Infrastructure investments, tax cuts and new Fed policies that target lower mortgage interest rates will help spur investment and consumption, but without the recovery of credit markets--the brain of the economy--near-term prospects for growth will remain tentative at best. As distasteful as it is to those of us who worry about the long-term moral hazard costs of bailouts, the costs of not assisting weak banks are too great to avoid intervening. An activist consensus about financial sector policy is reflected in the impending approval of $350 billion in new assistance for the financial sector. But the government has yet to articulate the appropriate means of assisting banks in light of trade-offs entailed in various potential alternatives (which include purchases of preferred or common stock, purchases of toxic assets, and government guarantees limiting banks' losses on toxic assets). Nor has the government reached a consensus about the appropriate accompanying policies to attach to any of these forms of assistance.

Similarly, as consumption collapses and the tsunami of foreclosures builds (potentially numbering in the millions), there is growing recognition that it would be helpful for lenders to write down mortgage interest and principal rather than permit a massive, disorderly and debilitating wave of home foreclosures. Not only would mortgage write-downs help homeowners, a speedy process of writing down unsustainable mortgage debt would reduce bank losses and remove much of the uncertainty that continues to plague banks that hold a variety of financial claims whose values would become clearer once uncertainties about underlying mortgages were resolved.

But, as with the various alternative TARP mechanisms, advocates of different approaches to resolving mortgage distress need to articulate the trade-offs among the various approaches for accomplishing their objectives. Sheila Bair, chairman of the FDIC, among others, advocates taxpayer loss sharing to encourage creditors to reduce mortgage principal and interest. Alternatively, some Democrats advocate new legislation that would empower bankruptcy judges to "cram down" mortgage principal in bankruptcy proceedings. This would effectively eliminate the unique right that mortgage creditors have enjoyed under the law to obtain full repayment or foreclosure despite what happens to other creditors in a personal bankruptcy.

Now that more assistance to buttress banks and limit foreclosures is on the way, it is high time to consider what financial economics has to say about the most effective mechanisms for stabilizing bank and consumer finances.

**Dealing with Toxic Assets in Banks:** If a bank has a significant remaining amount of equity value, the best approach to boosting capital to promote credit growth is a preferred stock injection. This is, in essence, a loan to the bank that is junior to other bank debts and does not place the bank at risk of being in default from failing to pay preferred stock coupons.

Preferred stock purchases, if implemented properly, avoid difficulties of pricing inherent in risky government common stock investments in banks or other forms of risky government assistance because they entail less risk of loss to taxpayers. The lower risk of preferred stock also ensures private common stockholders bear most of the fruits or costs of bank decisions. And, by avoiding stockholder dilution from government purchases of common stock, preferred stock assistance can encourage banks to raise new common shares faster--a positive, crowding-in effect from government preferred stock purchases that would be particularly strong if the coupons paid on preferred stock are low. Given the social benefits of such crowding in, very low coupons (say, 2% or 3%) may be desirable.
A preferred stock injection is not ideal, however, for banks with very little remaining equity (those with a substantial probability of not being able to survive if losses on toxic loans turn out to be on the high end of reasonable forecasts). For such a bank, even a government purchase of a significant amount of low-coupon preferred stock would not restore adequate capital. Furthermore, it could encourage reckless risk taking by subordinating the claim of common stockholders to the new claim of preferred stock on the cash flows generated by the bank—an incentive problem formalized by Nobel Laureate Robert Merton and others in the 1970s. If preferred stock is not appropriate in that case, then what is the right approach to assisting a deeply undercapitalized bank?

Buying toxic assets from banks is one possibility, but it is fraught with many pitfalls. In the currently illiquid markets for subprime mortgages and their related securities, it is hard to know what price to pay for these complex assets. If one pays a low price, that does little or nothing to restore capital adequacy. Overpaying harms taxpayers and effectively subsidizes the worst banks. A recent twist on asset purchases is the Treasury proposal for establishing an "aggregator bad bank" to purchase and liquidate toxic assets. Given the complexities of subprime securitizations, arguably it could be easier to price transfers of large amounts of combinations of assets (especially if they are claims to the same pools of mortgages) than to price individual securitization pieces, and thus it is conceivable that the aggregator bank concept could work better than the original TARP purchase plan. But it seems unlikely that this approach will resolve the core problem of substantial pricing uncertainty.

One helpful policy, which Benn Steil has advocated for over a year, would be for government to remove the possibility of extremely low values on distressed mortgages throughout the market by providing an explicit put option on all outstanding mortgages at a very low (out-of-the-money) value. Using this approach, the possibility of extreme loss from toxic assets can be eliminated without having to actually buy toxic assets. For example, the government could offer to buy any existing mortgage for 30 cents on the dollar of face value for a period of three years. This limited government insurance protection against extreme downside loss on toxic assets bounds bank losses on toxic assets and would not require banks to actually transfer the toxic assets to the government. Indeed, there would be no advantage to transferring mortgages at this rock bottom price, since the government guarantee at 30% of face value would ensure that all mortgages have a market value of above 30 cents on the dollar.

Banks may wish to sell some mortgages privately as their prices rise in response to the downside protection, or borrow against them, or possibly create a bad bank to manage their liquidation, once the assets are insured, but they could also retain them on portfolio after marking them to their increased value. If the government's policy response succeeds in avoiding a deep depression and promoting recovery over the next three years, virtually no mortgages would be sold at the rock bottom price, and the program would have no ultimate cost to taxpayers.

What else should the government do for the banks that are too distressed for preferred stock assistance? One approach would be to further extend downside insurance for toxic assets to those banks on a bank-specific basis. That would avoid the difficult process of purchasing and managing toxic assets. It would also avoid common stock injections into banks, which would raise thorny issues of government participation in the governance of banks. Such a mixing of private and public ownership can politicize bank credit allocation. That is a worrying prospect, particularly in light of the huge misallocations and losses that resulted from Fannie Mae's and Freddie Mac's imprudence in the name of politically motivated "affordable housing goals."

If, in addition to the economy-wide 30% floor on all mortgages, it makes sense to provide these two additional kinds of protection to banks--preferred stock to the relatively strong banks and enhanced downside insurance to the weak (but not deeply insolvent) ones--how would the government determine whether a bank qualifies for one or the other program? We cannot depend on weak banks to identify themselves as weak since they might prefer the preferred stock plan, especially if insurance premia for downside protection on toxic assets are set at appropriately high levels.
One way to identify the relatively strong banks is to impose a common stock matching requirement for preferred stock assistance. This would use the market to help sort relatively weak and strong banks. Any bank applying for preferred stock assistance would have to raise some fraction (say half) of the amount of the requested preferred stock assistance in the form of additional common stock. If a bank cannot attract private common stock buyers in the market, even in the presence of the large value of the implied subsidy inherent in the low coupon on the preferred stock, then that bank should not be given access to the preferred stock program. Any bank unable or unwilling to participate in the preferred stock program would then be eligible for the enhanced insurance program.

No matter what kind of assistance is offered to banks, five principles must be adhered to, which have been absent in the implementation of the first round of TARP:

First, if a bank is deeply insolvent, the government should not waste taxpayer resources trying to prop it up with capital injections or enhanced insurance of its toxic assets. There is no point in insuring the downside of a bank that would be unable to raise private capital and achieve capital adequacy even after receiving significant downside protection from the government. How can the government tell when a bank is not worth assisting with enhanced downside protection? As in the case of preferred stock injections, market participants can help the government make that call. A bank that cannot raise adequate private funds conditional on receiving substantial downside insurance from the government should have to sell itself or wind down its operations. Regulators should not make the determination that a bank is too distressed to be worth helping by mechanically applying current market values (which are temporarily depressed due to the liquidity crisis) to bank assets. Mortgage-backed security prices in today's market, in particular, should not be taken as estimates of the expected values of those instruments once the liquidity crisis passes; in many cases, reasonable expected recovery values are substantially higher than observed market prices. A better test would be the ability of the bank to raise new capital in the market conditional on the potential to participate in the insurance program.

Second, banks receiving assistance should not be permitted to pay common stock dividends during the period in which they receive assistance. Dividends deplete equity capital and thus are inimical to the recapitalization objective. Furthermore, the primary economic cost that normally accompanies a dividend cut (adverse signaling of bank prospects to the market) should be absent when the dividend cut results from a government mandate.

Third, attaching warrants to preferred stock or other upside options for taxpayers is counterproductive to banks' abilities to raise private capital and should not be included in assistance agreements for banks. Congress insisted on adding warrants to preferred stock purchases in the TARP legislation in an attempt to imitate private agreements (like Warren Buffett's with Goldman Sachs), but public policy serves different purposes than private contracts; the goal of assistance is to help recapitalize banks and thereby promote lending and growth, and it is penny wise and pound foolish to insist on making a profit on the government investments in the banks if doing so reduces the effectiveness of assistance.

Fourth, government should not insist on treating banks in different circumstances the same way in an attempt to disguise their differences. That Japanese-style "convoy" approach (which Secretary Paulson has favored in the past) never fools the market and fails to reward better-performing banks with more effective and lower-cost forms of assistance.

Fifth, banks that receive additional downside protection for toxic assets (beyond the proposed economy-wide 30 cent floor on mortgages) should pay a fair (i.e. sufficiently high) premium for that assistance. Although it is not possible to gauge with precision this fair premium, rough calculations using option pricing are possible and can be applied in a way that limits taxpayers' losses and rewards banks holding relatively better performing toxic assets.

**Mortgage Relief:** Taxpayer loss sharing to encourage write-downs is far superior to granting bankruptcy judges authority to impose cram downs. First, the number of mortgage renegotiations that need to take
place quickly is simply beyond the capabilities of the courts to manage. A protracted process of financial gridlock while we await the outcomes of millions of possible bankruptcy cases would be a nightmare for the housing and mortgage markets, as it would prevent desirable house sales, destroy market liquidity and add huge uncertainty to consumer and bank finances.

Second, bankruptcy judges are less likely to achieve rational outcomes compared with those from voluntary renegotiation between properly incentivized creditors and debtors. Creditors and debtors are in a much better position than bankruptcy judges to determine the appropriate amount of write-downs, and a proportional loss sharing by taxpayers has precisely the right incremental effect on those decisions: It encourages banks to write down losses a bit more than they otherwise would and thus avoids foreclosure for borrowers who had been nearly viable candidates for write-downs, but it does not encourage counterproductive write-downs for borrowers that have no hope of avoiding eventual foreclosure. As in the case of bank capital assistance, policymakers can use market participants' information to efficiently target taxpayer dollars to assistance that maximizes its positive impact. In foreclosure mitigation, as in bank capital assistance, there are large gains from allowing market information to help allocate resources by resisting one-size-fits-all policies.

Third, violating the unique protection mortgage creditors enjoy against cram down would have far-reaching negative consequences for all consumers by raising the cost of credit. The reason mortgage finance has dominated consumer credit markets over the past three decades is precisely because of this special protection afforded to mortgage creditors, which has produced lower interest rates on mortgage-related consumer loans. If interest rates on consumer installment loans and credit cards are a guide to what to expect from the elimination of mortgage creditors' protection, average interest rates paid for credit by credit-worthy consumers could rise by several percentage points as the result of allowing cram downs.

Fourth, by sharing lender losses on write-downs, the government kills two birds with one stone. Loss sharing reduces bank losses and thus helps to rebuild banks' capital adequacy and restart the flow of bank credit. Cram down, in contrast, forces banks to bear all the costs of mortgage write-downs.

How would taxpayer loss sharing work? If the government were to announce that it would bear, say, 30% of all negotiated write-downs of principal and interest on mortgages so long as these write-downs were accomplished quickly (say, within six months), the private sector would move very quickly to achieve sizable write-downs on many mortgages to take advantage of the subsidy. This is exactly what occurred in Mexico in 1999 during the implementation of its "Punto Final" (Final Point) program, in which government bore 50% of losses that met the preset re-negotiation deadline.

It is also worth bearing in mind that taxpayers are already exposed to large mortgage losses now that Fannie Mae and Freddie Mac are in conservatorship, and the government effectively owns substantial losses on their roughly $1.5 trillion exposures to subprime and Alt-A mortgages, according to calculations by Edward Pinto. Loss sharing on mortgage re-negotiations would likely increase home values and thus improve recoveries on that portfolio. Furthermore, because of the government's control over Fannie and Freddie, it can play a large role in establishing foreclosure mitigation protocols that could set important legal precedents for other lenders. The government should establish a special group of professionals to advise the conservatorships of Fannie and Freddie on this process to ensure that government does not slow down or distort the process of mortgage re-negotiation.

If the time has come to spend hundreds of billions to restart bank credit flows and prevent unwarranted foreclosures, let's spend the money using mechanisms that are likely to achieve our objectives.

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