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SPEECH

Financial Market Turmoil: The Federal Reserve And The Challenges Ahead

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Thank you for having me here today. It is a pleasure being back to speak at the Council. In the past, my Federal Reserve colleague, Governor Daniel Tarullo, gathered panels of Wall Street economists here at the Council to talk about economic issues. When he invited me to participate, it was challenging work because Dan always asked us about our economic forecasts! And he remembered and recounted our past mistakes (and our much rarer, more prescient forecasts)!

Before I begin, let me emphasize that my comments represent my own views and opinions and do not necessarily reflect the views of the Federal Open Market Committee or of the Federal Reserve System.

What has happened to the global financial system is momentous. We have seen—despite extraordinary actions by central banks and governments around the world—a severe impairment of the intermediation process between borrowers and savers. We have seen a massive deleveraging of the non-bank financial sector. We have seen a tightening in financial market conditions even as the Federal Reserve has pushed the federal funds rate down close to zero. The result has been a severe loss of confidence among consumers and business and a global recession.

Today I would like to talk a bit about what went wrong, where we are today, some new initiatives that are underway, what lessons we should take from the crisis and some steps we need to take so this doesn't happen again.

It is well-recognized that one important catalyst for this financial crisis was the easy credit and loose underwriting practices that fueled the boom in the U.S. housing sector. The ability of virtually anyone to get a loan to buy a house pushed up home prices significantly faster than incomes. To keep the boom going, underwriting standards were progressively relaxed, but even with that support to demand, inevitably the boom proved unsustainable.

As the boom reversed and housing prices began to fall, the bad underwriting practices and the mispricing of risk became readily apparent. When prices are rising no one needs to default, they always have the option of refinancing or selling the house at the now higher price. But when prices are dropping, there is no easy way out. The result has been a sharp rise in delinquencies and foreclosures as the bust has played out.

The fact that these poorly underwritten loans were used in the construction of very complex collateralized debt obligations or CDOs, with risks that were not well understood and grossly mispriced—made a bad situation even worse. Investors who thought they had purchased safe AAA-rated assets found that these assets were very vulnerable to a housing bust and that the ratings were unreliable predictors of the risk of loss.

The poor performance of these securities, in turn, made investors much less willing to invest in structured-finance products more generally. Secondary market liquidity evaporated, which exacerbated the difficulty in valuing the securities. This made the market even less attractive, causing risk premia to widen further, which only worsened the valuation problems.

As this process unfolded, the result was a virtual shutdown of the securitization market for residential mortgage assets not backed by the federal government directly (Ginnie Mae) or implicitly (Fannie Mae and Freddie Mac). The subprime and the Alt-A mortgage markets, which relied heavily on the securitization process dried up. Of course, this just reinforced the downward pressure on housing prices, which, in turn, led to increased delinquencies and foreclosures. This deterioration undermined the value of the securities further. It was a vicious feedback loop in action. The poor performance of highly-rated mortgage securities caused investors to begin to shun securitizations more generally.

The shutdown of the securitization markets led to significant pressure on bank balance sheets. Banks could no longer securitize non-conforming mortgages or the collateralized loan obligations associated with leveraged buyouts and other private equity activity that they had financed. Moreover, bank backstop liquidity lines were triggered as SIVs and conduits could no longer issue asset-backed commercial paper. Finally, banks took large
mark-to-market losses on their trading books and had to increase their loan loss provisions.

As the crisis continued into 2008, the squeeze on bank balance sheets intensified. This was driven by several important developments. First, the demise of Bear Stearns increased the pressure on the other broker dealers to deleverage. They did this, of course, by becoming less willing to lend funds to their counterparties, such as hedge funds, and by shrinking their trading books.

In the week leading up to Bear's demise a nasty feedback loop ensued: forced asset sales increased price volatility. This led to higher haircuts by dealers on their counterparties, which led to more forced asset sales and still higher volatility.

Second, the failure of Lehman in September accelerated the pace of this deleveraging process. Major bank intermediaries were frightened by what had happened and were unwilling to engage with each other. Prime money market mutual funds suffered large outflows. Investors fled as the news came out that the Reserve Fund had "broken the buck" because of large losses generated by its holdings of Lehman paper.

By late September we were in a very bad spot. Banks weren't willing to lend to each other even at very short term maturities. LIBOR—the London Interbank Offered Rate, which is the rate that banks offer to lend to each other—soared even as the Federal Reserve continued to lower its federal funds rate target and injected extra reserves into the banking system. Merrill Lynch agreed to merge with Bank of America. The equity prices of the two remaining independent investment banks—Goldman Sachs and Morgan Stanley—weakened, their credit default swap spreads widened and this began to undermine their ability to obtain funding. In response, Goldman Sachs and Morgan Stanley jumped over the regulatory wall and became bank holding companies.

Hedge funds were forced to liquidate assets as financing terms tightened. As a group, their performance deteriorated sharply beginning in late summer. This provoked investor redemptions—further accelerating the speed and scope of the deleveraging cycle.

Although housing and housing finance may have been at the epicenter of the crisis, it is important, however, to recognize that the crisis goes much deeper. In part, it was rooted in the overconfidence of investors and borrowers that paid little attention to liquidity and rollover risk and seemed blind to the risk of a global downturn. It was also rooted in the gaps in supervision and regulation that allowed a whole range of financial intermediaries and businesses to become more leveraged, in many cases funding long-term illiquid assets with short-term borrowing.

To some extent, what has happened can be tied to changes in the nature of the business cycle and how those changes influenced expectations. Put simply, when business cycles become more damped and recessions less frequent and less severe, this will cause financial market participants to take on more risk. This will not appear to be problematic during the expansion stage. But it will make the financial system much more vulnerable when the bust does occur. Occurring with less frequency, the bust will be a bigger surprise to market participants. They will be less well-prepared with the capital buffers and liquidity cushions needed to traverse an adverse economic environment.

The complete breakdown in trust across markets has been remarkable. Essentially, it has gone like this: Even if I think you are a good credit, I am not going to lend to you, because others may not share the same opinion. The problem is if no one else thinks you are good, I may not be able to get my money back if I need it. Conversely, others are not willing to lend to you, even though they think you are a good credit, because they are not convinced that I will do so. The result is that no one lends, financial conditions tighten and this exacerbates the downward pressure on the economy. As economic conditions deteriorate, this undermines the financial strength of the major financial institutions, further reinforcing the downward spiral in confidence.

Another bad dynamic that exacerbated the crisis has been the reluctance of some banks to raise the additional capital they might need should the economic outlook deteriorate sharply. Repeatedly over the past 18 months we have heard—from the GSEs, from the investment banks, from the commercial banks—now is not a good time to raise capital. This desire to postpone capital raising stems, in part, to the fact that bank executives often do not want to dilute the existing shareholders (which, of course, include themselves).

I believe that the management calculus has often gone like this: In good states of the world, I have enough capital. In bad states of the world, perhaps I don't. But to raise enough capital to guarantee I can endure all the potential bad states of the world, I will have to massively dilute my existing shareholders now. So the self-interested thing to do is to avoid the dilution and hope for a good state of the world.

This does not always work well in practice. Once capital preservation becomes paramount, deleveraging intensifies and counterparties grow more wary about engaging. This dynamic, in turn, makes a bad state of the world more likely. What may be sensible for each institution individually, may collectively be a bad idea. That is because each firm does not internalize the cost that their decision not to raise capital has on the overall financial system.

A healthy banking system is always essential. But never has that been more true right now given what has happened to the securitization markets and the broad "shadow" banking system.

So where are we now?

In my view, the deleveraging process is still far from complete. Hedge fund redemptions have soared. It would not be surprising that when we're done, hedge fund assets (before leverage) will have fallen in half or more from their peak of about $2 trillion. Of course, the Madoff scandal and other episodes of misappropriated funds have further undermined confidence, reinforcing the redemption pressure.

Most importantly, the pressure on the financial system has been exacerbated by the deterioration in the economic outlook following the Lehman failure. Before last fall, the causality ran mostly from the turmoil in the financial system to the real economy. Since then, the real economy has contracted sharply and this has reinforced the balance sheet pressure on banks and the forced deleveraging process.

So where do we go from here?

Well fortunately, it is not all bad news—there are a number of programs that have been enacted that have already made a difference. And several new initiatives are being enacted now that should help to support and bolster the financial system.

Those areas where the Federal Reserve and the Federal government have responded in force are doing somewhat better. Banks and dealers have plenty of access to liquidity. The Term Auction Facility or TAF—in which funds are auctioned off to banks—and the Term Securities Lending Facility or TSLF—in which auctions are held to borrow Treasuries from the Federal Reserve—have recently been undersubscribed, indicating that the facilities have been sufficiently sized to meet the demand for liquidity. The FDIC has also guaranteed bank and bank holding company funding through its Temporary Guarantee Liquidity Program. As a result, bank term funding spreads have narrowed a bit this quarter.

However, while the Federal Reserve can provide liquidity to the banks and dealers and the FDIC can reduce counterparty concerns via its guarantee program, these steps cannot force banks and dealers to on lend these funds to their customers.

This is where several new initiatives may show the way forward.

First, the Federal Reserve has begun to bypass the banks and dealers, which are balance sheet constrained, and instead has begun to provide liquidity directly to borrowers. One of these programs, the Commercial Paper Funding Facility or CPFF has been up and running since late October.

Under the terms of the CPFF, the Federal Reserve offered to purchase A1-P1 rated commercial paper at 84-day maturity from issuers. Although A1-P1 rated paper is the highest quality stuff, it makes up almost all of the CP market. The only catch is that the CPFF will only buy at rates that are quite high compared to the rates one would expect in the market during normal times. The Fed has to charge a high rate and up-front fees to provide some equity in the fund to offset potential credit losses.

This facility has worked extremely well in restoring market function in the commercial paper market. Initially, there was a surge of issuance into the facility. Commercial paper rates in the market were high and the issuers wanted to extend the maturity of their obligations. But since that time, purchases have slowed sharply. Following the introduction of the CPFF, commercial paper rates in the marketplace dropped below the rates charged by the CPFF. As a result, issuance into the program has collapsed because many issuers can now raise funds more cheaply in the private market. About half of the maturing paper in the CPFF has not been rolled over. As a result, the amount of CPFF holdings, which peaked at around $350 billion in mid-January, has fallen by over $100 billion, to below $250 billion. To date at least, the CPFF has worked as planned and has been very successful in rehabilitating the commercial paper market.

Second, the Term Asset-Backed Security Loan Facility or TALF will provide balance sheet capacity directly to investors beyond the banking and dealer community. This program is designed to restart the securitization markets.

The TALF is being rolled out in two stages. In the first stage, which I'll call TALF Version 1.0, the Federal Reserve will provide non-recourse loans to investors against AAA-rated consumer asset-backed securities collateral. Primary dealers will serve as the contact point with these investors to make it easier for the Fed to interface with potentially hundreds of investors.

The AAA-rated securities eligible as collateral for this non-recourse lending program are used to fund a wide variety of consumer and business loans, including student , credit card, auto and small business administration loans. The market for these securities had dried up because the traditional investors in these securities—SIVs, bank-related conduits and securities lenders—have either disappeared or are balance sheet constrained. This has reduced the availability of credit for consumers and led to higher borrowing costs.

The first subscriptions for financing under TALF Version 1.0 will occur on March 17. The first batch of new securitizations will be funded on March 25.

TALF Version 2.0 will follow. This will broaden the TALF into new asset classes such as Commercial Mortgage Backed Securities. Development of this phase is still in its early days. But it anticipated that the size and scope of TALF will expand sharply in the months ahead.

So how will the TALF restart securitization activity and provide balance sheet capacity to the private sector? By providing leverage and 3-year term, non-recourse financing to investors, the TALF should increase the demand for AAA-rated securitizations. Yields of LIBOR + 400 basis points may not be sufficiently attractive on an unleveraged basis, but at 10 times leverage the returns become very attractive.

The non-recourse nature of the loans is also important. If the price of the security falls considerably, the investor just loses an

amount equal to size of the haircut. For example, if the haircut was 10% and the value of the security was $100, the most the investor could lose would be $10. Thus, the facility eliminates much of the downside risk that would arise from a very deep recession or the fire sales of assets that could cause prices to drop sharply temporarily.

This is a very exciting program because it provides balance sheet capacity to risk capital that cannot currently get leverage. It goes beyond current programs. Just as important, once it is up and running it can be scaled up and out in many different dimensions. In principle, it could be applied to other distressed asset classes, it could move down the credit spectrum to lower-rated tranches, and it could be used to fund older vintage assets.

Two other important initiatives are also in train that deserve note.

Last week the Treasury and the major banking supervisors announced the details of a capital stress assessment process for all bank holding companies with assets in excess of $100 billion. This process is designed to ensure that the banking system has sufficient, high-quality capital to be able to absorb the losses that would likely be generated by an economic scenario considerably worse than generally expected. The stress assessment assumes an adverse economic environment. For example, under this scenario, the unemployment rate is anticipated to average more than 10% in 2010, considerably higher than the consensus economic forecast.

The stress assessment will unfold in three steps. First, each bank holding company will be asked to evaluate the credit losses that are likely to occur under an adverse economic environment. These losses would then be evaluated relative to the bank holding company's ability to absorb those losses.

Second, if this analysis indicated that the banking organization was likely to fall short of well-capitalized in the stress environment, the bank holding company would be able to obtain additional capital via mandatory convertible preferred stock purchased by the Treasury.

Third, if the stress scenario were actually to occur, generating losses that depleted common equity capital below what is deemed adequate, then the mandatory convertible preferred would be available to be converted into common equity. The government's mandatory convertible preferred investment is, in some sense, contingent capital that is available to be converted into common equity only as needed.

I believe this program is very important if we are to break the adverse dynamic that I outlined early. As I mentioned earlier, many bank holding companies don't have an incentive to raise sufficient capital to ensure that they can handle a very bad outcome. That is because such capital-raising would severely dilute existing shareholders. This implies that, left to their own devices, banks might end up being undercapitalized in a stress environment. The risk of this outcome makes these banks (and their counterparties) very cautious in terms of their behavior. This cautiousness, which is rational for each bank and counterparty individually, is bad for the system because it constrains the supply of credit and results in tighter financial conditions. This, in turn, makes the bad economic outcome more likely.

The stress assessment regime that is being implemented should help to break this dynamic. Banking institutions will end up with sufficient capital to withstand even an adverse environment. This should reassure banks and investors that the banking system will remain resilient. With more capital in place, more lending should take place. This, in turn, should reduce the likelihood that the bad economic scenario will, in fact, be realized. The result: a virtuous rather than a vicious circle!

The point of the stress assessment is not to pick winners or losers, but instead to ensure that the banking system and all the major banks have sufficient capital to withstand a very adverse environment. Following the conclusion of the stress assessment process, the government is committed to supplying whatever amount of capital is needed to ensure that all the major banks will remain viable.

The second major initiative that deserves mention is the PPIF or Public-Private Investment Fund. This facility, which would be underpinned by TARP capital and private capital, would purchase illiquid, legacy assets. Although the terms and conditions of the PPIF have not yet been announced, this facility should help put a floor under the prices of lower-quality assets and provide a means for banks to shed such assets from their balance sheets.

Despite all these efforts, I don't want to give you the impression that all will be well soon—that seems unlikely. It will take time for the deleveraging process to come to an end and, as the recent employment data have underscored, the economy has considerable momentum to the downside. But the Federal Reserve is prepared to do whatever it takes, within the bounds of its legal authority, to keep markets working and credit available and affordable.

Finally, what are the lessons to be learned from this crisis? What do we need to fix in order to make our financial system more robust and our economy less vulnerable? Let me offer up a short list of seven areas that we might focus on—recognizing that this list is by no means complete or exhaustive.

- We need more transparency and homogeneity in securities. The difficulty in valuing opaque and heterogeneous securities has

led to greater illiquidity, price volatility and market risk, bigger haircuts and more forced deleveraging. Opacity has also led to an undue reliance on credit ratings.

- We need central counterparties or CCPs for over-the-counter derivatives in order to reduce settlement risk. To do this properly, we will have to work with international supervisors, regulators, and governments to achieve global solutions. On this score, lots of progress has been made in the credit default swap space—with several new CCPs likely to be up and running in months, if not weeks. But we can do much more in this area.

- We need an accounting and disclosure regime that allows investors to meaningfully ascertain the risks they are taking. For example, the same assets are often carried on different bank books at different prices. If you can't trust the valuation marks on the assets, how robust can confidence be in the ability of the financial system to withstand stormy weather?

- We need a resolution mechanism for bank holding companies and non-bank financial institutions—legislation is needed here. Judging from the actions of the past year, there are indeed institutions that are "too big to fail", at least in certain circumstances. Let's set up a resolution framework that is robust and transparent so everyone understands the rules of the road and likely outcomes beforehand. An *ad hoc* approach increases uncertainty and reduces policymaker credibility.

- If large systemically important institutions are indeed too big to fail, then there needs to be an explicit *quid pro quo* for this. Otherwise, this implicit support will create moral hazard and discriminate against smaller institutions. In particular, important institutions cannot be allowed to stay outside in the sun during good times, but allowed to come inside the regulatory net when it is raining.

- We need a more robust capital regime for banks. Measures of regulatory capital lag far behind the real-time market-based measures of capital and risk. Moreover, the capital regime is procyclical. Banks are constrained in the amount of reserves they can build in good times as a buffer against cyclical downturns. Finally, banks balk at cutting dividends to conserve capital or replenishing the capital they sorely need in the middle of crisis. These incentives reinforce the downward pressure on the financial system during times of stress.

- We need a more effective regulatory system. We need a systemic risk authority that has both the responsibility and the powers to look across the entire financial system—both depository institutions and the capital markets. Our regulatory regime is incredibly balkanized, which makes coordination difficult and means that important information can fall between the cracks. It also leads to less accountability for supervisory shortcomings and failures, which is another area where we have to do better.

This list is just a hint of the agenda that lies ahead. We need to put our financial system into the repair shop for intensive reconstruction. We need to do this in order to rebuild confidence and to ensure that we do not repeat the type of financial boom and bust that has characterized this cycle.

Thank you very much for your kind attention, I would be happy to take questions.
