order to reduce the benefit to private shareholders of the implicit government guarantee as well as the risk to financial stability posed by such large intermediaries (Mankiw, 2003).

The following specific actions are consistent with these principles:

- The government should foster and subsidize organizations that provide counseling to households facing mortgage payment difficulties. Ned Gramlich (2007a) showed that such counseling appears to have a high success rate.

- The government should encourage lenders to renegotiate mortgages that would otherwise face foreclosure. Because foreclosures are very costly—with estimates reported online ranging up to $60,000—substantial reductions in amounts owed can be better for both borrowers and lenders.[3] Federal regulators have already urged this course on the institutions they supervise, and the government can help further by temporarily eliminating the tax liability associated with mortgage write-downs as proposed by President Bush. Unfortunately, mortgage securitization makes convening all of the parties affected by such renegotiations difficult.

- The government should relax the terms and extend the reach of FHA lending. President Bush proposed lowering down-payment requirements, raising loan limits from the current roughly $363,000, establishing risk-based premiums, and extending access to homeowners who have missed payments because of resets. These changes are useful, but they will likely help only some of the households struggling with mortgage payments in the near-future. (The FHA estimates that, with these changes, it would help 300,000 households to refinance in the next fiscal year. Meanwhile, the FDIC estimates that 2½ million homeowners face resets this year and next; some nontrivial share of this group is likely to have problems, and some people will end up in trouble even without a reset.)

[3] The full cost of foreclosure includes not just the transactions costs but also the reduced sales prices of houses obtained through foreclosure proceedings (Pennington-Cross, 2004).

However, expanding the FHA's reach further would be straightforward. For example, with additional funding, the FHA could reduce insurance premiums, not require households to be current with mortgage payments before their resets, or simply provide a small subsidy to reduce the new amount owed relative to the previous amount owed.[4,5]

- To cushion the shock of foreclosures that occur despite these actions, the government should consider transfers to people who lose their homes in this way. Ed Glaeser (2007) argued that such transfers should be: limited in amount ($5000 per household), paid partly by lenders in the case of non-standard mortgages, means-tested, dependent on honest reporting of income in the mortgage application process, and dependent on the house being in good condition. However, imposing this burden on lenders is not consistent with the principles shown above, and the magnitude of the subsidies would test the limits of balancing protection and responsibility in my view.

Several other proposed policy actions do not appear consistent with the principles I listed:

- Dean Baker and Andrew Samwick (2007) have suggested "granting current homeowners the right to stay in their homes as long as they like, simply by paying the fair-market rent" as set by an independent appraiser. However, forcing lenders to become landlords would represent a sharp change in property rights. This precedent would likely reduce the future supply of mortgage credit, especially to subprime borrowers. In addition, the new mortgage structure they advocate raises questions about rules for appropriate house maintenance and procedures if households miss rent payments.

- Bill Gross, who manages the world's biggest bond fund at PIMCO, has argued for a program to help homeowners "of Rooseveltian proportions." A subsidy program of this size would not balance protection and responsibility.

- Many observers have proposed relaxing restrictions on Fannie Mae and Freddie Mac. One possibility is to raise the portfolio caps so that Fannie and Freddie can hold more mortgage-backed securities in their own portfolios. Because rates on conforming mortgages have actually declined recently, holding more of them would have little effect on the mortgage market. In addition, by increasing these institutions' size, the change would accentuate some of the long-standing concerns noted above. Fannie and Freddie might choose to hold securities backed by subprime mortgages, but simply raising the caps provides no incentive to do so.

---

[4] Note that FHA assistance will unavoidably provide benefits to lenders as well, because their concessions to help people avoid foreclosure will not need to be as large in some cases.

[5] The government could also propose new types of mortgages that might make refinancing easier. For example, Ben Bernanke wrote to Charles Schumer (as reported on the *Wall Street Journal* blog of 8/29/07) that "the private and public sectors could … [develop products] that might improve affordability, such as variable maturities or shared-appreciation provisions [in which lenders accept lower interest rates in exchange for some of the upside potential]." However, the private sector has already proven fairly imaginative (maybe too imaginative) at developing new mortgage products. In addition, shared-appreciation provisions, while sensibly shifting some risk to lenders, may not help much in the short run because of expected house-price declines and pose risks in the long run because people will not experience the wealth gains they may expect.

- Another possibility is to raise the threshold for conforming mortgages from the current $417,000. This change would probably enhance mortgage availability in a segment of the market where rates have increased and underwriting standards have tightened. Moreover, offering a vigorous defense of the existing threshold is difficult: The threshold binds to a different extent in different parts of the country, and it is already high enough that the GSEs' activities are not tightly targeted. That said, this approach runs counter to the focus on the FHA that is advocated and justified above.

- Another possibility is to have Fannie and Freddie securitize more subprime mortgages and/or hold more securities backed by subprime mortgages. It is unclear exactly how this redirection of Fannie and Freddie's activities would be implemented. Moreover, this approach runs counter to the focus on the FHA that is discussed above. One variant on this idea is to raise the portfolio caps and require that some of the additional capacity be filled by subprime mortgages. By appearing to compensate Fannie and Freddie for the purchase of subprime mortgages by letting them hold more conventional mortgages, this change highlights the implicit subsidy the institutions receive.

What Should Be Changed in the Regulation of Mortgage Lending?

The rise of subprime mortgage lending is the latest step in the decades-long march of financial innovation. Such innovation, including subprime lending, has been generally a positive force for the aggregate economy and the well-being of most households. Like many positive changes, though, this one was taken to a counterproductive extreme. In my view, the government should place greater restrictions on the mortgages offered to riskier borrowers, but it should try not to dampen financial innovation generally.

The U.S. economy has been markedly more stable since the mid-1980s than in the preceding couple of decades—a so-called "Great Moderation" that coincides with the democratization of credit, growing loan securitization, and reduced regulation of the financial sector. Dynan, Elmendorf, and Sichel (2006a) explored the channels through which financial innovation can both exacerbate and diminish economic volatility.[6] For example, an enhanced ability to borrow helps households and firms smooth spending through temporary shortfalls in income, but it also enables them to boost spending more when they become very optimistic—due to lofty expectations of high-tech business opportunities in the late 1990s, say, or house price appreciation in recent years. These authors' analysis of aggregate data suggested that financial innovation has reduced volatility, on balance, and their work-in-progress using household-level data (2006b) points in the same direction. Dynan and Kohn (2007) showed that the rapid rise in household debt during the past several decades is due primarily to the combination of increasing

[6] One pertinent issue is the extent to which mortgage securitization has been a stabilizing or destabilizing force. On the stabilizing side, securitization disperses risk across regions and countries, distributes risk to lenders most willing to bear it (which also reduces the price of risk), and shifts risk out of the heart of the payments system. These advantages are substantial. However, recent developments have highlighted some destabilizing aspects of securitization: It creates principal-agent problems between mortgage issuers and ultimate lenders, it hinders renegotiation of contracts, it creates more uncertainty about institutions' creditworthiness because the distribution of risk-bearing may be obscured (especially in tumultuous periods), and it moves risk-taking out of the institutions with greatest regulatory oversight.

house prices and financial innovation, and that assets have increased much more than debt for most households—pushing up net worth considerably relative to income. Thus, most households appear to have benefited from being able to borrow more easily and cheaply when they choose. In addition, Gramlich (2007a) explained that the expansion of subprime mortgage lending during the past decade enabled many households with low income and poor credit histories to move out of undesirable rental housing. Even with the current problems, many households will avoid foreclosure and continue to enjoy their home-owning opportunity.

Of course, these results do not imply that financial innovation is stabilizing under all circumstances or that all forms of financial innovation are stabilizing. Moreover, financial innovation has let some people get in over their heads financially, as the freedom to borrow more is also the freedom to borrow too much or to borrow at too high a price. Dynan and Kohn showed that households with the highest ratios of debt to assets were more likely to be insolvent in 2004 (their latest data) than in previous decades, and they were more likely to face financial strain. Also, a growing body of evidence demonstrates that people do not fully understand their financial arrangements. Agarwal, Driscoll, Gabaix, and Laibson (2007) found that "younger adults and older adults borrow at higher interest rates and pay more fees than middle-aged adults controlling for all observable characteristics, including measures of risk." This "hump-shaped pattern of financial sophistication" reveals itself in many markets and sometimes has significant magnitude; for example, the average APR on home equity credit lines varied nearly one percentage point across age groups. Bucks and Pence (2006) found that "household-reported surveys capture broad measures of housing wealth and mortgage terms reasonably accurately … but do not appear to depict the terms of adjustable-rate mortgages with the same degree of accuracy. … In particular, borrowers appear to underestimate the amount by which their interest rates can change." Also, "households with low income and less education are less likely to know their mortgage terms." John Campbell (2006) found that less educated and poorer households are more likely to pay higher mortgage rates, even controlling for financial circumstances that may limit their access to credit.[7]

When deciding whether to restrict some feature of mortgage contracts, we are deciding whether to deprive some people of a valuable opportunity in order to protect other people who would be hurt. Consider the back-loaded payment streams embodied in expected payment increases and prepayment penalties. A household with low income and a poor credit history that experiences a rise in income or other improvement in its ability to make regular payments can meet its obligations under "teaser rates" for a few years—thereby repairing its credit record and then refinancing into a standard mortgage it could not receive at the outset. Of course, this strategy involves the risk that the household will be unable to refinance—perhaps because house prices fall, underwriting standards are tightened, or its credit record is not repaired—but it also has the upside potential of providing a route to home ownership. Thus, this type of mortgage is a source of trouble for some households but a boon to others. More broadly, the greater incidence of back-loaded payment streams in subprime relative to conventional mortgages reflects, at least in part, different needs of the borrowers and not just greater predation.

[7] The lack of understanding is presumably especially pronounced for new financial products and during unusual economic circumstances such as rapidly rising interest rates and sharply decelerating house prices.

Regardless of any policy actions, recent events will sharply limit subprime mortgage availability for some time. Lenders have learned that house prices may not rise forever, that risky loans will sometimes default in the absence of rising house prices, that principal-agent problems with mortgage brokers are acute, and that ratings agencies are not always helpful in evaluating risk. This learning process will automatically lessen some of the problems in the subprime market.

Still, the evidence of households' difficulties in understanding complex financial transactions suggests that further government regulation is warranted. Drawing heavily on Ned Gramlich's (2007a) analysis, the following actions strike a balance between protection and freedom:

- The government should continue to support efforts to improve financial literacy. This is not a new idea, however, and we should not expect quick fixes.

- The government should improve mortgage disclosures. But this is also not a new idea, and the previous warning about quick fixes applies here as well.

- The government should vigorously enforce existing laws and regulations regarding mortgage lending.

- The federal financial regulators should maintain, in some form, the guidance they provided in June to the institutions they supervise. The "Statement on Subprime Mortgage Lending" encouraged these institutions to evaluate each borrower's repayment capacity at the fully indexed rate rather than a low initial rate, to verify each borrower's income, to limit prepayment penalties, and to communicate clearly with borrowers about the features of available mortgages. Whether this precise guidance goes too far or not far enough in protecting borrowers can be judged over time.

- The government should expand the Home Owner Equity Protection Act (HOEPA)—which restricts the terms of mortgages with APRs above some threshold—to cover a significantly larger share of subprime mortgages. According to Gramlich, lowering the HOEPA threshold from eight percentage points (above the Treasury rate on comparable securities) to five percentage points would have brought in about half of subprime mortgages. Because people taking out higher-rate loans are generally in more vulnerable positions, they have greater need of protection. In addition, because half of subprime mortgages would not have been covered under HOEPA even with this expansion, substantial incentives for innovation in mortgage design would persist. Crucially, rules issued by the Federal Reserve under HOEPA apply to all mortgage lenders, not just those supervised by the Fed or other federal regulators. However, these rules are enforced, depending on the lender, by either a federal or state regulator.

- The government should strengthen the restrictions applied to loans covered by HOEPA. Currently banned are large scheduled increases in mortgage payments during the first five years and prepayment penalties that last longer than five years; in addition, lenders are required to verify borrowers' ability to repay their loans. These rules could be strengthened by making the payment shock implicit in 2/28 or 3/27 loans subject to the restriction on large scheduled payment increases (as proposed by Gramlich), by barring

prepayment penalties (as suggested by David Laibson) or at least limiting them to the term of the first interest rate, and in other ways.

What Should Be Changed in the Regulation of Financial Institutions More Generally?

Subprime mortgage problems have been most acute at lenders not supervised at the federal level (Gramlich, 2007b). Therefore, some analysts have advocated extending *federal* supervision to cover all mortgage lenders. Other targets that have been discussed for new regulation are the credit ratings agencies and financial institutions outside the mortgage market such as hedge funds. In my view, the federal government does not need to extend its safety and soundness supervision to all mortgage lenders or to increase its financial regulation more generally, but it should strengthen its oversight of ratings agencies.

There seem to be two chief arguments for extending federal supervision:

- Ned Gramlich (2007b) noted that only 20 percent of subprime loans in 2005 were made by federally supervised institutions, with another 30 percent made by affiliates of these institutions and 50 percent made by mortgage companies chartered and supervised by states. In contrast, virtually all prime mortgage loans are made by federally supervised institutions or their affiliates. Federal supervisors regularly examine their institutions' routines for making loans, validating repayment abilities, and complying with consumer protection laws. However, the degree of scrutiny at other institutions is less clear.

- The Federal Reserve's regulation of key financial intermediaries and the access by those intermediaries to the Fed's discount window are often viewed as crucial to the Fed's role as lender of last resort. With a growing share of traditional banking activities occurring at non-bank institutions, some analysts think that financial stability can be ensured only by bringing those institutions into the same system. For example, one analyst wrote that the classic problem of bank runs has recently been a problem of "non-bank" runs.

Arguments on the other side include:

- Gramlich (2007b) noted that key federal regulators and the Conference of State Bank Supervisors are beginning to collaborate on oversight of financial institutions. In his words, "The change brings state-chartered institutions into the program without federal legislation"—which seems a straightforward way of addressing the first issue above.

- As noted above, HOEPA rules apply to all mortgage lenders, not just those subject to federal regulation for safety and soundness. Enforcing those rules effectively at all institutions might require a step-up in resources, but that would still be easier than expanding the entire regulatory apparatus.[8]

[8] Bernanke (2007a) noted that guidance about mortgage lending, which applies only to supervised institutions, can be more flexible than the HOEPA-style rules used to affect mortgage lending at all institutions.

- Although federally supervised lenders do a smaller share of total lending today than in the past, the share is still considerable, and the share responds to financial and economic conditions. Therefore, the Federal Reserve's influence over these institutions gives it considerable influence over total lending. Indeed, banks have stepped up their role as funding sources in recent months, through both more direct lending and more lending to other intermediaries. Examples include banks with access to the discount window lending money to their affiliates (with special authorization from the Fed), a shift in Countrywide's lending toward its regulated thrift, Bank of America and various issuers of credit lines providing funding to Countrywide, and Citigroup providing funding for GMAC. In addition, the *Wall Street Journal* reported that the Fed could permit non-banks to borrow from the discount window under "unusual and exigent circumstances."

- Institutions subject to federal supervision can be viewed as having received a seal of approval, either explicitly or implicitly. Therefore, expanding federal supervision could increase the number of financial intermediaries that do not receive enough scrutiny from private investors.

Turning to the credit ratings agencies, their downgrades of mortgage-backed securities appear to have been lagging indicators of subprime mortgage problems rather than leading ones. One problem described in recent press coverage is that the ratings agencies are paid by issuers of securities to provide advice about structuring securities to receive the most favorable ratings. In some ways, this makes good sense: If the ratings agencies have information about what generates riskier or less risky payment streams, it is good for security issuers to know that. At the same time, this system raises the risk that the ratings agencies' incentives will be aligned more with those of security issuers than security purchasers.

One response is to have security purchasers pay for ratings. However, investors who do not pay for ratings may learn of them anyway, because information tends to be a public good, so this approach may not generate enough paying customers. Another response is to regulate the agencies more closely. Arthur Levitt (2007) recommended several steps to minimize the conflict between advising on security-structuring and rating securities objectively, including additional oversight by the SEC, a one-year waiting period for ratings agency employees wanting to join security issuers, and disclosure in debt-offering documents of any related advice provided by the rater to the issuer. Even with changes of this sort, investors would be well-advised not to rely so heavily on the ratings agencies in making investment decisions. Investors who cannot do some of their own due diligence regarding certain securities should not hold a significant amount of those securities in their portfolios.

A final important regulatory issue involves financial intermediaries more generally. Recent events have highlighted some fragile aspects of our financial system: Many institutions are investing large amounts of money, both on and off their balance sheets, in ways that are largely unregulated, not transparent to outside observers, and perhaps not understood by all of the participants. At the same time, some new intermediaries are playing stabilizing as well as destabilizing roles: Although some hedge funds have lost a good deal of money lately, others are apparently stepping in (often with less publicity) to buy distressed assets. Whether there are practical ways to improve on financial regulation in a broad sense is unclear.

References

Agarwal, Sumit, John C. Driscoll, Xavier Gabaix, and David Laibson, "The Age of Reason: Financial Decisions over the Lifecycle," National Bureau of Economic Research Working Paper No. 13191, June 2007.

Baker, Dean, and Andrew Samwick, "Save the Homeowners, not the Hedge Funds," *The Providence Journal*, August 31, 2007.

Bernanke, Ben S., "The Subprime Mortgage Market," May 17, 2007a.

Bernanke, Ben S., "Housing, Housing Finance, and Monetary Policy," August 31, 2007b.

Bucks, Brian and Karen Pence, "Do Homeowners Know Their House Values and Mortgage Terms?," Federal Reserve Board Finance and Economics Discussion Series 2006-3, March 2006.

Campbell, John Y., "Household Finance," *Journal of Finance*, August 2006.

Carlson, Mark and Gretchen C. Weinbach, "Profits and Balance Sheet Developments at U.S. Commercial Banks in 2006," *Federal Reserve Bulletin*, July 2007.

Dynan, Karen E., Douglas W. Elmendorf, and Daniel E. Sichel, "Can Financial Innovation Help to Explain the Reduced Volatility of Economic Activity?," *Journal of Monetary Economics*, January 2006a.

Dynan, Karen E., Douglas W. Elmendorf, and Daniel E. Sichel, "Financial Innovation and the Great Moderation: What Do Household Data Say?," November 2006b.

Dynan, Karen E. and Donald L. Kohn, "The Rise in U.S. Household Indebtedness: Causes and Consequences," Federal Reserve Board Finance and Economics Discussion Series 2007-37, August 2007.

Federal Reserve Board, *Monetary Policy Report to Congress*, 2000 through 2007.

Glaeser, Edward L., "Sensible Solutions to the Lending Mess," *The Boston Globe*, September 7, 2007.

Gramlich, Edward M., *Subprime Mortgages: America's Latest Boom and Bust*, 2007a.

Gramlich, Edward M., "Booms and Busts, The Case of Subprime Mortgages," August 2007b.

Leamer, Edward E., "Housing and the Business Cycle," August 2007.

Levitt, Arthur, "Conflicts and the Credit Crunch," *Wall Street Journal*, September 7, 2007.

Mankiw, N. Gregory, "Remarks at the Conference of State Bank Supervisors State Bank Summit and Leadership Conference," November 2003.

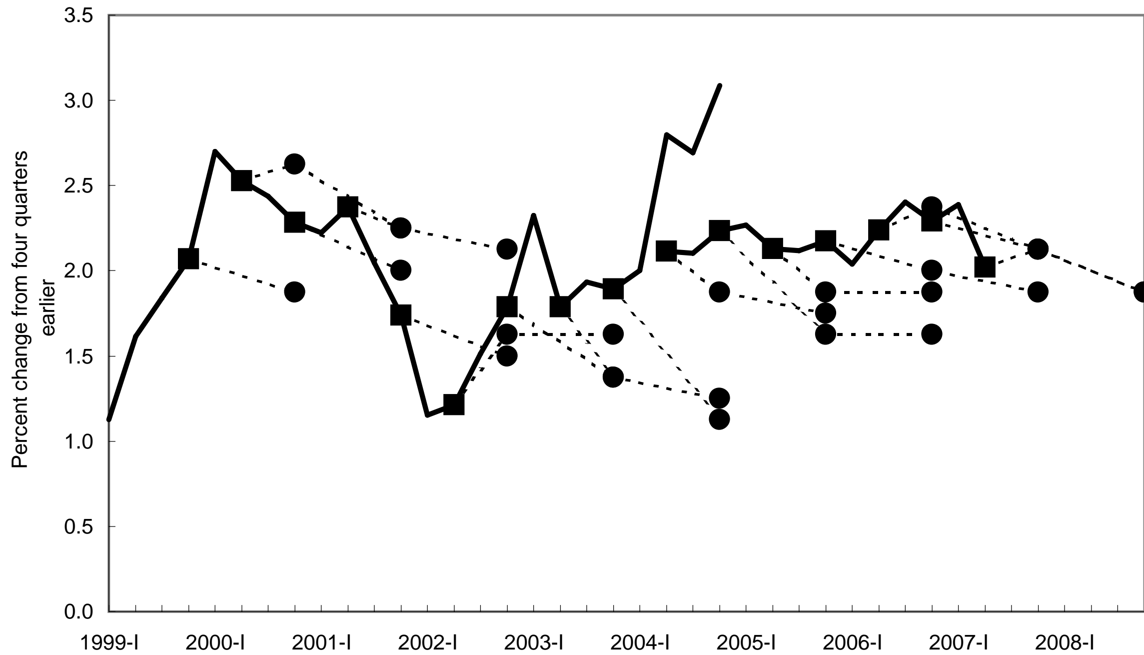
Mishkin, Frederic S., "Housing and the Monetary Transmission Mechanism," Federal Reserve Board Finance and Economics Discussion Series 2007-40, August 2007.

Pennington-Cross, Anthony, "The Value of Foreclosed Property," Federal Reserve Bank of St. Louis Working Paper 2004-022a, September 2004.

Reifschneider, David, Robert Tetlow, and John Williams, "Aggregate Disturbances, Monetary Policy, and the Macroeconomy: The FRB/US Perspective," *Federal Reserve Bulletin*, January 1999.

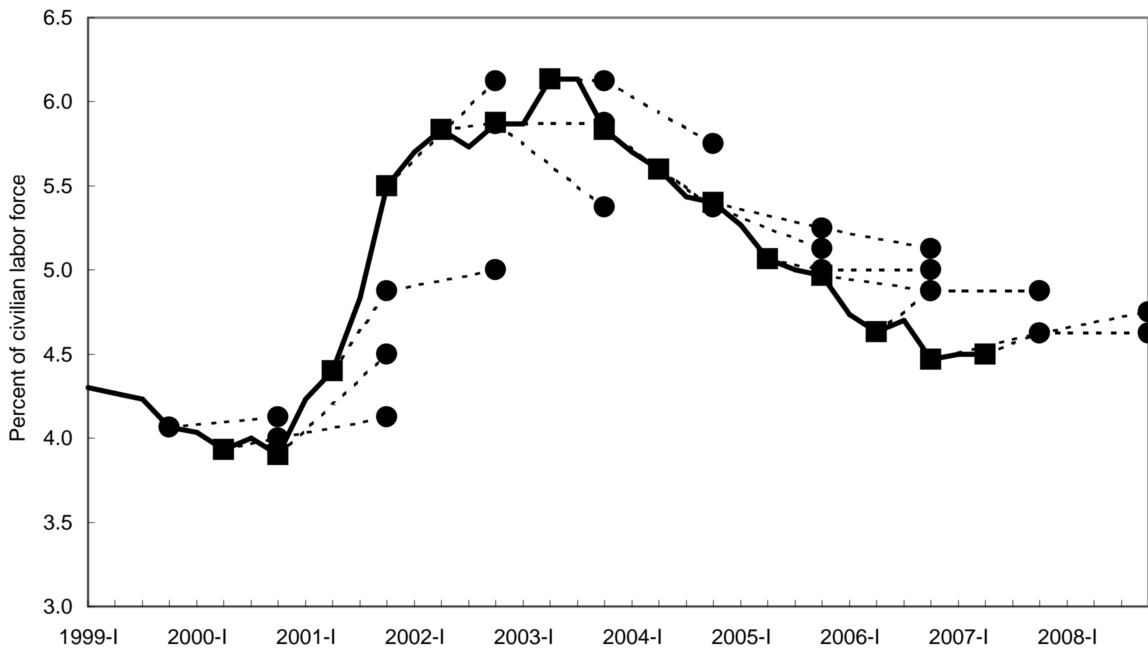
Taylor, John B., "Housing and Monetary Policy," September 2007.

Yellen, Janet L., "Recent Financial Developments and the U.S. Economic Outlook," September 10, 2007.



Source: BEA and FOMC Monetary Reports.

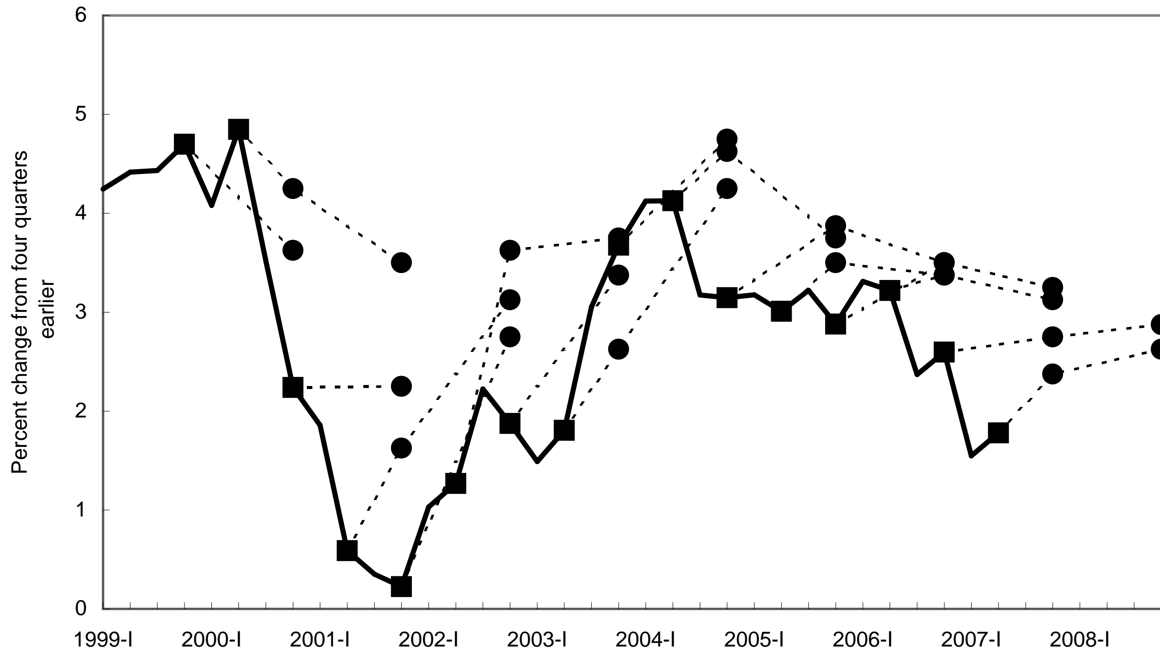
a. The bold lines are PCE inflation from 1999 Q1 to 2004 Q4 and core PCE inflation from 2004 Q2 to 2007 Q2. Squares indicate inflation on the date of projection; circles are projections, connected by dotted lines to the actual value on the date of projection.



Source: BLS Employment Table A-1 and FOMC Monetary Reports.

a. The bold line is the actual unemployment rate. Squares indicate the unemployment rate on the date of projection; circles are projections, connected by dotted lines to the actual value on the date of projection.

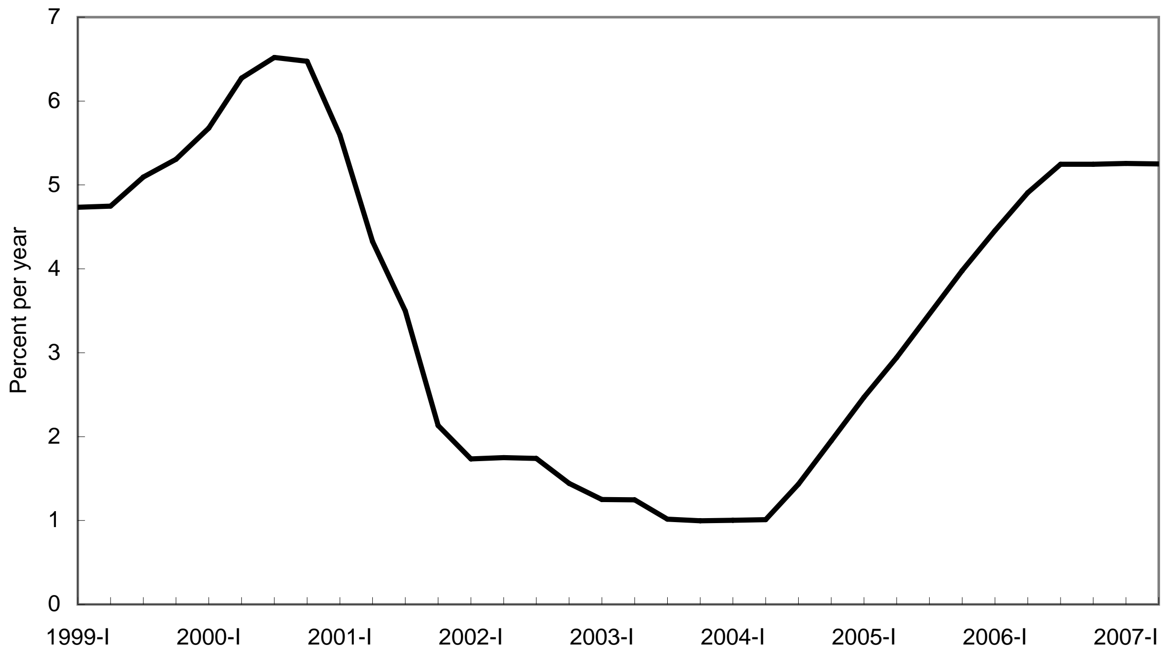
Figure 3. Actual and Projected Real GDP growth, 1999Q1-2008Q4[a]



Source: BEA and FOMC Monetary Reports.

a. The bold line is the actual GDP growth rate. Squares indicate GDP growth on the date of projection; circles are projections, connected by dotted lines to the actual value on the date of projection.

Figure 4. Federal Funds Rate, 1999Q1-2007Q2



Source: Federal Reserve Board, H.15