Testimony before the Congressional Oversight Panel
Regulatory Reform Hearing
January 14, 2009

by Joseph E. Stiglitz

First, let me thank you for holding these hearings. The subject could not be more timely. Our financial system has failed us. A well-functioning financial system is essential for a well-functioning economy. Our financial system has not functioned well, and we are all bearing the consequences. Millions are losing their homes, along with their life savings and their dreams for their future and the future of their children. Many who worked hard for a lifetime and had looked forward to retirement with a modicum of comfort face the remaining days of their lives with hardship and uncertainty. Many will not be able to send their children to college. Millions will lose their jobs as the economy goes deeper into recession. Every month it is clear that our downturn is deepening.

The failure to act quickly and effectively means that the downturn will be longer and deeper than it otherwise would have been, and we will emerge from the crisis with a larger legacy of debt, less able to meet any contingency which our country faces. That is why it is imperative that we design a stimulus package with the biggest bang for the buck and which leaves the nation's balance sheet in the best position possible. Household tax cuts, except for the poorest, have no place in such a program. Neither do loss carry-backs, except when closely linked with investment. The one tax cut that should be included is a temporary incremental investment tax credit; it provides a big bang for the buck, encouraging firms to undertake investment *today*, when the economy needs the spending. The most immediate need is relief to states, without which we will see further cutbacks in employment and basic services; but beyond that, we need increased investments in education and technology as well as infrastructure, help to the unemployed, and a plan to address foreclosures.

My subject today, however, is not the stimulus but regulatory reform, the failed bail-outs of the banks, and what should be done going forward.

REGULATORY REFORM

Part of the reason that our financial system has performed so poorly is inadequate regulation and regulatory structures. Some have argued that we should wait to address these problems: we have a boat with holes, and we must first fix those holes. But we know the boat has a faulty steering mechanism and is being steered by captains who do not know who to steer, least of all in these stormy waters. Unless we fix both, there is a risk that the boat will go crashing on some other rocky shoals before reaching port. The time to fix the regulatory problems is now.

Part of the problem today is a lack of confidence in our financial system. But how can there be a restoration of confidence when all we have done is to pour more money into the banks? We have changed neither the regulatory structures, the incentive systems, nor even those who are running these institutions. As we taxpayers are pouring money into these banks, we have even allowed them to pour out money to their shareholders and to their executives in the form of bonuses, and to acquire other institutions. We imposed no conditions that would lead to more lending, and not surprisingly, we have not gotten more lending. At a time of increasing concern with mounting national debt, we provided the banks funds in a way which makes it unlikely that we will get a fair return, adjusted for risk, on the money provided.

This morning I want to describe briefly the principles, objectives, and instruments of a 21st century regulatory structure.

Some General Principles

It is hard to have a well-performing modern economy without a good financial system. However, financial markets are not an end in themselves but a means: they are supposed to mobilize savings, allocate capital, and manage risk, transferring it from those less able to bear it to those more able. Our financial markets have not performed these functions well: they encouraged spendthrift patterns, which led to near-zero savings; they misallocated capital; and instead of managing risk, they created it, leaving huge risks with ordinary Americans who are now bearing huge costs because of these failures.

These problems have occurred repeatedly and are pervasive. This is only the latest and biggest of the bail-outs that have become a regular feature of our peculiar kind of capitalism. The S & L bail-out cost American taxpayers several hundred billions of dollars; but we should remember that the Mexican, Indonesian, Korean, Brazilian, Russian, and Argentinean bail-outs were all bail-outs of Wall Street. They were as much a bail-out of the countries whose name they bear as the sub-prime bail-out is a bail-out of poor Americans. All of these reflect a failure of our financial system to fulfill its most basic function, ascertaining credit worthiness. The problems are systemic and systematic.

These failures are, in turn, related to three more fundamental problems. Markets only work well when there are well designed incentives, a high level of transparency, and effective competition. America's financial markets failed on all accounts.

Incentives. Markets only work well when private rewards are aligned with social returns. Incentives matter, but when incentives are distorted, we get distorted behavior. In spite of their failure to perform their key social functions, financial markets have garnered for themselves 30% or more of corporate profits—not to mention the huge compensation received by their executives. But the problem with incentive structures is not just the level but also the form—designed to encourage excessive risk taking and short-sighted behavior.

Transparency. The success of a market economy requires not just good incentive systems but good information—transparency. Markets fail to produce efficient outcomes when information is imperfect or asymmetric. They put liabilities off-balance sheet, making it difficult to assess accurately their net worth. They created over the counter derivatives which were so complex that the banks can't even assess their own balance sheets. They know that accordingly there is no way that they can know the balance sheet of other banks. This non-transparency is a key part of the credit crisis. Lack of transparency is pervasive in financial markets and is in part the result of flawed incentive structures. Indeed, those in financial markets have resisted improvements, such as more transparent disclosure of the costs of stock options, which provided incentives for bad accounting:

Competition. Competition is a third element of well-functioning markets. There are a number of institutions that are so large that they are too big too fail. That provided an incentive to engage in excessively risky practices. It was a heads I win—they walk off with the profit—tails you lose—we, the taxpayers, assume the losses. This non-transparency is a key part of the credit crisis that we have experienced over recent weeks.

What is clear is that financial markets with inadequate government regulation failed on each of these three counts. When financial markets succeed, they bring benefits to our entire economy, but when they fail, as they have now done, the costs are enormous. There are, as economists put it, severe externalities. The losses include not only the direct budgetary costs, in the hundreds of billions of dollars, but also costs to our entire economy, totaling in the trillions before we have fully recovered. The damage to our standing in the world is inestimable.

Well-functioning markets require a balance between government and markets. Markets often fail, and financial markets have, as we have seen, failed in ways that have large systemic consequences. The deregulatory philosophy that has prevailed in many Western countries during the past quarter century has no grounding in economic theory or historical experience; quite the contrary, modern economic theory explains why the government must take an active role, especially in regulating financial markets.

Good regulation can increase confidence of investors in markets and thus serve to attract capital to financial markets. Critics of regulation worry that it will stifle innovation. On the contrary, well designed regulations encourage *real* innovation. Much of our financial market's creativity was directed to circumventing regulations, taxes, and accounting standards; as we have noted, the accounting was so creative that no one, not even the banks, knew their financial position. Meanwhile, the financial system didn't make the innovations which would have addressed the real risks people face—such as how to stay in their homes when interest rates change—and indeed, have resisted many of the innovations which would have increased the efficiency of our economy. By reducing the scope for these socially unproductive innovations, we can divert creative activity to more productive directions.

Regulations can help markets work better. We need regulations to: (a) ensure the safety and soundness of individual financial institutions and the financial system as a whole; (b) protect consumers; (c) maintain competition; (d) ensure access to finance for all; and (d) maintain overall economic stability. In my remarks this morning, I want to focus on the outlines of a regulatory structure focusing on safety and soundness of our institutions and the systemic stability of our system. But we should note that some of the worst practices—imposing the greatest risk on our financial system—have involved predatory lending, taking advantage of some of the poorest members of our society.

Regulations need to focus both on practices and products. It has been commonplace to emphasize the need for more transparency, which is why any retreat from mark-to-market would be a mistake. But we should realize that lack of transparency is a symptom of deeper problems; even if transparency initiatives were fully effective, much more needs to be done. Too often, a focus on transparency represents an attempt to divert discussion from these more fundamental reforms, which I outline in greater detail below.

For instance, we have to ensure that incentive structures do not encourage excessively risky short sighted behavior; we need to reduce the scope of conflicts of interest—our financial markets are rife with them. Securitization, for all the virtues in diversification, has introduced new asymmetries of information; forcing originators of mortgages to bear some of the risk would mitigate some of the resulting moral hazard.

Derivatives and similar financial products should neither be purchased nor produced by highly regulated financial entities, unless they have been approved for specific uses by a financial products safety commission (FPSC, discussed below) and unless their use conforms to the guidelines established by the FPSC. They should be instruments for laying off risk, not instruments for gambling. Regulators should encourage the move to standardized products. Greater reliance on standardized products rather than tailor-made products may increase transparency and the efficiency of the economy. It reduces the information burden on market participants, and it enhances competition (differentiating products is one of the ways that firms work to reduce the force of competition). (These restrictions would both reduce exposure to excessive risk, including counterparty risk, and increase transparency.)

We need countercyclical capital adequacy/provisioning requirements and speed limits. Well-designed countercyclical capital adequacy regulations would mitigate some of the problems raised by mark-to-market. We need to proscribe excessively risky and exploitive lending (predatory lending)—many of our problems are a result of lending that was both exploitive and risky.

We need a Financial Products Safety Commission to make sure that the products purchased by an individual, a bank or pension fund are "safe" and appropriate, designed to manage the risks they face.

Regulation needs to be comprehensive—both across institutions and across countries. Otherwise there will be regulatory arbitrage. Funds will, for instance, flow through the

least regulated or least transparent part. Transparency requirements on part of the system may help ensure the safety and soundness of that part of the system but will provide little information about systemic risks. This has become particularly important as different institutions have begun to perform similar functions.

But regulation will never by fully comprehensive, so we need especially to regulate large, systemically important institutions and highly leveraged institutions—the kinds of institutions which pose a threat to our economy. But we must recognize that a large number of smaller institutions acting in a similar way can pose systemic risk. That is why we need a Financial Systems Stability Commission to assess the overall stability of the system and to direct corrective action.

Because regulation cannot be comprehensive, there needs to be a strong ring-fencing of the core financial institutions that are highly regulated. We have seen the danger of allowing them to trade with risky unregulated parties. But we have even forgotten basic principles: those who manage others' money inside commercial banks were supposed to do so with caution. Glass-Steagall was designed to separate more conservative commercial banking—concerned with managing the funds of ordinary Americans—from the more risky activities of investment banks, aimed at upper income Americans. The repeal of Glass-Steagall ushered in not only a new era of conflicts of interest (as we saw during the Enron/WorldCom scandals), but also a new culture of risk taking in what are supposed to be conservatively managed financial institutions.

There will be ancillary benefits in restricting banks' dealing with off-shore secretive banks, whose raison d'etre is, for the most part, regulatory and tax evasion, facilitating terrorism, drugs, and corruption.

Regulatory structures

Part of the problem has been our regulatory structures: if government appoints as regulators those who do not believe in regulation, one is not likely to get strong enforcement. We have to design robust regulatory systems, where gaps in enforcement are transparent. Relatively simple regulatory systems may be easier to implement, more robust, and more resistant to regulatory capture.

Anyone looking at our overall financial system should have recognized not only the problems posed by systemic leverage but also the problems posed by distorted incentives. But incentives also play a role in failed enforcement and help explain why self-regulation does not work. Those in financial markets had an incentive to believe in their models—they seemed to be doing very well. There was a party going on, and no one wanted to be a party pooper. That's why it's absolutely necessary that those who are likely to lose from failed regulation—retirees who lose their pensions, homeowners who lose their homes, ordinary investors who lose their life savings, workers who lose their jobs—have a far larger voice in regulation. Fortunately, there are very competent experts who are committed to representing those interests.

It is not surprising that the Fed failed in its job: the Fed is too closely connected with financial markets to be the sole regulator. This analysis should also have made it clear why self-regulation will not work, or at least will not suffice. (There are other reasons: each bank, in looking at its own risk, cannot ascertain systemic risks which may arise, say, when all use similar programs calling for sales of assets at the same time.)

Concluding comments on regulation

I noted that there has to be an alignment of private rewards and social returns. Those who impose costs on others (externalities) must be forced to pay those costs. This is not just a matter of equity; it is a matter of economic efficiency. More generally, costs of the regulating and bailing out of financial systems are part of the costs of financial intermediation. There is a presumption that efficiency requires that these costs be borne within the sector. In environmental economics, there is a basic principle, called the polluter pays principle. Wall Street has polluted our economy with toxic mortgages. It should now pay for the cleanup.

Moreover, financial behavior is affected by many other parts of our tax and legal structures. Financial market reform cannot be fully separated from reform in these other laws. While inadequacies in our financial system became so large that not even blind devotees could ignore them, there are serious failings in other aspects of our economy. There is, for instance, need for broader reform of corporate governance. Why is it that so many banks have employed incentive structures that have served stakeholders—other than the executives—so poorly?
Earlier, I talked about the need for stronger and more effectively enforced anti-trust laws. As part of the solution to our current problem, we are creating ever larger institutions—new problems for the future.

Our tax laws too have played a role in the current debacle. In spite of the new complexities resulting from so-called innovation, this financial crisis is similar to many in the past—there has been excessive leveraging. Tax laws, especially preferential treatment of capital gains, encouraged excessive leveraging. For this and other reasons we need to rethink this preferential treatment gains.

So too, new bankruptcy laws that made it more difficult for the poor to discharge their debts may have encouraged predatory lending practices. Reform in our bankruptcy law—including a new homeowners' Chapter 11—would help us in dealing with the rash of foreclosures and provide incentives against bad lending in the future.

Financial markets have become global. We exported our toxic mortgages abroad; had we not done so, the problems here at home would be even worse. But with open financial markets, there is a risk in the future that we might import toxic products produced abroad, unless other countries undertake serious regulatory reform as well. It is hard to see how our national financial market could work if we had to rely on 50 separate uncoordinated state regulators. Yet that is what we are, in effect, trying to do at the global level. There

is a further danger: a race to the bottom, as each country believes that it can attract finance to its borders by deregulation. That view is wrong and dangerous. Investors want to put their money in financial markets that are well-regulated. They want to be sure that there is a level playing field and that they won't be cheated. In the past, one of the reasons that capital flowed to the U.S. was because investors believed our financial markets were well-regulated and worked well. Today, they have little confidence that this is the case.

It would be best if we could get an agreement on a global regulatory structure. At the very least, we should strive for a modicum of harmonization. We are at a "Bretton Woods moment," a moment where the international community may be able to come together, put aside parochial concerns and special interests, and design a new global institutional structure for the twenty first century. It would be a shame if we let this moment pass.

But we cannot let reform of our own regulatory structure wait on the outcome of international discussions. We can demonstrate leadership by showing what a good, comprehensive regulatory reform might look like. We can have good regulation in our country, even if others do not immediately follow. But that may well entail restricting dealings with those that have inadequate regulatory structures, as I have already suggested.

The agenda for regulatory reform is large. It will not be completed overnight. But we will not begin to restore confidence in our financial markets until and unless we begin serious reform.

FORECLOSURES

The start of our economic problem, in some sense, was in the mortgage market, but remarkably, too little has been done. Unless something is done to address the problems of foreclosures, banks will continue to face losses, and there is a risk of overshooting of real estate prices, as the effects of forced sales are felt. Given the externalities generated, government assistance to enable especially poor families to stay in their homes is imperative. There are large deadweight losses when houses are left vacant. The costs to society, to families and their communities, of the millions being uprooted, loosing with their homes their life savings and their dreams for a future are obvious.

The underlying problem is simple: banks made loans based on inflated housing prices; the mortgages were beyond many individuals' ability to pay. The following outlines a comprehensive approach to dealing with the problem of foreclosures. First, the voluntary restructuring programs have not worked sufficiently broadly and rapidly. It is time to back up these voluntary efforts with legal reform, a homeowners' Chapter 11. Secondly, in another version of trickle down economics, we have been throwing money at the big banks, in the hope that that will restart the economy. Matters have only grown worse, as we gradually discover the depth of their incompetencies in managing risk and allocating capital. It is time that we use some of the government's lower cost of capital to provide

funds to homeowners. Taxpayers can even get a good return on these loans—far better than we are likely to get on the money provided to some of our financial institutions. Thirdly, we need to provide assistance to lower income homeowners; remarkably, today, we provide far greater assistance to upper income Americans through the tax system—paying approximately 50% of their housing costs—than we do to lower income Americans. Rectifying this is not just a matter of efficiency and equity; today, it is a critical step in addressing our economic crisis. Finally, as I noted earlier, our financial markets have been innovative—in getting around regulations and in creative accounting—but not in helping ordinary Americans manage the most important risks they face. There are alternative mortgage forms, such as Danish mortgage bonds, which have worked well; we need to begin exploring these alternatives.

1. Dealing with the current foreclosure problem: a homeowners' Chapter 11

There are a number of easy ways of dealing with the foreclosure problem—such as bailing out the lenders at the same time as writing down the loans—which, in the absence of budget constraints and worries about future moral hazard would make everyone (other than the ordinary taxpayer) happy. Individuals could stay in their homes, and lenders would avoid taking a hit to their balance sheets. Knowing that the government is taking this risk off of balance sheets would contribute to alleviating the credit crunch.

The challenge is how to save the homes of the hundreds of thousands of those who otherwise would lose their homes and *not* bail out the lenders, who should be made to bear the consequences of their failure to assess risk. (Clearly, borrowers also share in the blame, but for the most part, the lenders were, or should have been, far more financially sophisticated than the borrowers, especially most of those taking out sub-prime mortgages.)

One answer is a "homeowners' Chapter 11"—a speedy restructuring of liabilities of poorer homeowners, modeled on the kind of relief that we provide for corporations who cannot meet their debt obligations. Chapter 11 is premised on the idea that keeping a firm going is critical for the firms' workers and other stakeholders. The firm's management can propose a corporate reorganization which the Courts review. If found acceptable, there is a quick discharge of debt—the corporation is given a fresh start. The homeowners' Chapter 11 is premised on the idea that no one gains from forcing a homeowner out of his home. There are large transactions costs associated with foreclosure. And typically, following foreclosure, there is a deterioration in house maintenance, and adverse effects on the community.

Eligibility standards. This relief should be available for households with income below a critical threshold ($150,000) and with non-household, non-retirement wealth below some critical threshold (perhaps dependent on age). But an argument could also be made that it should be more generally available.

Procedures. The house would be appraised, and the individual's debt would be written down to, say, 85 to 90% of the level of that appraisal (reflecting the fact that were the lender to have to proceed with foreclosure, there would be substantial transaction costs).

An assessment of the individual's ability to make mortgage payments at the lowered value and current market interest rates would then be made (at a conservative standard—it again does no good to hope that the individual will be able to make payments that are beyond his ability).

If the borrower could still not make the now reduced payments, the borrower could then get a government loan as described in the next section, which takes advantage of the government's lower cost of funds. (To reduce the likelihood of foreclosure, this possibility could be extended more generally.)

Model bankruptcy restructurings for other cases (e.g. homeowners with an income beyond the $150,000 limit, or who can afford to pay the written down value of the mortgage) could easily be designed.

These restructurings, as desirable as they may be for the long run, are often criticized as being too slow to be of relevance in the current crisis. Regrettably, the crisis is likely to be long lasting. It is now clear that interventions which were supposed to have faster acting effects have not worked. Moreover, using model bankruptcy restructurings, it should be possible to have an expedited process.

2. Voluntary restructuring of existing loans

With the government assuming an increasing role in the financial sector (through ownership of Fannie Mae and Freddie Mac and equity injections), it can use its role to push mortgage restructurings (as it has already been doing in some cases).

The threat of a homeowners' Chapter 11 action would always promote voluntary restructuring.

In the next section, we discuss how government can use its lending programs to induce restructuring.

3. Expanded government mortgage lending

The usual argument *against* government lending is that the private sector does a better job of screening loan applicants and designing appropriate mortgages. The evidence against that view is now overwhelming. A simple rule-based government mortgage program could provide mortgages at better terms and with a lower risk of default than the private sector. There are a number of variants of this proposal (some already in place at a limited scale). By passing on the government's lower cost of capital, and using the enforcement capacities of the IRS, loans could be provided at lower interest rates,

without adversely affecting the government's budgetary situation, and these lower mortgage rates would then lower default rates.[1]

Note that the government (sometimes through the Federal Reserve) is providing financing at lower-than-market price to large corporations and banks. A compelling case, both on grounds of equity and efficiency, can be made that it should also do so for ordinary Americans.

Refinancing existing mortgages. With long term interest rates at record low levels, it may be possible to refinance large numbers of mortgages in ways which will make them affordable—and still leave the government earning a return. The threat of the government doing so may itself provide an incentive to encourage banks to restructure their loans. If the government refinances, say, a 6% mortgage, the bank receiving the money may have few good investment opportunities.

The government could, for instance, offer to refinance all mortgages that have not been restructured according to government specifications. The low interest rates have, in effect, given owners of long term mortgages paying higher interest rates a windfall gain, though the mortgage may still have a low value because of the risk of default.

In some cases, there is a pre-payment penalty. The savings from the lower interest rate would, presumably, in most cases more than offset the pre-payment penalty, and the government could provide finance for the pre-payment penalty as part of the refinanced mortgage. The government could use the homeowners' Chapter 11 to override the pre-payment penalty, or alternatively offer to pay the penalty, on behalf of the homeowner. The costs of such payments are likely to be low, especially in relationship to the costs of the current disruptions in financial markets. Alternatively, the government could combine an override under a version of a homeowners' Chapter 11 with a partial payment of the penalty in those instances where the lender could establish that he: (i) had fully disclosed and explained all the terms of the mortgage to the borrower, including the pre-payment penalty; (ii) had not made any representations about the likelihood of price increases; (iii) had not engaged in other abusive lending practices; and (iv) but for the government intervention, would have had a likelihood of having the loan fully repaid.

Government Subsidies. Some have proposed using TARP to provide subsidies to homebuyers, though not to help subsidize refinancing. The argument is that such subsidies (proposals being currently discussed amount to a 10% reduction in price) would encourage more demand for housing and thus boost house prices. We face a quandary: we want house prices to adjust to the "equilibrium level," which may entail a further reduction from the current level. Resisting that will simply extend the duration of adjustment. (One can debate whether a longer and possibly shallower downturn is preferable to a shorter and deeper downturn. But at the very least, one should be aware

[1] We can think of this as a form of benchmark competition. If the private sector can provide loans at a lower interest rate, so much the better.

of the downside risk associated with interfering with the adjustment process.) On the other hand, we do not want to "overshoot." We are not yet at the point where we are likely to have overshot. But we may be at that point within a year or so. [2]

Note that there is something peculiar about not subsidizing individuals to stay in their existing homes, but subsidizing the purchase of homes, particularly if the interventions are not fully effective in stopping the slide in house prices. It would mean we would look the other way as foreclosures occur—with all the economic and social costs. This can be looked at as another example of trickle down economics. We hope that those suffering the most are helped by helping others. It probably makes more sense to help those who are likely to face foreclosure directly.

Recourse loans. In addressing the mortgage foreclosure problem, there is one modification that should be considered. If the mortgages provided by the government were full recourse mortgages, default rates would be greatly reduced, because individuals would know that they could no longer simply walk away from their debts. This would enhance a "credit culture," which would improve the functioning of credit markets.

A recourse mortgage should, obviously, be less attractive to borrowers. Most borrowers do not plan to default, and therefore they would probably be willing to take up such a mortgage at an interest rate little different from that on a non-recourse mortgage.

But this restructuring of debt provides a major gift to lenders: the reduced likelihood of default increases the value of that part of the mortgage which they retain. They should not be given this "gift" freely. There are social gains from the reduced likelihood of default; these need to be equitably distributed.

Here is one way that that could be done: in the case of banks willing to go beyond the framework of the "homeowners' Chapter 11" outlined above, and say write down the mortgage to 75% or 80% of current market value, the government would provide a *recourse* mortgage, charging the homeowner a slightly lower interest rate (say 25 basis points lower). Everyone wins from this proposal.

Separating speculators from true homeowners

One of the objections to these restructuring proposals is that speculators as well as true homeowners may reap the benefits. It is the latter, of course, whose welfare is of particular concern.

One way of addressing the problem is to restrict eligibility to those who are and have been living in their home. Only primary residences would be eligible.

---

[2] The benefits may be limited by the fact that, if the interest rate is too much below rates at which current homeowners have financed their homes, some individuals may be induced to sell their homes, to get the low interest mortgage. Thus, the program may have supply side effects partially offsetting demand side effects.

But there is a second approach, based on what economists call the general theory of self selection. After the write down, the lender would retain a share (perhaps all) of the capital gain, to be paid when the property is sold. Speculators would have little (or no) interest in participating, since the debt restructuring would take away all of his speculative gains.

There are some technical difficulties. One would have to take some account of investments in the house made subsequent to the restructuring. The effectively high tax on capital gains could lead to a locked-in effect. It would make it costly for individuals to move, since they would then have to pay a potentially large sum to the lender.[3]

Note that with such conversion of the former creditors into equity owners, the analogy with Chapter 11 is complete. In Chapter 11, the equity owners are wiped out (here the equity owner is the homeowner, and, if he retains none of the capital gain, his equity claim is fully eliminated), and the former bondholders become the new equity owners.

One could design variants around this theme. One could, for instance, give homeowners a schedule, with large write downs of the mortgage granting larger fractions of the capital gains to the lender.

4. New Mortgage Forms

Ironically, the financial sector, for all of its claims at innovation, has not innovated in ways which are directed at shifting risk from poor Americans to those who are more able to bear the risk. Indeed, variable rate mortgages shifted risk of interest rate variations to homeowners. Other products with balloon payments were even worse.

There are a number of products which have been developed in other countries which could be introduced into the United States. For instance, the Danish mortgage bond is an alternative structure which has proved successful for more than two centuries.

The government has repeatedly had to take the initiative in innovating financial products (like making mortgages widely available) that meet the needs of ordinary citizens. When they are proven, the private sector often steps in. This may be another instance where government will have to take the initiative in designing new forms of mortgages and in ensuring an adequate supply of mortgages because of the failure of the private sector to do what it should.

[3] There might also be problems of circumvention: two homeowners in a similar position could exchange their homes after the restructuring, wiping out the future capital gain claim, though it should be easy to restrict or discourage such attempts at circumvention.

5. Expanded homeownership initiative

Advocates of the reckless subprime mortgages argued that these financial innovations would enable large numbers to become homeowners for the first time. They did become homeowners—but for a very short time, and at a very high cost. The fraction of Americans that will be homeowners at the end of this episode is likely to be lower than at the beginning. The objective of expanding homeownership is, I believe, a worthy one, but clearly the market route has not worked well—except for the mortgage brokers and investment banks who profited from them. They encouraged individuals to buy housing beyond their ability to afford and to repeatedly refinance, generating large transactions costs for themselves. This was never the intent of those advocating expanding home ownership. The irony is that the policies of "reckless lending" contributed to the housing price bubble, so in the end, the homes that poor Americans wound up purchasing were no larger than they would have been, without the bubble and without the reckless lending. Now, the problem is that these people are not only losing their homes; as they lose their homes, they are also losing their life savings. Mortgage brokers and lenders should have encouraged homeowners to purchase houses that were appropriate to their income.

The underlying problem is simple to state: median household income has been falling and house prices rising. This means that housing is becoming less and less affordable to more and more Americans. There are no easy fixes to the declining incomes (other than shifting the burden of taxation away from these individuals and towards those who have been doing well. Nor is there any way (short of public housing programs) that we can quickly reduce housing prices. (The market correction currently going on is likely to make housing more affordable.)

In general, most economists worry about the distortions from our tax system in encouraging excessive consumption of housing. But given the magnitude of the current economic crisis, further assistance may be warranted.

A particularly strong case can be made for helping low income individuals with their housing costs. Note that we do this with upper income individuals—tax deductibility of mortgages and property taxes means that the government pays a large fraction of the carrying costs. But ironically, we do not do that with those who need the help the most.

A simple remedy is converting the current mortgage and property tax deduction into a *flat rate cashable tax credit at say 25%*; the reduction in the subsidy to upper income Americans could help pay for the subsidy for poorer Americans. (Even better would be a progressive subsidy, with a higher rate for the poor than the rich.) A 25% tax credit would increase the affordability of housing for many Americans.

6. Regulations

Many countries restrict predatory lending practices and even loans which impose excessive risk burdens on low income individuals (and which, as we have seen, not only risk the well being of those individuals, but also impose systemic risk on the economy).

We should do the same. We should not allow mortgages that present a risk that payments might exceed a particular fraction of household income, and mortgage programs that, as a matter of routine (e.g. as a result of patterns of refinancing), generate transactions costs that are in excess of a certain fraction of the value of the mortgage.

The proposed Financial Products Safety Commission, discussed briefly earlier in this testimony, might be an appropriate institution for reviewing what are "safe" mortgages and for setting out guidelines on the appropriateness of particular mortgage structures for individuals in different circumstances.

EVALUATING TARP: SOME PRELIMINARY THOUGHTS

We have now spent close to $350 billion, and the President has requested the second tranche. The results of the spending of the first amount have been, to say the least, disappointing. The money has not been spent in the way it was originally going to be spent. Small and medium sized businesses claim that credit is more difficult to get, and large businesses are obtaining much of their credit through the Fed, which has moved from becoming a lender of last resort to a lender of first and only resort. There is broad consensus that American taxpayers have gotten a very bad deal, at least in comparison to terms obtained by Warren Buffet and by other governments. Changes in stock and bond prices seem to confirm that we have given bondholders and shareholders a very good deal indeed.

In my analysis below, I explain some of the reasons for the failure of TARP and some of the reforms. Let me say, up front, that I feel very strongly that no more money should be provided without greater assurances that it will be well spent. It seems we have provided ample evident to the old adage of penny-wise and pound-foolish. While we quibble whether America can afford a few billion dollars to provide health care for poor American children, in a few short weeks, we have managed to squander hundreds of billions of dollars on the very parties who brought this country to economic ruin. We need to be as careful in spending TARP money as in shaping the stimulus—focusing on bang for the buck and consistency with our long-run vision. Our focus should be on maintaining the strength of the overall economy, not on preventing losses of shareholders and bondholders. We should rely less on trickle down economics, focusing more of our attention on helping those directly in need.

An analysis of objectives

To evaluate TARP, we have to be clearer about the nature of the problem and the objectives. Ostensibly, it was supposed to maintain the flow of credit. The failure of the flow of credit to be maintained is seen as a symptom of its failure. But even the flow of credit is an intermediate objective: the ultimate objective is maintaining a strong economy.

I believe TARP has failed and needs to be restructured. There have to be changes in both how new funds are provided and in the terms under which funds were previously provided. Banks that do not cooperate in changing their behavior should be dealt with forcefully.

The direct intent of the bail-out was clearly to maintain the flow of credit, to ensure that those who wanted to buy homes appropriate to their economic situation could do so, that healthy firms could still obtain working capital and funds for new investments, and that retailers and wholesalers could obtain the necessary trade credit. To do so, we have to maintain the integrity of the payment system. Without an adequate supply of finance, there would be a reduction in both aggregate demand and aggregate supply and an increase in unemployment, with both contributing to a downward vicious circle.

Maximizing bang for the buck. Especially given the size of the fiscal deficit and debt, it is important that the spending be well-targeted. In the design of a stimulus, we argue for maximizing bang-for-the buck and the timeliness of the effects. So, too, in the design of bail-outs.[4] We are, of course, concerned about the impact on the national debt in the long run; that is why the terms of the bail-outs are so important. Adverse terms increase the likelihood of losses. But given the huge risks (which the private sector finds impossible to evaluate) making judgments about long term losses is not easy. The bail-outs may, in addition, be plagued by problems of information asymmetries: without adequate procedures, tax payers may wind up with the worst assets.[5]

Lending in some sectors may have bigger bang for the buck than others. For instance, lending to consumers may help retailers and may lead to more sales of imported TV's and other durables, but the impact on employment may be limited. Non-discrimination provisions make it difficult to target consumer lending on goods which will have an employment multiplier.

Central to the analysis of maximizing the immediate bang-for-the buck is ascertaining whether the bail-outs will lead quickly to more lending. Enhancing bank balance sheets might make them willing to lend more *once the economy recovers* but might not lead to more lending now, given the inherent uncertainties. That in fact seems to be the case.[6]

---

[4] As always, we need to distinguish short run and long run budgetary impacts. Some defend the bail-outs, arguing that we will get our money back. The same is true of many other public investments in infrastructure and technology. Indeed, a CEA study suggested very high returns to government expenditures on research. There is still an opportunity cost. In the case of the bail-outs, there is considerable risk that the public will not fully recover the funds (especially taking into account these opportunity costs and appropriate compensation for risk).

[5] This was a particular concern in the original conception of TARP, in which the government would acquire particular troubled assets.

[6] There is another aspect of the bail-outs—they may diminish the speed of deleveraging. A firm can sell assets to raise capital, but as each firm tries to sell its assets (to others who are trying to do so simultaneously), the value of assets declines. The system-wide sale of assets to raise capital turns out to destroy capital. The bail-out across the system lowers the urgency of the need to sell assets and therefore may diminish the pace of deleveraging. But if (as most economists believe to be the case), there must eventually be a dramatic deleveraging, prices will eventually have to adjust. Thus, the bail-outs may prolong the adjustment period.

Another aspect of maximizing the bang for the buck is that it may be better to target the ultimate source of concern. If we are worried about how the failure of firm A might affect pension fund B or money market fund C, it may be better to provide some assistance to the pension fund or money market fund (e.g. the latter through a partial guarantee), than to rely on trickle down economics. Otherwise much of the money will trickle away.

The failure of AIG may have led to the failure of other firms, as we noted earlier. It will certainly lead to losses of other firms. But we need to know, how extensive would these failures be? If we need to prevent these second round effects, it might have been more effective to target assistance on these firms. [7]

It was *not* intended to bail-out investors (in either debt or equity instruments) who had made bad investment decisions. To be sure, such losses will have ripple effects. Some pension funds may have to be made whole. But to throw billions and billions at the banks is an inefficient way of protecting these pension funds.

Sustainability. A further concern is *sustainability.* No one wants a bail-out today to be followed by a further bail-out tomorrow. There is a worry that we will continue to throw good money after bad. The way the bail-outs have been conducted provides grounds for concern. We were first told that AIG had a short fall of $20 billion. We have now put in $150 billion. But the money going to AIG has not stayed there. It has gone elsewhere.

Long term vision and environmental concerns. Just as stimulus spending should, to the extent possible, be consonant with our long term vision—no one defends simply digging holes and refilling them as a way of generating employment—so too for lending.

The financial sector has engaged in a number of bad practices and has played an important role in perpetuating certain economic distortions.[8] As we address our short-run problems, we do not want to exacerbate our long-run difficulties. Government interventions should be aimed at preventing new short-run distortions which might arise from mismanagement of the crisis (e.g. an *overshooting* of prices); but it should not just postpone needed adjustments of the economy into the future.

America's problem, for instance, is not too little consumption but rather too much. Encouraging consumption today just postpones the eventual day of reckoning. It may still be justified, as part of short term adjustment measures, but we should be wary.

---

[7] Though there has not been transparency about where the $150 billion provided has gone, it is certainly likely that some of it went to parties that were not of systemic consequence—and some may have even gone abroad. Arguably, it would have been better to ring-fence the "real" insurance part of AIG, and, should any firm of systemic consequence face the problem of bankruptcy because of the failure of AIG as a counterparty, provide limited assistance directly to that firm.

[8] These distortions have extended beyond the financial sector. It encouraged a short term focus that has, for instance, contributed to the problems in the automobile industry.

Housing presents a particular problem. America's decisions concerning the quantity of housing have been distorted by tax preferences and distortions in our transportation system. In the long run, we need to adjust the quantity and pattern of housing. Broad programs to subsidize housing to support price levels may again be justified as part of a short term adjustment measure, but again we should be wary. It would be better to try to target housing assistance, both to those who are most in need and to the construction of environmentally sound housing consonant with better models of land usage.

Equity, moral hazard, market distortions, and other concerns. The government should not be in the business of making firms whole that fail in their risk-analyses. It is unfair to those that did a good job of risk analysis, and it undermines incentives—the classic moral hazard problem. There is concern that government funds may have gone to those who purchased credit default swaps without doing due diligence on counterparty risk. If this were the first time that America's banks had had to be bailed out, that would be one thing; but America's financial institutions have had to be bailed out repeatedly.[9] It is critical to understand that one can maintain financial institutions (or other institutions) and, at the same time, impose severe penalties on those who have not performed their responsibilities, i.e. by firing managers, and making shareholders and bondholders pay a heavy penalty. Indeed, this is what Chapter 11 of the bankruptcy code is supposed to do.

Bankruptcy. It is important to recognize that bankruptcy does not necessarily entail the cessation of activity of the affected enterprise. Chapter 11 is designed to allow firms to continue to operate. What it entails is that shareholders get wiped out, and bondholders may lose a substantial fraction of their net worth. Most of the bail-outs are really bail-outs not of the enterprises but of shareholders and especially bondholders. There is no reason that American taxpayers should be doing this.

One might argue that even Chapter 11 bankruptcy is particularly dangerous for financial firms because it will result in a lack of confidence. In the current context, such arguments are unpersuasive. There is no confidence in these institutions. Indeed, this is why the interbank market is frozen. Eliminating fixed claims and converting them to equity claims will in fact increase confidence that these institutions can meet other obligations. If more is needed, the government can provide this through guarantees, which it is doing in any case. From this perspective, bondholders may be the really big beneficiaries of TARP.[10] And spending money to bail out bondholders may be a particularly poor use of government money.

Market distortions. Still a further concern is to avoid market distortions. TARP and other bail-outs have involved picking winners and losers, bureaucratic interference in

---

[9] Many of the bail-outs, like the Mexican bail-out, bear the label of the country that was doing the borrowing. But every loan has a borrower and a lender; America's financial institutions provided funds beyond these countries' ability to pay. They failed to perform the central role of ascertaining credit worthiness. (Indeed, I have argued that they were really not bail-outs of the countries, who had to repay the loans, but were really bail-outs of the Western financial institutions. This issue of who is the real beneficiary of the bail-outs is relevant in the context of ongoing discussions of the automobile industry bail-out.)

[10] There are some calculations which suggest that that was the case for the original equity injections.

market processes. We have given big advantages to some firms over others; we have been rewarding failure rather than success. And we have provided high returns to rent seeking behavior through the political process.

Inevitably, such interventions have hard to predict and hard to control ripple effects. Providing unlimited guarantees to money market funds puts them at an advantage over banks, forcing an increase in deposit insurance for banks. That may have been the right policy, but it illustrates systemic sensitivity.

With the Fed buying commercial paper from large enterprises, it provides an unwarranted advantage of large firms over small firms—a subsidy which should be of particular concern given the role that small firms play in job creation.

Furthermore, it puts the Fed in a difficult position of judging risk—one for which it is ill-equipped. How do we know that the interest rates being charged correctly reflect the risk of default? Again, we either make no distinctions, or we are forced to substitute bureaucratic judgment for the marketplace—with taxpayers left to bear the consequences of flawed judgments. This will be increasingly important over time, as the economic circumstances of firms change dramatically as the economy goes into recession.

Charging interest rates below the level which they would be is a hidden subsidy, gives rise to a market distortion, and can be viewed as an unfair trade practice, actionable under WTO countervailing duties provisions.

The lower funding costs that come from making whole all of the bondholders is, in effect, a subsidy to leveraging—it exacerbates the moral hazard of excessive leveraging, which has contributed so much to the current crisis.

The Fed may need to be more sensitive to the indirect and possibly unintended effects of some of its policies, particularly as they interact with TARP. For instance, with the Fed now paying interest on deposits at the Fed, it reduces the incentive for banks to make loans. Income effects (the improvement of bank balance sheets) and substitution effects work in opposite directions, with uncertain net effects.

The manner in which the bail-outs have been conducted creates two further long-run problems. By enhancing consolidation, they increase market power. The problem of too-big-to-fail has become even bigger. It provides incentives for still further consolidation. And as banks become too big to fail, incentives for excessive risk taking are increased.

Systemic importance. There is further distortion in the approach that says we will bail out systemically important institutions and not others. It increases the cost of the capital of the latter relative to the former.

Moreover, while each of the smaller institutions does not have systemic effects, the set of smaller institutions together does have systemic effects. When the problems they face are a result of common shocks (a common macro-economic shock, or a common flawed

practice), something has to be done to protect these institutions. This is especially the case because many of these institutions may be more related to lending directly than the larger institutions, which are more engaged in the "moving business."[11]

Moral hazard. While bail-outs always pose the risk of moral hazard, the manner in which the bail-outs have been conducted has, at times, increased the problems of moral hazard. Had we, for instance, forced the executives, shareholders, and bondholders to pay a bigger price, the moral hazard problem would have been mitigated.

Note that some argued against helping homeowners facing foreclosure on the grounds of moral hazard—at the same time defending the bail-outs of the major banks. There is, in fact, no real moral hazard problem for those facing foreclosure on the house they owned and into which they put their life savings: these individuals were typically misled by mortgage brokers, who were supposedly more financially sophisticated, into buying homes beyond their ability to afford and with mortgages which imposed undue risk. There may be a separate problem for those who bought several homes for purposes of speculating, and the approach to foreclosure described below seeks to separate out these two cases.

We need to recognize that any bail-out program will generate some inequities—banks that managed their risk well are not receiving government help, while those that did not will be; homeowners that bought homes beyond their ability to pay may receive help while those who have been more prudent will not. We should not ignore these concerns of equity; they should inform carefully the design of bail-outs. We should make sure that the financial sector pays for its own bail-out and that the burden is paid especially by those parts of the industry that have received the bail-out and not shifted to other parts of the industry, to new entrants, or other sectors of the economy.

Transparency and democratic accountability. Finally, it should have been an objective of the design of the TARP program that the bail-outs be conducted in a manner consistent with democratic principles of transparency and accountability. In many cases, they could not have been more opaque. We still do not know how, and at what date, the market valuations of the assets acquired were determined. We do not, accordingly, know the risks which we as taxpayers face.[12]

There may be a trade-off between maximizing the bang for the buck and transparency. Government guarantees of private sector loans impose little cost today. But they are not costless. In principle, the private sector should be charged a premium commensurate with the risk. But the private sector assessment of risk is currently so high that charging such a premium might impede the credit flow. Charging less than that amount is an

---

[11] See the discussion below relating to changes in the underlying economic model.

[12] The Citibank bail-out (which, reportedly, Citibank officials were congratulating themselves on how good a deal they got) is an example of a non-transparent bail-out. There is a loss sharing agreement between the government and Citibank, but no one knows where the "starting gate" is. At what price are those assets when they enter the agreement? Par? Last mark?

implicit subsidy. Scoring of the subsidy is likely to be difficult. Efforts should be made to ensure that the assumptions underlying the scoring are transparent.

An analysis of the Economic Problem

TARP was originally directed at helping revive the financial sector. It was based on two flawed assumptions. The first was that the main problem was a lack of confidence. If the government showed that it was willing to support the industry, confidence would be restored, and in fact the money would not need to be spent. There were multiple equilibria to the economy, a low level equilibrium with low confidence, low growth, etc, and a high level equilibrium. The announcement of the program would shift the economy from the low level equilibrium to the high level equilibrium.

The second, related assumption was that the banks faced a liquidity problem, not a solvency problem. Providing short term financing would provide the necessary liquidity, restart the economic engine, and all would be well.

The problem, however, was that many banks had made many bad loans and engaged in many risky bets. They had lent on the basis of over inflated housing prices. 25% of mortgages are underwater. Many of these have defaulted; many more are likely to default. Prices are likely to decline further before they reach their equilibrium values. The banks will experience real losses on these defaults. Investors know this. These are the harsh realities which the original design of TARP did not want to face up to.

The reason that firms typically face liquidity problems is that market participants are not confident that firms can repay money lent. Hence, typically, liquidity problems reflect a judgment by market participants that the firm in question faces an insolvency problem. Of course, the management of the firm will typically say, no, the market is underestimating our true worth. The Secretary of Treasury (normally committed to market processes) substitutes his judgment for that of the market. We should be skeptical.

The problem is not just one of transparency, but also of complexity. Given the complex gambles that the banks had undertaken, their failure to adequately appraise risks (including counterparty risk), they knew that they didn't know accurately their own balance sheet; they were exposed to enormous uncertainties. So they knew that they couldn't know that of other banks to whom they might lend. Complexity of assets and derivatives made it nearly impossible to measure and credibly convey solvency to counterparties. No one can prove they are solvent. This has provided a field day for short sellers.

The consequent seizing up of the interbank lending market was of direct concern; but it should have been of more concern as symbolic of the deeper problems in the financial system.

The overall problems facing the financial sector included: (a) there was excessive leverage; (b) which fed a housing bubble and other inflated asset prices; (c) which in turn fed excessive consumption; (d) bad lending; (e) bad risk management—banks engaged in gambling; instruments that should have been used to mitigate risk were abused in ways that enhanced risk; and (f) bad accounting, including off-balance sheet activities, intended to deceive investors and regulators.

The economy is going through a process of deleveraging. At the end, there will be lower asset prices. Financing these assets will require less credit. There will also be more prudent lending. We will go, for instance, from providing 95% of the value of an over inflated house to 80% of a more reasonably valued house. The net effect is that there will be less housing credit outstanding. The process of adjustment necessarily will involve credit contraction. It will also involve an increase in the savings rate—which will be good for the economy in the long run, but painful in the short run.

What we want to avoid, however, is a more than proportionate reduction in the availability of credit for the purchase of new homes, and even more importantly, a reduction in trade credit and working capital. The problem is that we have been approaching the problem with blunt instruments, not clearly distinguishing the various forms of credit, not focusing on the extent to which a particular bail-out will really address the credit problems on which we should be focusing.[13]

There is a second important problem in assessing what should be done: the banking model has changed; as the investment banks commonly put it, they have changed from the storage business into the moving business. To a large extent, they neither originate loans, nor hold them. Critics might also say they have also moved into the insurance (or gambling) business.

Looking at the financial system overall, it is clear that the decrease in its net worth, combined with deleveraging, falling housing prices, recession, and increased risk will affect adversely both the ability and willingness of financial institutions to provide funds. With limited amounts of funds and a looming national debt, we have to provide funds carefully. We need to think about what we can do to affect the ability and willingness of financial institutions to bear risk, and the nature of the risks which they face. (The overall framework for thinking about bank lending, under the old regime where banks actually lent, is provided by Greenwald and Stiglitz, *Towards a New Paradigm of Monetary Economics,* Cambridge University, 2003.)

We need to target help to those institutions that are most likely to affect, for instance, the supply of *new* housing credits, credits for new investment, and trade credit and working capital. Under the old bank model (and there are still many local and regional banks that adhere to that model) banks originated and held loans. Their willingness and ability to

[13] Part of the reason for this is the belief that the large firms are so intertwined that failure of any one could bring down all of them. It may be possible, however, to split these large organizations into parts, allowing some of the parts to fail, while preserving those parts which perform essential functions. Currently, there is so little transparency that it is hard to ascertain whether this is the case.

originate loans was affected by their net worth—decreased by the losses on existing mortgages. Recapitalization through equity injection was designed to help these banks be able and willing to bear more risk. But allowing banks to decapitalize, paying out money in bonuses, dividends, or through the cash acquisition of healthy banks subverts the intent of recapitalization.[14]

Many of these banks also had very risky assets in their portfolio. Having the government exchange these assets for their fair market value would presumably have reduced the riskiness of bank portfolios, and again allowed them to lend more. The problem with this approach was the difficulty of valuing the risky assets. And proposals to force the bank to bear part of the downside risk obviously undermined the intent of reducing the uncertainty of banks' portfolios.

That is why an alternative approach may have been far better: spending at least part of the money to create new lending institutions without the historical legacy of debt. This is particularly relevant since so much lending activity has moved outside of classical banking. (The information acquisition and processing has been outsourced, and therefore could presumably be acquired relatively easily by newly established institutions.)

This is particularly the case for mortgages. It would have been far better to create new institutional arrangements (along the lines of the Danish mortgage bonds) than to waste money on resuscitating failed institutions. (The similarity between the problems faced by the former Communist countries is instructive. China took the approach of creating new institutions; Russia attempted to revive old institutions. We know which country won that contest.)

The contrast between what might have been achieved had we used the money for new institutions as opposed to picking up losses in the old is illustrated by the following thought experiment. Assume $500 billion was used to finance a new set of banks, and those banks had a 12 to 1 leverage ratio. $6 trillion in new loans could have been financed—more than enough to sustain the core credit flow for working capital and trade credit, even if many institutions had gone under.

The moving business is a business that is far less important to preserve than traditional banks. Entry is relatively easy. Indeed, the barrier to entry in the past has been reputation, but most of the existing firms have had their reputations shattered, perhaps beyond repair. De novo firms might be better than existing firms in this context.

Here, our concern is the interlinking of debt—the worry that the failure of one institution will lead to the failure of others, a cascade with systemic consequences; and especially of their limited, but still important, role in the payments system, evidenced by the problems arising out of Lehman. It is clear that that is where we should have focused our attention (and after the fact, we did that). We should not, however, be so concerned with losses of shareholders and bondholders.

---

[14] As noted earlier, equity injections may also slow the pace of deleveraging; but this benefit, too, will be attenuated if banks are allowed to pay out dividends, bonuses, etc.

There are two further reforms, one focusing on the supply side, the other affecting both the demand and supply side. One of the impediments to bank lending is uncertainty about their balance sheets, caused by the massive derivative/swaps gambles on their balance sheets. Hence, what should have been done is a comprehensive netting of swaps, which would have reduced the scale of uncertainty. Some of this is already going on.

Reforming TARP

There are a large number of small and large reforms to TARP that would make it more effective.

1. No dividends, strict limitations on bonuses, and no acquisition of healthy banks for cash with the cash injected into the banks. It makes no sense for US taxpayers to be pouring money into the banks as they pour money out. Moreover, the main beneficiaries of allowing money to pour out are shareholders vis-à-vis bondholders. (Sometimes, it is argued that restricting dividends will send a negative signal to the market, harming shareholders. This argument is unconvincing: the market knows the magnitude of the bank losses. Indeed, the restriction on paying dividends attenuates any information signal.)

2. Better targeting and terms that ensure the government gets an appropriate return, with downside protection and upside potential (reflecting the risk the government bears). The criterion should not be simply that the government recovers the money it has lent. There is a high opportunity cost of funds and a high level of risk bearing. There are other potential claimants on access to U.S. government funds. Firms have been lining up to get TARP money. Some, like AmEx, seem to believe that once they are a bank holding company, they can tap into the money, even if there is little relationship between their activities and the original intent of TARP. Once one says that any firm that is engaged in some lending activity might be eligible for a bail-out, what are the limits? The fact that so many find the terms attractive suggests that the government is not driving as hard a bargain as it could or should. *We should be working to target the money more directly to the areas where it should be going.* Hence, we should require financial institutions that seek assistance to "carve out" a separately capitalized narrow bank subsidiary, to provide working capital, trade credit, capital loans, small business loans, etc. The government could help capitalize this narrow bank, taking appropriate ownership share in proportion to the capital it provides.

   When the terms provided by Paulson are compared to the terms on which Buffett provided money to Goldman Sachs, the best capitalized of the investment banks, or to the terms at which the UK provided money, it is clear that the US taxpayer did not get a good deal. Further evidence is provided by changes in share and bond prices on the announcement of the terms of the deal. The terms need to be renegotiated, especially for any financial institution seeking further government

assistance (explicit, or implicit, through Fed acceptance of anything other than T-bills as collateral).

What should the terms of an equity injection look like? There are several terms of the bail-out that are crucial. It seems to me that the bail-outs should have been structured to prevent (or at least mitigate) unintended bondholder gains, to provide downside protection to the government, and full risk-adjusted compensation to taxpayers for the provision of capital. Meanwhile, while the crisis continues, one doesn't want to draw down the banks' capital by interest/dividend payments. Here is how it could have been done:

a) Cumulative preferred shares, convertible to senior debt instruments in the event of bankruptcy (or at the option of the government), and convertible to shares (with a particular conversion ratio chosen to ensure adequate risk compensation for the government). No dividends to be paid out until (i) profits are restored and (ii) lending is restored to certain critical levels. This provides incentives to restart lending.
b) This basic structure could be accompanied by further downside protection, by the issuance of senior debt as part of the package, with no interest due for x years.
c) It could also be accompanied by further upside sharing of gains, by the issuance of warrants. The key provision is pricing (how much below current prices) and timing of exercise. There is a compelling argument that it makes little sense for government to be adding capital once the market is recovered—hence upping the ratio at which preferred shares can be converted into common shares seems more reasonable.
d) Protection of existing shareholder against dilution. Allowing existing shareholders to participate in the issue through a right issue (and diminishing the government capital injection a corresponding amount) would mean that no shareholder could complain about dilution. He had the option to participate on the same terms that the government did, but chose not to.
e) Buying out the government. The firm could replace government equity with private equity at any time of its choosing. A critical feature should be the rate at which the government can be bought out: it should reflect the risk that the government has borne, e.g. a cumulative rate of real return (adjusted for inflation) between the date of capital injection and the date of buy-out of, say, 7%. This would provide a strong incentive for the firm to replace government capital with private capital, once it has been restored to health.

Even with these terms, there is a risk of underpricing, so that taxpayers will confront losses. There is uncertainty about the appropriate terms, and there may be an incentive to give the banks excessively favorable terms, reflected in an increase in share value. This certainly has been the case in the deals so far. There seems no way of fully protecting against this risk, though a commitment that the

sector repay fully all funds advanced (with risk-adjusted interest), through an industry tax on the firms who have been bailed-out once recovery returns would provide some protection.

3. A quid pro quo for receiving money would be the adoption of best lending, corporate governance, risk taking, and incentive practices. This would entail, among others: (a) no predatory lending, including the reforms on credit card practices in the bills before Congress; (b) no exposure to derivatives or swaps unless explicitly linked to the mitigation of some risk exposure; (c) reforms in corporate governance, including full expensing of stock options; (d) reforms in incentive systems, including those which lead to excessive risk taking and excessively myopic behavior; and (e) reforming mortgages (separate topic).

There are two arguments against these and other reforms discussed below which impose constraints on banks. The first is that they will make it less attractive for the private sector banks to recruit more private sector capital. Obviously, if the government gives away money, it is easier to recruit others to help share in the largesse. But a convincing case has to be made that this is the best way of using limited government funds. Why, for instance, is it better to recapitalize an American bank using money from the Kuwait government than from the American government? Will it result in a greater flow of credit? Better lending practices? Less risk to the American government? So far, I have not heard a convincing case.

The second is that it is wrong to change the terms of a contract (reforms that might affect the old bail-outs) or it is unfair to provide terms to the new bail outs that are different from the old bail-outs. It would put these firms at a competitive disadvantage. We are dealing here in a world of second best, including imperfect equities. American taxpayers view it as unfair that the bankers who did so well in the run-up to the crisis should now be bailed out. Those banks who managed their business well view it as unfair that those who did not should now be the beneficiaries of government largesse. To me, the most important economic (and political) issue is to ensure that the macro-economic benefits derived from the bail-outs are maximized. The existence of these macro-economic benefits is the only justification for the government largesse. The banks knew that there was a quid pro quo, that the government was providing them with this money because of the overriding importance of macro-stability. And we do not want to reward hostage taking. Besides, the government is always changing the terms of an implicit and incomplete contract. Taxes are increased or decreased. The Fed is now accepting a variety of assets as collateral, a change in policy which increases the franchise value of a bank. (Sometimes, the two arguments are linked: a change in the terms of the deal will make it more difficult to attract capital. In fact, it will be difficult for most banks to attract capital, until the economy begins to recover, heightening the importance of the macro-economic focus.)

4. Actions have to be taken to increase lending. This is difficult, given the claim that banks may make that there are no good lending opportunities. One approach (used by the British government) is to require banks to set aside certain sums for particular categories of lending, creating organizational incentives for finding lending opportunities within those categories. Another approach is to restrict the payment of dividends until after lending is sufficiently increased.

5. There should also be more careful consideration of the purpose for which we want credit. Facilitating refinancing of existing mortgages will be of benefit to the homeowners, but should probably have lower priority (except when the lower payments forestalls a foreclosure) than say lending for working capital or trade credit. America's problem is that we have been consuming too much; supporting credit card lending again should probably have lower priority than lending for working capital. The question is, how best to direct credit to these essential areas?

6. There should also be more careful targeting to institutions whose responses are more likely to have significant macro-economic consequences (per dollar lent), and that may entail a disproportionate amount of money going to smaller institutions, and even some going to expand healthy institutions, including community banks. Such institutions, unburdened by flawed lending and risk management practices, and with more local information, may use the additional money to increase lending.

7. The government should require all banks to recapitalize up to, say, 10% or 12%. TARP money would be used to recapitalize the (narrow) banks that cannot find private capital. After recapitalization, the capital requirements would be lowered, say to 8%. This would provide banks with both the capacity and incentive to lend. [15] [16]

8. There is a worry that the failure to raise requisite funds will send a negative signal to the marketplace. I am not so sure that that is a bad thing. A lack of capital should send a negative signal. But if the view is that such a signal would be too costly, then the government could propose a compulsory recapitalization program for all banks which are found short of the requisite capital, with, say, 50% of the funds provided by TARP, and the rest raised from the private sector. Any bank unable to raise the requisite capital would be taken over entirely by the government. (If, at the time of examination, any bank is found to have negative

[15] Lack of transparency in TARP makes it difficult to know precisely the principles that guided the allocation of funds, but it does not appear that there was an explicit attempt to ascertain the size of the hole in the balance sheet and to repair it. There are difficult problems in ascertaining the size of the hole (in valuing net worth), given the complicated interdependencies arising out of holdings of derivatives with counterparty risk.

[16] The current game of sequential ad hoc bail-outs is particularly problematic. Because those who survive are becoming ever bigger, increasingly too big to fail, they may demand better terms with the government. Thus, it may pay each to try to wait it out, to see if they can survive. Citibank seems to have done better for itself than Bear Stearns. Would JP Morgan or Goldman Sachs do even better, if they now need a bail-out?

net worth, then the bondholders should be forced through debt equity swaps to bring the firm's capital back above zero, with the offer of 50% equity injection from TARP to bring the capital up to the requisite level applying thereafter.)

9. If the government is providing capital, it must have a voice, in the form of board seats at the very least, to make sure that no action is undertaken that would dilute the government's interest or circumvent commitments to good lending and corporate governance practices.[17] We should recognize that the mixture of government funding (including through explicit or implicit guarantees) with private profit maximization is fraught with difficulties. The private sector will maximize its own interests, leaving the government bearing undue risk. This is especially true of all the banks in the TARP program because they present systemic risks; they are too big to fail, presenting perverse incentives.

10. Government guarantees or relending through private firms may make little sense, unless very carefully designed. The government bears the risk. All the bank is doing is providing some transaction services, at a relatively high cost. The higher costs impede the flow of credit, increase the risk borne by the government, and lower the returns that might be received by the government. Earlier experiences with education loans and mortgages suggest that the government can perform these services just as or more efficiently than the banks—it would be hard for the government to perform worse than the private banks have done.

11. More of the money should go to stemming the flood of foreclosures, through one of the reform measures discussed elsewhere.

12. Government guarantees can help the TARP money go further, but (as discussed earlier) face a number of difficulties: ascertaining the appropriate risk premium is difficult, charging inappropriate risk premium may expose the government to undue risk and can be highly distortionary, and the implicit subsidies and transfers are often very non-transparent. To the extent that such guarantees are used, there needs to be especially careful oversight.

13. There are, in addition, critical procedural reforms that should be considered. The most important is to take the administration of TARP out of the Treasury and create an independent agency, with oversight from all sectors of the economy, not just from finance. The objective should be macro-economic impact. Those in the real sector (workers, construction) will have an incentive to make sure that that is the case. Decisions within Treasury may be subject to political influence or to the perception of political influence. This is particularly important given the lack of transparency and the ad hoc nature of the program so far. The government has

---

[17] It is widely recognized that undercapitalized banks may engage in excessive risk taking. But government provision of capital does not fundamentally change incentives. Unless they take over control of the bank, the *incentive* effects are limited, or may even be perverse. The original owners only worry about the loss of their own capital, not the capital provided by the bank. All the government is doing is providing up front some of the money that it would have provided in the event of a crisis.

been picking winners and losers. Many, both inside and outside the financial market, worry about how those decisions have been made. What is clear is that there have been big winners and big losers. The government has never made it clear who these winners and losers are and has made no attempt to recover for the taxpayers some of the gains that have accrued to the winners (e.g., the AIG bail-out was also a bail-out of those who would have lost large amounts had AIG failed. American taxpayers have a right to know who these indirect beneficiaries are. How did that influence the decisions that were made?)

14. We need far more transparency in the transactions. A transaction between the U.S. government and a bank is not like a commercial transaction between two parties. Citizens have a basic right to know. There should be a low threshold for secrecy; and if an argument can be put for secrecy, even then there must be full disclosure to an oversight panel.