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Opinion

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Diamond and Kashyap on the Recent Financial Upheavals

By STEVEN D. LEVITT

As an economist, I am supposed to have something intelligent to say about the current financial crisis. To be honest, however, I haven't got the foggiest idea what this all means. So I did what I always do when something related to banking arises: I knocked on the doors of my colleagues Doug Diamond and Anil Kashyap, and asked them for the answers. What they told me was so interesting and insightful that I begged them to write their explanations down for a broader audience. They were kind enough to take the time to do so. In what follows, they discuss what has happened in the financial sector in the last few days, why it happened, and what it means for everyday people.

The F.A.Q.'s of Lehman and A.I.G.
By Douglas W. Diamond and Anil K. Kashyap
A Guest Post

For most of the last 20 years we have been studying banks, monetary policy, and financial crises. So for us the events of the last year have been especially fascinating.

The last 10 days have been the most remarkable period of government intervention into the financial system since the Great Depression. In talking with reporters and our noneconomist friends, we have been besieged with questions about several aspects of these events. Here are a few of the most frequently asked questions with our best answers.

1) **What has happened that is so remarkable?**

This episode started when the Treasury nationalized Fannie Mae and Freddie Mac on September 8. Their combined assets are over $5 trillion. These firms help guarantee most of the mortgages in the United States.

The Treasury only got authority from Congress to take this action in July, and in seeking the authority had insisted that no intervention would be needed.

The Treasury has replaced the management of both companies and will presumably oversee their operation. This decision marked an acknowledgment by the government that the mortgage market and the institutions to make it operate in the U.S. are broken.

On Monday, the largest bankruptcy filing in U.S. history was made by Lehman Brothers. Lehman had over $600 billion in assets and 25,000 employees. (The largest previous filing was WorldCom, whose assets just prior to bankruptcy were just over $100 billion.)

On Tuesday, the Federal Reserve made a bridge loan to A.I.G., the largest insurance company in the world; perhaps best known to most of the world as the shirt sponsor of Manchester United soccer club, A.I.G. has assets of over $1 trillion and over 100,000 employees worldwide. The Fed has the option to purchase up to 80 percent of the shares of A.I.G., is replacing A.I.G.'s management, and is nearly wiping out A.I.G.'s existing shareholders. A.I.G. is to be wound down by selling its assets over the next two years. (Don't worry, Man U will be fine.) The Fed has never asserted its authority to intervene on this scale, in this form, or in a firm so far removed from its own supervisory authority.

2) **Why did these things happen?**

The common denominator in all three cases was the ability of the firms to secure financing. The reasons, though, differed in each case.

The Fannie and Freddie situation was a result of their unique roles in the economy. They had been set up to support the housing market. They helped guarantee mortgages (provided they met certain standards), and were able to fund these guarantees by issuing their own debt, which was in turn tacitly backed by the government. The government guarantees allowed Fannie and Freddie to take on far more debt than a normal company. In principle, they were also supposed to use the government guarantee to reduce the mortgage cost to the homeowners, but the Fed and others have argued that this hardly occurred. Instead, they appear to have used the funding advantage to rack up huge profits and squeeze the private sector out of the "conforming" mortgage market. Regardless, many firms and foreign governments considered the debt of Fannie and Freddie as a substitute for U.S. Treasury securities and snapped it up eagerly.

Fannie and Freddie were weakly supervised and strayed from the core mission. They began using their subsidized financing to buy mortgage-backed securities which were backed by pools of mortgages that did not meet their usual standards. Over the last year, it became clear that their thin capital was not enough to cover the losses on these subprime mortgages. The massive amount of diffusely held debt would have caused collapses everywhere if it was defaulted upon; so the Treasury announced that it would explicitly guarantee the debt.

But once the debt was guaranteed to be secure (and the government would wipe out shareholders if it carried through with the guarantee), no self-interested investor was willing to supply more equity to help buffer the losses. Hence, the Treasury ended up taking them over.

Lehman's demise came when it could not even keep borrowing. Lehman was rolling over at least $100 billion a month to finance its investments in real estate, bonds, stocks, and financial assets. When it is hard for lenders to monitor their investments and borrowers can rapidly change the risk on their balance sheets, lenders opt for short-term lending. Compared to legal or other channels, their threat to refuse to roll over funding is the most effective option to keep the borrower in line.

This was especially relevant for Lehman, because as an investment bank, it could transform its risk characteristics very easily by using derivatives and by churning its trading portfolio. So for Lehman (and all investment banks), the short-term financing is not an accident; it is inevitable.

Why did the financing dry up? For months, short-sellers were convinced that Lehman's real-estate losses were bigger than it had acknowledged. As more bad news about the real estate market emerged, including the losses at Freddie Mac and Fannie Mae, this view spread.

Lehman's costs of borrowing rose and its share price fell. With an impending downgrade to its credit rating looming, legal restrictions were going to prevent certain firms from continuing to lend to Lehman. Other counterparties that might have been able to lend, even if Lehman's credit rating was impaired, simply decided that the chance of default in the near future was too high, partly because they feared that future credit conditions would get even tighter and force Lehman and others to default at that time.

A.I.G. had to raise money because it had written $57 billion of insurance contracts whose payouts depended on the losses incurred on subprime real-estate related investments. While its core insurance businesses and other subsidiaries (such as its large aircraft-leasing operation) were doing fine, these contracts, called credit default swaps (C.D.S.'s), were hemorrhaging.

Furthermore, the possibility of further losses loomed if the housing market continued to deteriorate. The credit-rating agencies looking at the potential losses downgraded A.I.G.'s debt on Monday. With its lower credit ratings, A.I.G.'s insurance contracts required A.I.G. to demonstrate that it had collateral to service the contracts; estimates suggested that it needed roughly $15 billion in immediate collateral.

A second problem A.I.G. faced is that if it failed to post the collateral, it would be considered to have defaulted on the C.D.S.'s. Were A.I.G. to default on C.D.S.'s, some other A.I.G. contracts (tied to losses on other financial securities) contain clauses saying that its other contractual partners could insist on prepayment of their claims. These cross-default clauses are present so that resources from one part of the business do not get diverted to plug a hole in another part. A.I.G. had another $380 billion of these other insurance contracts outstanding. No private investors were willing to step into this situation and loan A.I.G. the money it needed to post the collateral.

In the scramble to make good on the C.D.S.'s, A.I.G.'s ability to service its own debt would come into question. A.I.G. had $160 billion in bonds that were held all over the world: nowhere near as widely as the Fannie and Freddie bonds, but still dispersed widely.

In addition, other large financial firms — including Pacific Investment Management Company (Pimco), the largest bond-investment fund in the world — had guaranteed A.I.G.'s bonds by writing C.D.S. contracts.

Given the huge size of the contracts and the number of parties intertwined, the Federal Reserve decided that a default by A.I.G. would wreak havoc on the financial system and cause contagious failures. There was an immediate need to get A.I.G. the collateral to honor its contracts, so the Fed loaned A.I.G. $85 billion.

3) **Why did the Treasury and Fed let Lehman fail but rescue Bear Stearns, Fannie Mae, Freddie Mac, and A.I.G.?**

We have already explained why Fannie, Freddie, and A.I.G. were supported. In March, Bear Stearns lost its access to credit in almost the same fashion as Lehman; yet Bear was rescued and Lehman was not.

Bear Stearns was bailed out for two reasons. One was that the Fed had very imperfect information about what was going on at Bear. The Fed was not Bear's regulator, the amount of publicly available information was limited, and its staff was not versed in all of the ways in which Bear might have been connected to other parts of the financial system.

The second problem was that Bear's counterparties in many transactions were not prepared for the sudden demise of Bear. A Bear bankruptcy might have triggered a wave of forced selling of collateral that Bear would have given its counterparties. Given the potential chaos that would have resulted from Bear Stearns filing for bankruptcy, the Fed had little choice but to engineer a rescue. In doing so, the Fed argued that the rescue was a rare, perhaps once-in-a-generation, event.

When Bear was rescued, the Fed created a new lending facility to help provide bridge financing to other investment banks. The new lending arrangement was proposed precisely because there were concerns that Lehman and other banks were at risk for a Bear-like run. Since March, the Fed had also studied what to do if this were to happen again; it concluded that if it modified its lending facility slightly, it could withstand a bankruptcy; it made these changes to the lending facility on Sunday night.

Once the Fed had made these changes and determined that it and the others in the market had an understanding of the indirect or "collateral damage" effects of a bankruptcy, it could rely on the protections of the bankruptcy code to stop the run on Lehman, and to sell its operating assets separately from its toxic mortgage-backed assets.

Against this backdrop, if the government had rescued Lehman, it would have repudiated the claim that the Bear rescue was extraordinary; it would have also conceded that in the six months since Bear failed, neither the new facility that it set up nor the other steps to make markets more robust were reliable. Essentially, the Fed and the Treasury would have been admitting that they had lied or were incompetent in stabilizing the financial system — or both.

It was not surprising that they drew the line at helping Lehman. Based on all the publicly available information, this was clearly the right thing to do.

4) **I do not work at Lehman or A.I.G. and do not own much stock; why should I care?**

The concern for the man on Main Street is not the bankruptcy of Lehman, per se. Rather, it is the collective inability of major financial institutions to find funding.

As their own funding dries up, the remaining financial firms will be much more cautious in extending credit to normal firms and individuals. So even for people whose own circumstances have not much changed, the cost of the credit is going to rise. For an individual or business that falls behind on payments or needs an increase in short-term credit because of the slowing economy, credit will be much harder to obtain than in recent years.

This is going to slow growth. We have not seen this much stress in the financial system since the Great Depression, so we do not have any recent history to rely upon in quantifying the magnitude of the slowdown. A recent educated guess by **Jan Hatzius** of Goldman Sachs suggests that G.D.P. growth will be just about 2 percentage points lower in 2008 and 2009. But as he explains, extrapolations of this sort are highly uncertain.

5) **What does it mean for the Fed and Treasury going ahead?**

A reasonable reading of the recent bailouts suggests a simple rule: if a firm is on the verge of collapse and its ties to the financial system will lead to a cascade of chaos, the firm will be saved. A bankruptcy will be permitted only if the failure can be contained.

Assuming the level of chaos is sufficiently high, this dichotomy is probably consistent with the mandate of the Federal Reserve. The rescue of A.I.G., however, raises some major challenges.

One is where to draw the line. A.I.G. was an insurance company, not a bank or a broker dealer, so the Fed had no special relationship with A.I.G. Presumably, if a very large airline or automaker had been involved in the C.D.S. market, the same reasoning that led to the rescue would apply.

A second challenge comes with defining the acceptable level of chaos. We will never be able to find out what would have happened if A.I.G. had been allowed to fail. Furthermore, there are some reasons to believe that even if A.I.G. continues to operate, the fundamental stress in the financial system will remain. If the rescue does not mark a turning point, the bailout may not be viewed quite differently down the road.

Should the government intervene if it merely postpones an inevitable adjustment? Creditor runs can make adjustment too fast; blanket bailouts can make adjustment too slow. Has the Fed found the speed that is just right?

Third, now that A.I.G. has been lent to, how will regulation have to be adjusted. Surely the Fed cannot be called upon to provide backstop financing whenever a large member of the financial system runs into trouble. How does it prevent a replay of this scenario, and can it be done without stifling innovation?

6) **What does this mean for the markets going ahead?**

Letting Lehman go means that the remaining large financial services firms now must understand that they need to manage their own risks more carefully. This includes both securing adequate funding and being prudent about which counterparties to rely upon. Both of these developments are welcome.

If the remaining investment banks, Goldman Sachs and Morgan Stanley, do not get more secure funding in place, they may be acquired or subject to a run too. In the current environment, relying almost exclusively on short-term debt is hazardous, even if a firm or bank has nothing wrong with it.

7) **When will the turmoil end?**

The inability to secure short-term funding fundamentally comes from having insufficient capital. There are many indicators that the largest financial institutions are collectively short of capital.

One signal is that there were apparently only two bidders for Lehman — when the ongoing value from operating most of the bank was surely far above the $3.60 share price from Friday. Another is the elevated cost of borrowing that banks are charging each other. A third indicator is the reluctance to take on certain types of risk, such as jumbo mortgages, so that the cost of this type of borrowing is unusually high.

The fear of being the next Lehman ought to convince many of the large institutions that, despite however much they already raised, more is needed. It may be expensive to attract more equity financing, but the choice may be bankruptcy or sale. The decision by the Federal Reserve to *not* cut interest rates suggests the Fed also recognizes that the short-term interest rate is a very inefficient way to address this problem.