

Everything You Need to Know About the Financial Crisis: A Guest Post by Diamond and Kashyap

By [STEVEN D. LEVITT](#)

When the financial crisis was just beginning to appear, I did one of the smartest things I've ever done: I asked my colleagues **Doug Diamond** and **Anil Kashyap** to explain to me what was happening.

What they said was so enlightening that I begged them to write it up for the blog, [which they did](#). Their guest post proved to be wildly popular among readers, rising to be the second-most-emailed article on *The New York Times* web site. As far I know, no other Freakonomics post has ever come close to making even the bottom of the most-emailed list.

Enough important events have occurred since their original post that we asked them whether they couldn't bring us up to speed on where the financial crisis stands today, what the government is doing and why, and the long-term prospects for the economy.

I didn't think it was possible, but this second blog post is even better than the first one.

Everything You Need to Know About the Financial Crisis By Doug Diamond and Anil Kashyap A Guest Post

1) Why has the stock market been so erratic for the last two weeks?

The stock market's value depends on the future profitability of firms. In a sluggish economy, the stock market typically falls well before unemployment peaks. The declines last week reflected the concern that the economy is headed toward a sharp slowdown for an extended period of time.

For some time, the basis for this concern was a fear that lending throughout the economy was drying up. Without credit, most businesses would not be able to function, and many individuals would have to cut their spending.

Until this week, it appeared to be increasingly possible that there could be widespread bank failures that would impair the lending capacity of the banking system for a long time. We agree with the [words of Ben Bernanke](#) this week: "As in all past crises, at the root of the problem is a loss of confidence by investors and the public in the strength of key financial institutions and markets ..."

Banks are vulnerable to [loss of confidence](#) because they rely on short-term funding. This fear causes two problems. First, banks hoard their own cash and become especially reluctant to lend to other banks. Second, nonfinancial institutions pull back

their lending to banks to avoid any chance of being defaulted upon. These problems reinforce the fear and keep lending markets frozen. It is rational for investors to reduce exposure to the stock market in this kind of a cycle.

There are several pieces of evidence suggesting that the markets are fragile and especially concerned with the health of the banks.

One indication is that lending rates for three-month loans between banks steadily rose during the last month, and they kept rising last week even after central banks around the world cut interest rates. These interbank borrowing rates only started to decline this week after the steps described below were announced.

A second is that last Friday afternoon, the Dow Jones industrial average stock index began climbing sharply, precisely at the time of the announcement that no banks were going to fail as a result of settling the credit-default swap contracts that paid off the losses on bonds of Lehman Brothers.

Finally, earlier this week, stock markets around the world rallied on the news that the U.S. and European governments had agreed on steps to prevent large banks from failing. These anecdotes hardly prove that the systemic banking concerns were paramount, but they are consistent with that view.

2) What is the government doing about this?

The government is working on two different problems. First, it is working to prevent the collapse of the banking system in the near term. Second, it is working to promote lending while the banking system recovers.

To prevent a banking collapse, Britain's government and some other countries opted to guarantee all short-term borrowing by banks. The U.S. is also planning to guarantee certain types of debt.

These guarantees are temporary — up to three years in the U.S. — and are aimed at enhancing stability in two ways: They help secure stable funding for the banks — because without the ability to borrow, banks cannot operate — and they try to create incentives for new investors to lend to banks (more on this point below).

The U.S. government has also announced that it will buy preferred stock (non-voting equity with fixed dividends) from banks. The primary assets of a bank are its loans and the securities it owns. Its liabilities — the securities it issues in return for the money it gets to pay for the assets — are primarily borrowing (using bonds, deposits, and other short-term debt such as commercial paper) and, to a much lesser extent, equity.

Buying equity tackles the deeper concern that banks cannot absorb losses from the loans and securities investments they have made without partially defaulting on their

borrowing. Raising the amount of equity reassures the banks' other suppliers of credit that they will be repaid and re-establishes their willingness to lend to banks.

In parallel, the U.S. government is concentrating on trying to restart lending. The Federal Reserve announced that, for very highly rated companies, it will lend short-term money directly (through next spring). Many of these borrowers had only been able to obtain funds for very short periods, often having to borrow for only a day at a time instead of months.

The Fed's lending is aimed at allowing at least these businesses to be able to resume normal planning and spending. This is an extreme move, and it should become unnecessary (therefore possible to discontinue) if the crisis ends.

3) Why can't the private market do this? Why should the taxpayers have to pay for the mistakes that the banks made?

One reason the private market will not inject equity now is out of the same concern that makes banks reluctant to lend to each other: fears that some banks have undisclosed bad assets (which are hard to value because they are not trading now) and may become insolvent.

This makes investors fear that they may choose a bank that will soon fail. Moreover, if investors fear that many banks will soon fail, there will be runs on many others. These runs would wipe out the value of the private-equity injection. During a crisis, it is safe to provide capital to a given bank only if all banks become well capitalized (either by raising new capital or being acquired by well-capitalized banks). This makes outside investors hesitate to provide new equity.

Government programs that allow large increases in capital in all reasonably healthy banks can remove the risk of many banks failing just after new equity is injected. The government can be viewed as solving a coordination problem (to deal with the entire system's stability) that private investors would not easily be able to do. This type of recapitalization need not be extremely expensive to taxpayers, but the devil is in the details.

If bank losses are so large that most are currently insolvent, then private markets will not invest any new capital. In this case, the government can invest to recapitalize the bank after the F.D.I.C. fails the bank and wipes out equity and bondholders (protecting depositors and borrowers).

In this extreme case, the government serves as a rapid replacement for bankruptcy courts to keep a banking system in place. We don't think that this is the current situation. This kind of government recapitalization would be very expensive to taxpayers.

The inability to value the assets means that there is some ambiguity about which firms will and will not be closed. Banks have been raising equity throughout this

crisis. Washington Mutual and Lehman each raised over \$12 billion in new equity over the last year, and these investors got wiped out in the firms' failures.

Without clear rules on how closures will be handled, private investors are reluctant to gamble on putting money in. In addition, it has become difficult to raise capital in shaky banks because no one knows how investors who inject capital now will be treated if the government later invests capital in their banks.

4) Why are bank assets so hard to value now?

This crisis started because of losses related to mortgage-related securities and loans. The value of such assets is very difficult to assess, in large part because the securities are not trading, and so there is some guesswork in establishing their value.

For the largest banks, roughly one quarter of their assets are real estate related, so not having good prices is a serious problem. We also know that after Lehman was shut down, it was found to have overstated the value of its assets — relative to the conventions all the other banks were using to value the hard-to-price assets. A.I.G. also had some asset problems that only surfaced after the government helped it.

5) Didn't the Treasury initially propose to buy bad assets? Wouldn't that solve the valuation problem so that private money could be used to recapitalize the banks?

The original Treasury plan and the successor plans described by the Treasury before this week have been schizophrenic.

At times, the Treasury insisted that all it wanted to do was buy troubled assets to help establish a market price and not risk taxpayer money in doing this. If this got the market going and showed that most banks were very solvent (and identified the few that were not solvent), it would solve the problem.

In this somewhat unlikely case, the government purchase could possibly make the asset market work today, and it could even increase prices by removing the fear that assets would soon be [dumped at very low prices by banks about to fail](#).

If the prices of asset purchases revealed that most banks were either insolvent or close to insolvent, the purchases would accomplish nothing good because private investors would not recapitalize banks (see part three above).

Alternatively, the Treasury could have aimed to consciously overpay for the assets it would be buying. This would definitely put taxpayer money at risk and raise the value of the bank. This is a backdoor recapitalization of a bank and is worse for the taxpayer — unless the Treasury gets bank equity equal to the value of the overpayment.

It is not clear to us whether this plan, used in isolation, would have been sufficient to recapitalize the banks. Without recapitalization, we doubt the crisis could be ended without massive bank failures.

6) Will the government plan work, or are there risks?

There are three risks that must be navigated, and the details of the plan will be very important in attending to them.

First, the plan must be set up to make sure that the banks emerge from this process with enough capital to operate normally. Perhaps a worst-case scenario would be to spend a lot of the taxpayer money and still not rehabilitate the banks. [This is what happened in Japan; the perverse lending behavior of undercapitalized banks helped depress Japanese growth](#) for a decade.

This week, the government announced its intention to purchase \$125 billion of preferred equity in the nine largest U.S. institutions. Because the government made the capital injections without having time to inspect the quality of these banks' assets, we cannot be sure that \$125 billion will be enough to make each well-capitalized. One pattern throughout the crisis has been that firms have vigorously claimed to have adequate capital, only to fail shortly thereafter.

Surprisingly, the banks are still allowed to pay (but not increase) dividends to their stockholders, potentially doing so with the money the government put in. This might undermine the intent to recapitalize the banks (we explain why in the next three paragraphs). Apart from these dividends, the banks' shareholders' claims only have value after the existing debt holders and the government's preferred-share investments are paid; this is why equity is often dubbed the "residual claimants." These claimants get only what is left over after the "higher-priority" claimants are paid. Their low priority can drive a wedge between their incentives and those of other stakeholders.

One challenge will be making sure that the banks have incentives to raise additional equity. Lately, the long-term debt of many of the largest banks is valued at a discount relative to its issue price. If more new equity is raised, it will allow the banks to do more lending and generate more profits. But the first claim on the profits is still owed to the existing long-term debt holders at maturity — even though they put in no new money.

This "[debt overhang](#)" problem can mean that the new financing might return very little to the investors buying the new equity because it benefits the long-term bond holders. As a result, the owners of undercapitalized banks would not want to issue more equity, and they would rather pay themselves a dividend and thus reduce bank equity. This can impede efforts to recapitalize.

Therefore, if some banks remain undercapitalized even after the government injection of capital, the regulators may need to force them to raise more private-sector equity funding. Paying a dividend to shareholders is the opposite.

Second, the plan needs to be set up to avoid creating further panics. Once guarantees are being handed out, investors will prefer to lend and invest in these firms rather than other companies that do not have the guarantees. The excluded firms could see their access to credit dry up.

The government determined that A.I.G. was too interconnected to the rest of the financial system to be allowed to fail; there may be other nonbanks that are also deeply interconnected. Care must be taken to make sure the guarantees do not trigger runs against these systemically critical firms.

Third, the taxpayer's liability ought to be protected. If the government spends enough money, it can recapitalize all the banks; propping up insolvent and incompetent banks is a waste of taxpayer money.

Likewise, injecting equity into banks with serious debt overhang will needlessly raise the cost of recapitalization. The obvious way to lower the costs to the taxpayer is to make sure existing long-term debt holders and equity holders do not capture too much of the windfall that comes from rehabilitating the banks. At the same time, there must be enough gains created so that more new equity can flow in if it is needed.

These concerns can be managed in a variety of ways. [Our plan from last week](#) is one option, but you can find suggestions from some of our colleagues at [a web site we have just set up](#). Rather than focusing on any particular plan, a guiding principle is that a successful plan must deliver recapitalization in the least costly way to the taxpayer without creating additional panics. The freedom to pay dividends means that the current plan may not satisfy this principle.

7) How will we know when it is over? Are we going to have a depression?

Interbank lending rates are already creeping down, but they remain severely elevated. These rates matter because they are used in the pricing of many loans, and hence they directly affect the affordability of credit. As these rates fall and other short-term lending resumes, it will mark the start of a return to normalcy. Our guess is that this will take months and not days, so credit seems likely to remain tight for some time.

Elevated financing costs will slow growth. In the Great Depression, one-third of the U.S. banks failed, and the unemployment rate got to 25 percent. The economy is going to be in for a rough period, but the policy actions taken over the last week are going to prevent this type of collapse.

Finally, some journalists find it strange that we and many of our colleagues at the University of Chicago have been advocating bold government action to stop the collapse of the banking industry.

We suspect that some of these people would be surprised to learn that **Milton Friedman** blamed timid and wrong-headed government policy for causing the Great Depression. Friedman was more concerned about monetary policy actions, but he and **Anna Schwartz** also gave “a prominent place in the sequence during the contraction to successive waves of [bank] failures.”

The importance of preventing a banking-sector implosion has [long been appreciated not only at Chicago](#), but also at other leading business schools and economics departments. This is why there has been such strong support for the equity injections from economists with very different political philosophies. It is too early to tell if the enthusiasm will fade once the details become known of how the administration plan is being implemented.

Source: Steven Levitt, [The New York Times](#), October 15, 2008.