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Economic Research:

Step Into The Boardroom: The FOMC's 2008 Post-Lehman Transcripts

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*(**Editor's Note:** The views expressed here are those of Standard & Poor's chief global economist. While these views can help to inform the ratings process, sovereign and other ratings are based on the decisions of ratings committees, exercising their analytical judgment in accordance with publicly available ratings criteria.)*

The Federal Reserve released on Feb. 21 transcripts of the 2008 meetings and conference calls of the Federal Open Market Committee (FOMC), along with supporting material such as staff presentations and draft monetary policy statements. Those interested can now read virtually word for word the discussions and deliberations of the FOMC as it reacted to the financial crisis that erupted in September 2008. Initially, the Fed put the full force of its lender-of-last-resort capacities on display, and then, as it rapidly depleted its remaining 2% of policy interest rate ammunition, it launched into a new regime of operating monetary policy at the zero bound, using the two tools of "quantitative easing" (QE) and "forward guidance." For Fed watchers, there is a treasure trove of material, made all the more interesting and valuable because many of the protagonists in the 2008 meetings, most notably Fed Chair Janet Yellen, are still very much front and center of monetary policymaking, and because, five years on, the Fed is still in the easing stage it ratcheted up in that period.

The transcripts don't just reveal history; they inform current debates. What do we learn? Too much to do justice to here, but, having read all the transcripts for the meetings from September 2008 on, I will offer a few observations and thoughts, in the service of saving the interested reader the necessity of plowing through hundreds of pages, as interesting as that may be to some.

Overview

- The FOMC transcripts covering the eruption of the financial crisis provide a treasure trove of material for Fed-watchers: Chairman Bernanke emerges looking good.
- The Fed's crisis response and its rapid move to a new monetary policy regime raised a host of tricky analytical as well as governance issues, which the Fed navigated with rigor and deftness.
- The lessons from Japan's deflation and lack of success with QE featured heavily in the Fed's thinking and deliberations.
- The transcripts shed light on the question of whether the Fed could or should have averted the bankruptcy of Lehman Brothers; it was certainly blindsided by the severity of the fallout.
- Consistent with how things are supposed to be, the transcripts reveal a Fed heavily focused on the markets and accountable to but not preoccupied with Congress.

Pushing The Transparency Envelope, But Revealing Only Half The Story

In the modern framework of central banking, transparency of the central bank's objectives and decision-making processes is considered to be a desirable thing: The more transparent the central bank is, the more effective its monetary policy is likely to be, so it is held. In recent years and decades, the trend has been central banks providing increasingly more information about their policy deliberations and intentions, in the form of policy statements, press conferences, speeches, hearings, minutes, and, in a few cases, transcripts of policy meetings.

Few central banks release transcripts of their monetary policy meetings, and no other one, to my knowledge, does so with a time lag of just five years (the Bank of Japan publishes transcripts with a 10-year lag) (1). Some, most notably the European Central Bank (ECB), do not even publish minutes of their policy meetings, although the ECB is actively considering starting to do so. Hence, the Fed is to be commended for pushing the envelope on transparency by releasing transcripts in a fairly timely manner. Transcripts released with a five-year time lag do not just provide useful information for historians; they can cast important light on contemporary policy issues and the capabilities and predilections of contemporary policymakers.

If transparency is deemed to be so good, why not release transcripts much earlier (say, with or soon after the minutes) or go the whole hog and make policy meetings open to the public, such as via live Webcast? After all, the technology now allows that. Why wait five years to hear what policymakers are saying when they deliberate if one can hear them in real time (2)? Two reasons come to mind. One is that more, or complete, transparency would lead to excessive volatility or unproductive activity in financial markets as market participants traded in real time on every word spoken. But this only pertains to real-time disclosure. A second reason, more relevant to the question of delayed disclosure, is that more transparency would inhibit or distort the decision-making process because participants would factor in to the calculus of what they say and how they say it the fact that it will become public knowledge with some lag. A five-year lag seems short enough for that effect still to have some potency, although probably not a lot.

The transcripts of the 2008 FOMC meetings provide a treasure trove of information and insight, particularly in the light of the eventful times. But they provide only half the story. Many of the key decisions taken by the Fed in 2008 involved the invoking of Section 13(3) of the Federal Reserve Act, namely credit easing and lender-of-last-resort operations, and were taken by the Board of Governors, not by the FOMC (more on this below), and minutes for these meetings are not released, let alone transcripts. The Fed may want to ponder rectifying that transparency imbalance.

The Fed Academy

One of the things that comes through in the transcripts is the high level of technical expertise and quality of the debate at the Fed, in the sense of it being informed by strong economic research and academic thinking. The monetary policy part of central banking is about trying to help the macro-economy perform well: keeping inflation low and stable and the economy operating at or close to its full capacity. But monetary economics, the part of economics that underpins policy, is a highly technical academic field and one that continues to evolve. Central banks need to monitor and try to influence the real economy, in real time, and make decisions on the most solid analytical foundations they can.

The Federal Reserve System likely constitutes the greatest concentration of expertise in monetary theory and practice in the world. The three divisions of the Federal Research Board with primary responsibility for conducting economic research (the Division of Research and Statistics, the Division of Monetary Affairs, and the Division of International Finance) have approximately 450 staff members, about half of whom are PhD economists. There are probably just as many PhD economists at the 12 Federal Reserve Banks. All of this expertise, research, and analysis one way or another feeds into or helps inform the policy process. Many FOMC participants, including regional bank presidents, are PhD economists with strong academic backgrounds and contributions, and this was the case in 2008, too. The last two chairpersons (Ben Bernanke and Janet Yellen) had been distinguished professors of economics before moving into the policy world.

This monetary expertise was on full display in the transcripts of late 2008 as the Fed rapidly moved to the zero bound and had to grapple with the challenges, both conceptual and operational, of operating there (3).

At the Oct. 28-29, 2008, meeting, at which the FOMC cut the federal funds rate 50 basis points (bps) to 1%, Federal Reserve Bank of Richmond President Jeffrey Lacker posed the key question to the senior economic staff (p. 57): "Well, whatever [the] lower bound is, I have a question that's kind of hypothetical. I wasn't a member of the Committee five years ago. My understanding, though, is that much thought was given to how we would conduct monetary policy if we needed to reduce the nominal federal funds rate to zero or its effective equivalent. My understanding is that the general conclusion—and my understanding is that this is mainstream economists' general view as well—is that the way we would do that would be to expand the monetary base, perhaps by buying assets outside the normal range of assets that we would buy. Now, the first question is, Is that correct?" Chairman Bernanke chimed in (p. 58): "[L]et me just make a suggestion, which is that there were a number of memos and studies done in 2003. I think we ought to look at them, update them, and circulate them fairly soon."

At this meeting, Federal Reserve Bank of St. Louis President James Bullard in his input to the policy decision dusted off a 2001 Journal of Economic Theory article by Jess Benhabib, Stephanie Schmitt-Grohe, and Martin Uribe; this paper shows that when nominal interest rates are low and a central bank uses a conventional Taylor Rule, the standard Fisher equation implies the economy can get stuck in a deflation trap. He used this to warn (p. 132) that "a very low nominal interest rate policy may be counterproductive" and to argue (unsuccessfully in the event) (p. 135) for leaving rates alone (at 1.5%) and for "[saying] 'let's use fiscal policy.'" There are probably not too many central bank policy meetings where Journal of Economic Theory articles are studied as a guide to setting policy (4)!

The next meeting, on Dec. 15-16, 2008, held as a joint one of the FOMC and the Board of Governors, was a historic one: At this meeting, the Fed announced the regime shift, still in effect, of moving to target the size of the balance sheet. The staff set the stage for the discussion by presenting eight questions for discussion (p. 257) (5):

"Federal funds target rate

1) As a general matter, when it appears likely that the federal funds rate will be constrained by the zero lower bound on nominal interest rates, should the Committee quickly move the target federal funds rate toward the zero bound, or should it 'keep its powder dry' by reducing the target federal funds rate toward zero only gradually?

2) Do you think that reducing the target federal funds rate to zero would impose significant costs on financial markets

or institutions? If so, what costs concern you most? In view of the potential costs and benefits of a zero or near-zero federal funds rate, what do you see as an appropriate minimum for the target federal funds rate?

3) Do you see significant benefits from communications strategies designed to indicate:

- a) that the Federal Reserve intends to hold the target federal funds rate at a very low level until specified conditions are judged to obtain?
- b) that the Committee sees a sizable risk that inflation in coming quarters could be appreciably lower than is consistent with the Federal Reserve's dual mandate, and that the Committee will act to mitigate that risk?
- c) that in order to foster low short-term real interest rates and thus promote a resumption of economic expansion, the Federal Reserve will be willing to accept higher rates of inflation in the next few years than it normally would find desirable?

Are there other approaches to providing information to the public about the future course of monetary policy that you see as promising?

Nonstandard policy tools

4) Do you see advantages to increasing the Committee's purchases of federal agency debt and mortgage-backed securities beyond the levels already announced? Do you see advantages to initiating large-scale purchases of longer-term Treasury securities? Should purchases of agencies or Treasuries be explicitly conditional in some way on market or economic conditions? If so, should the relevant conditions be announced in advance?

5) Do you see substantial further expansion of credit backstop facilities under the authority of Section 13(3) of the Federal Reserve Act (e.g., the CPFF or the TALF) as likely to be beneficial in current circumstances?

6) Do you see other nonstandard policy tools as likely to be particularly effective in current circumstances? What tools do you see as potentially most useful?

7) When employing nonstandard policy tools, how would the Committee most appropriately formulate its directive to the Desk? Would you favor specifying objectives for quantities of assets to be purchased, for levels of interest rates other than the federal funds rate, or for interest rate spreads?

8) When employing nonstandard policy tools, what communications approaches would be most effective in explaining the Committee's use of such tools to markets and the public?"

The Fed academy well and truly had its thinking cap on (6).

Monetary Policy At The Zero Bound

Reading the transcripts, you can literally hear FOMC participants, informed by theory and importantly Japan's prior experience, trying to figure out and develop a shared understanding of how monetary policymaking at the zero bound works and therefore how they should do it.

The discussion began at the Oct. 28-29, 2008, meeting, as per Reserve Bank of Richmond President Lacker's question above. The Secretary and Economist of the FOMC, Brian Madigan, responded (p. 58): "President Lacker, I would say that there are a number of strategies that the Committee could think about if it were at the point that it felt it couldn't lower the federal funds rate any further, be that zero or some higher level. One would be communications that suggest to market participants a willingness to hold short-term rates at very low levels for a very long period of time. Of course, one could view the 2003 experience as implementing that strategy with the 'considerable period' language. But obviously the idea is to try to hold down the longer-term rates that matter for spending to a larger degree than might be implied by market participants' views that you might instead begin to firm monetary policy sooner.

There are a number of other possibilities. As you suggest, one would be simply to expand the Federal Reserve's balance sheet further—engage in a sort of quantitative easing. The effectiveness of that could be debated. Another possibility that was discussed, at least in the period in which the studies were done, would be to change the composition of the Federal Reserve's balance sheet. Of course, we've already done a lot of that with the various lending facilities, and so the scope for additional expansion there would need to be thought through."

Mr. Lacker then posits a conventional "monetarist" (quantity theory of money) view (p. 59): "The reason I ask is that my understanding is that the strategy of expanding the monetary base would work through increasing inflation or reducing deflation." Mr. Madigan, having a bank lending channel and asset price effects in mind, demurs: "That's not how I would think about it. I would think about it as giving, if it works, depository institutions increased incentives to expand their lending by providing them with a great deal more funding than they actually need and thereby increasing spending propensities. I would see this more as part of a package of various ways to stimulate spending by reducing real interest rates but not as something that would feed through directly to inflation. Rather this would more properly be viewed, at least in the way I think about things, as fighting deflation rather than trying to cause a higher positive rate of inflation."

Here you can see the germ of a confusion about what the Fed has done that continues to this day: is QE an inflation-generating device or a deflation-countering one? My answer has always been: the context matters immensely. All other things equal, QE--the wilful expansion of its balance sheet by the central bank--should raise the future path of the price level relative to the counter-factual of no QE (at least somewhat), so in that respect it would appear to have an "inflationary" intent. Used at full employment and with price stability secured, it would no doubt be hugely inflationary. But no independent central bank would do such a thing. Central banks use their tools to try to achieve their objectives. An independent central bank is likely to launch QE only when the threat to the attainment of a state of low, stable inflation is from the downside (i.e., too low inflation or outright deflation). This was patently the case, in a forward-looking sense, in late 2008.

The next part of the exchange is fascinating, as two "professors" (7) trade views on the transmission mechanism of QE:

"President Lacker: My understanding is that economists such as Woodford (8) and others who have studied this believe that, by using monetary assets to purchase other assets, we can make the price level and thus the inflation rate higher than it otherwise would be. Is that a fair understanding?

Chairman Bernanke: I don't think that's right. I think the thrust of the elementary approach to quantitative easing is the old Milton Friedman idea—that changing the composition of money and other assets changes relative returns. So it's a way to bring down returns on other assets and create stimulus even if the policy rate is down to zero.

President Lacker: The mechanism Friedman sketched ultimately produces a proportionate increase in the price level, doesn't it?

Chairman Bernanke: Eventually, but through the aggregate demand mechanism.

President Lacker: Right.

Chairman Bernanke: We should look at the Woodford thing, but I don't think that's quite the right characterization of his view.

President Lacker: Well, the reason I ask all of this is that, with an interest rate on reserves above zero, that's effectively equivalent to a zero lower bound on nominal interest rates. So we are effectively doing this quantitative easing.

Chairman Bernanke: We're pretty close, yes.

President Lacker: Right. So the thought that sparks is that, if the mechanism involves creating inflation, then I'd wonder what checks we have on the scale of open market operations now to ensure that we're not, by expanding our balance sheet as much as we have, risking an increase in inflation.

Chairman Bernanke: I don't think that's the right characterization, but I'd be happy to talk about it off line."

Maybe, Chairman Bernanke did just that. Toward the end of the meeting on the following day, President Lacker expounded a "portfolio rebalance" view of QE, very much in line with how Chairman Bernanke seemed to be thinking (p. 156): "The classic economics of this is that, when you get down to effective equivalence between a monetary asset and a government bond of one-day duration or whatever, to be effective monetary policy needs to be fiscal policy. It needs to acquire other assets that we wouldn't normally otherwise acquire. We're doing that right now. So I'd emphasize the importance and relevance of that."

The interchange above presages a tension in the thinking about QE, both within the Fed and in the world at large, that has plagued the Fed's attempts to explain its policies and convince critics that they are warranted and continues to this day. From a conventional inflation-targeting framework kind of perspective, QE--expanding the size and choosing a certain composition--of the balance sheet is simply what central banks do (9) when they have hit the zero bound (have run out of conventional policy rate ammunition) and still need to ease monetary policy in order to attain their goals. But the textbook mechanical money multiplier model--positing that bank lending and deposits will expand to "absorb" any excess reserves in the system--is a powerful meme; it feeds concerns, misplaced, in my view, that the Fed is playing with inflationary fire by creating such a large volume of excess reserves (10).

At the Dec. 15-16, 2008, meeting, Chairman Bernanke laid out his thinking on the new monetary policy regime--that is, on how to conduct monetary policy at the zero bound and, notably, how the Fed's approach did and would differ from Japan's approach, which had failed (pp. 23-27): "In some respects our policies are similar to the quantitative easing of the Japanese, but I would argue that, when you look at it more carefully, what we're doing is fundamentally different from the Japanese approach. Let me talk about that a bit. The Japanese approach, the quantitative easing approach, was focused on the liability side of the balance sheet—specifically the quantity of bank reserves, the monetary base, or however you want to put it, in the system. The theory behind quantitative easing was that providing enormous amounts of very cheap liquidity to banks [...] would encourage them to lend and that lending, in turn, would increase the broader measures of the money supply, which in turn would raise prices and stimulate asset prices, and so on, and that would suffice to stimulate the economy. Again, the focus of the quantitative easing was on the liability side, and indeed, there were targets, as you know, for the amount of excess reserves or reserves in the system. I think that the verdict on quantitative easing is fairly negative. It didn't seem to have a great deal of effect, mostly because banks would not lend out the reserves that they were holding (11). The one thing that it did seem to do was affect expectations of policy rates because everyone understood it would take some time to unwind the quantitative easing. Therefore, that pushed out into the future the increase in the policy rate.

So I would argue that what we are doing is different from quantitative easing because, unlike the Japanese focus on the liability side of the balance sheet, we are focused on the asset side of the balance sheet. In particular, we have adopted a series of programs, all of which involve some type of lending or asset purchase, which has brought onto our balance sheet securities other than the typical Treasuries that we usually transact in. You are all aware of the lending facilities for banks and dealers, the swaps with foreign central banks, the promised purchases of MBS, the various credit facilities for which even I do not know all the acronyms anymore. [Laughter] In this case, rather than being a target of policy, the quantity of excess reserves in the system is a byproduct of the decisions to make these various types of credit available. I think that's a very different strategy, and Bill [Dudley, SOMA Manager] gave some evidence—we can debate it further—that these different policies have had some effects on the markets at which they're aimed.

Again, to distinguish between the balance-sheet, quantitative-easing, liability-side approach and the asset-side approach that we have been using, I do not think—and I feel this quite strongly—that it makes any sense for us to have or try to describe monetary policy with a single number, which is the size of the balance sheet or the size of our liabilities, as the Japanese did. There are a number of reasons for this, but the least important reason is probably just the fact that many of our programs don't have fixed sizes. They are open-ended—like the swap programs, for example. Also, many of the programs have different timing, different durations, maturities, beginning points, ending points, and the like, and so in that respect I think it would be difficult to put in a single number. More important, the programs on the asset side of our balance sheet serve different purposes and have different structures, and aggregating a dollar of MBS purchase, a dollar of commercial paper purchase, and a dollar of swaps to make three dollars strikes me as being apples and oranges. I do not think that is the right way to think about it. Furthermore, and finally, these programs obviously have different operational costs and risks, different risks of losses, different maturities, and most important, they present different issues with respect to the exit strategy, which we will want to talk about. Rather than looking at this as a single number, as a measure of the liability side of the balance sheet, I think we ought to think about it as a portfolio of assets, a combination of things that we are doing on the asset side of our balance sheet, that have specific purposes and that may or may not be effective; but we can look at them individually."

Not everyone agreed with Chairman Bernanke's preference for thinking and communicating about policy at the zero bound in terms of the asset side of the balance sheet. Several FOMC participants pushed for a focus on expanding the monetary base. Again, burnishing his monetarist mindset, Federal Reserve Bank of Richmond president Lacker argued that (p. 31): "I want to make clear what I think is one of the central issues at hand, and that is the Committee's control over the monetary base and its conduct of monetary policy. When we target the fed funds rate at any rate above zero, we instruct the Desk to manage reserves or, equivalently, the monetary base so as to keep the effective funds rate at our target. Monetary policy has always been about controlling the base, and this continues to be true at the zero lower bound on interest rates. In fact, the path of the monetary base is even more critical at the zero bound because that is how we prevent deflation. By managing the public's expectations about future base growth and future inflation, we manage current real rates and influence real activity. In essence, we prevent deflation by convincing the public that future base growth will be inconsistent with a falling price level.

Just as a thought experiment, imagine that we commit to keeping interest rates at the zero bound for an extremely long time period, say infinitely. If we do that—this is a clear result from the literature—it does not prevent a deflationary equilibrium. But if we can commit to keeping the monetary base at a finite level, not falling, then that does rule out a deflationary equilibrium. So it is key that expectations about the base, not just nominal interest rates, are vital for our ability to prevent a deflationary equilibrium. I think that focusing on the monetary base is going to help communication, and the reason is that a lot of people out there might not understand the relationship between credit spreads and growth or inflation or various other things that we are doing. But in almost everyone's mind is the phrase "too much money chasing too few goods." It provides, for a lot of people, an intuitive link between money and inflation, and I think we—for all the warts of our policy in the early 1980s under Chairman Volcker—exploited that well, to convey to the public that we were committed to bringing inflation down in a simple, intuitive way. I think that can help us now, analogously, in convincing the public that we are going to be able to prevent deflation because we control money" (12).

Janet Yellen, then Reserve Bank of San Francisco president, spoke forcefully against targeting the monetary base (p. 46): "Imagine, however, that the commercial paper market were to revive, allowing us to terminate the [Commercial Paper Financing Facility]. Excess reserves would decline, but that decline would have no negative effect on economic activity, so there should be no presumption that some other program should be expanded to restore the monetary base to its previous level. Theory suggests that when the monetary base is increased by purchasing conventional [System Open Market Account] assets, its expansion should have little or no effect on the behavior of banks or asset prices more generally after the zero bound has been reached. Abstracting from expectational effects, the evidence generally supports this view. While the quantity of money is surely linked to the price level in the very long run, most evidence suggests that variations in the base have only insignificant economic effects in the short or medium term under liquidity trap conditions. This makes the base an inappropriate operating instrument for monetary policy in a zero bound regime."

Vice Chairman Donald Kohn also spoke strongly against targeting the monetary base (pp. 69-70): "I find myself more skeptical about the effect of increases in the monetary base per se than what I hear around the room. Such increases I think are supposed to affect asset prices by inducing banks to substitute into higher-yielding assets. Give them a bunch of reserves, and they substitute into higher-yielding assets like loans. But I wonder how effective that is when short-term rates don't decline with the increase in the base because we are pinned at zero—that is, we are in a liquidity trap—and when banks are reluctant to expand portfolios because they are concerned about capital and their leverage ratio. So I don't really understand the channels through which an increase in the monetary base, under these circumstances, is supposed to affect economic activity. We have seen a huge increase in the base over the last couple of months and no effect on the money supply. Now, that is very short term, I agree. Your observation, Mr. Chairman, was that we saw a big increase in the base in Japan. I agree with President Lacker that they weren't as dedicated to that as they might have been, but I just don't see any evidence that the base isn't going to be absorbed in a declining money multiplier rather than an expanding money supply and increased activity. I don't understand the channels. I think the base, as we are setting this out, is determined by the people who use our credit facilities. I think that is very important, and I don't want to upset that. So I would be very, very hesitant to restructure the directive in terms of the quantity of reserves or the monetary base."

Not surprisingly, Chairman Bernanke carried the day in terms of the Fed acting and communicating in terms of the asset side of its balance sheet rather than the liability side (reserves or monetary base). Hence, with subsequent policy developments, the Fed's QE (as in "QE1," "QE2," and "QE3") has been conducted and communicated in terms of "LSAPs" (long-term securities purchases; pronounced "L-SAPs"), one of the uglier monikers to arise from the crisis.

But not too much import should be given to this distinction. A balance sheet has assets on one side and liabilities (and equity) on the other. If a central bank operating at the zero bound decides to buy assets, it will create excess reserves (or increase the monetary base) as it does so; if another central bank operating at the zero bound decides to increase the monetary base, by increasing the level of reserves (the part of the monetary base it directly controls), it will acquire assets to do so. One implies the other. Particularly if the same kind of asset is bought (e.g., government securities), the difference between the asset side and the liability side approaches to QE reflects a difference in how matters are conceived and communicated more than in how balance sheets behave.

The Bank of Japan (BOJ), under its new "quantitative and qualitative easing" program adopted in April 2013, is targeting an expansion of the monetary base by about ¥60 trillion to ¥70 trillion per year, and it is doing so mainly by buying a bucket load of longer-term Japanese government securities (about ¥50 trillion per year). The Federal Reserve has been buying longer-term government securities in large quantities and expanding the monetary base dramatically in the process. While this was by no means the case before April 2013, the Fed's and the BOJ's policies now largely amount to the same thing.

Lessons Of (Japanese) History Learned

If it was ever in doubt, the FOMC transcripts show that the Fed learned and applied many lessons from Japan's experience with the bursting of an asset price bubble leading to a banking crisis, with deflation, and with pioneering experiments with quantitative easing, credit easing, and forward guidance (13).

Chairman Bernanke teed things up at the Oct. 28-29, 2008, meeting (p. 118): "I do think that one lesson of both Japan and the 1930s as well as other experiences is that passivity is not a good answer. We do have to continue to be aggressive. We have to continue to look for solutions. Some of them are not going to work. Some of them are going to add to uncertainty. I recognize that critique. I realize it's a valid critique. But I don't think that this is going to be a self-correcting thing anytime soon. I think we are going to have to continue to provide support of all kinds to the economy." Vice Chairman Kohn reinforced that message (p. 122): "We need to do much more and the sooner, the better. One might argue against such a policy move in favor of a wait-and-see approach to better gauge if the recent flurry of policy initiatives will turn things around. In normal times, I would have some sympathy for this argument, but these are about as far from normal times as we can get. We are in the midst of a global economic and financial freefall, and the confidence of households, businesses, and investors is in shambles. The adverse feedback loop is playing out with a vengeance. Lenders continue to ratchet up terms and standards, sapping the ability of households and businesses to spend. As the economy weakens, further loan defaults will mushroom. I think strong, clear action is needed. Historical precedents, such as the case of Japan, teach us that it is a mistake to act cautiously as the economy unravels. I think the clear lesson from both economic theory and real-world experience is to lower rates as quickly as possible to avoid a deeper and more protracted recession, not to keep our powder dry or to wait to use tools until later if they are available to us now. The more medicine we give and the sooner we give it, the better."

Reflection on the Japanese experience set the stage for the historic deliberations at the Dec. 15-16, 2008, meeting. As FOMC Secretary and Economist Brian Madigan noted (p. 16): "Ten days ago, we sent you 21 notes covering lessons from the U.S. and Japanese experiences in disinflationary or deflationary environments; the possible costs to financial markets and institutions of very low interest rates; the potential benefits of further rate reductions; and the advantages and disadvantages of nonstandard approaches to providing macroeconomic stimulus that could be employed when the federal funds rate cannot be reduced further. Numerous staff members contributed to these notes."

Numerous participants referred to those lessons in drawing their own conclusions and recommendations for the path that the Fed should follow. Reserve Bank of Boston President Rosengren's synopsis captures a key common threat (p. 74): "My reading of the parallel Japanese experience highlights two general principles. The first is one that President Stern highlighted. There is a macroeconomic impact from what we do in bank supervision. Banking problems should be addressed expeditiously, with realistic write-downs of problem assets and recapitalization of problem banks. In particular, we should prevent perverse incentives where problem borrowers are supported while healthier borrowers are starved for credit as banks try to satisfy balance sheet constraints and avoid further loss recognition. Second, monetary and macroeconomic policies to address financial dislocations should be proactive and forceful rather than released gradually over an extended period of time."

Wordsmiths Extraordinaire

Communication is the cornerstone of modern monetary policymaking, on the theory that monetary policy can be made more effective if the central bank communicates clearly to market participants and the public its objectives, its assessment of the outlook, its determination to achieve its objectives, and how it intends to do so. As a result, and critical to success of this, market participants parse closely the written and verbal statements that central bankers make. Knowing that, central bankers are very careful in choosing their words. Just how much so was vividly on display in the transcripts of the Sept. 16, 2008, FOMC meeting. Here for the record is the statement as released:

"The Federal Open Market Committee decided today to keep its target for the federal funds rate at 2 percent.

Strains in financial markets have increased significantly and labor markets have weakened further. Economic growth appears to have slowed recently, partly reflecting a softening of household spending. Tight credit conditions, the ongoing housing contraction, and some slowing in export growth are likely to weigh on economic growth over the next few quarters. Over time, the substantial easing of monetary policy, combined with ongoing measures to foster market liquidity, should help to promote moderate economic growth.

Inflation has been high, spurred by the earlier increases in the prices of energy and some other commodities. The Committee expects inflation to moderate later this year and next year, but the inflation outlook remains highly uncertain.

The downside risks to growth and the upside risks to inflation are both of significant concern to the Committee. The Committee will monitor economic and financial developments carefully and will act as needed to promote sustainable economic growth and price stability."

Innocuous sounding enough, but the wordsmithmanship that went into it was quite extraordinary. There was a nuanced discussion over whether the Committee should say that it would "monitor economic and financial developments," as in the draft statement prepared by the staff, or whether, under the circumstances, this should be changed to "economic and financial market developments," "the idea [being] to put the focus on the market side to a slightly greater extent than we normally do" (p. 79). In the event, there being some dissent and, according to Chairman Bernanke's dictum that "all else being equal, there's a slight barrier for making any change," "market" did not make the cut.

More brainpower was exerted in the discussion of whether the Committee should say that it would monitor economic and financial developments "closely," as suggested in the draft statement, or "carefully," as suggested by Vice Chairman Donald Kohn. "Carefully" won out, but not before a nuanced set of exchanges that included debate over whether the word "closely" was an adjective or an adverb, Federal Reserve Bank of Richmond President Jeffrey Lacker suffering self-acknowledged damage to his linguistic credibility in the process.

Here is a sample of the discussion. Federal Reserve Governor Randall Kroszner (p. 81): "By including 'closely,' I think the markets are going to look very closely at that change, and they are going to think that we are clearly trying to convey something with that. I just think we have to make sure that we feel comfortable in doing so. Certainly some people have suggested that they would be happy to move 50 basis points if they saw the markets moving, but I do think that that one particular word will get a lot of attention. Not that it should, but I think it is going to be focused on. Just as at one point we used the word 'yet,' and that got an enormous amount of attention. And this has two syllables."

Chairman Bernanke: "The sad thing is that Governor Kroszner is right. We have seventeen people debating over this word and it actually does matter."

It may be tempting to say that the Fed was fiddling linguistically while Wall Street was burning, but this would be unfair. To the extent that central banks influence markets and the economy by what they say, they have to choose their words very carefully (that is, closely watch what they say). The transcripts show that they did. And inaction, in the face of forces that, admittedly, they may have helped unleash, is hardly something the hyperactive Fed of late 2008 and beyond could be accused of--particularly at an FOMC meeting that authorized the Fed to provide U.S. dollar funding to foreign central banks under swap arrangements that soon (14) led to the Fed's balance sheet swelling by $583 billion.

Nuances Of Monetary Policy Governance

The Federal Reserve System has a complicated structure and modus operandi, reflecting its genesis and historical development. The Federal Reserve System comprises a seven-member Board of Governors and 12 Federal Reserve Banks responsible for respective districts around the country. The FOMC is responsible for "open market operations"--the buying and selling of securities in the open market. Open market operations are usually seen as the cornerstone of monetary policy because this is the mechanism via which the Fed controls the supply of monetary base (bank reserves and federal reserve notes) and controls the federal funds rate (the interest rate in the interbank market for federal funds or bank reserves). The FOMC comprises the seven governors and five reserve bank presidents, one of whom (the president of the Federal Reserve Bank of New York) is a permanent member; the other four rotate among the 11 other reserve banks for one-year terms. All reserve bank presidents, however, are participants in FOMC meetings. The Board of Governors sets reserve requirements, shares the responsibility for discount rate policy with the reserve banks (but has the determining power), and has lender-of-last-resort responsibility, being the Section 13(3) authority. The complications, on paper at least, stem from the fact that there are two overlapping bodies, the Board of Governors and the FOMC, which share responsibility for monetary policy.

The financial crisis and deep recession that ensued disturbed somewhat the pre-existing intra-organizational equilibrium of the Federal Reserve System, or at least raised operational and coordination questions, because suddenly the Board of Governors was much more instrumental in Fed monetary policy and related actions. This happened as the Board of Governors unveiled one Section 13(3) program after another, as the FOMC exhausted its conventional interest rate ammunition and started to operate at the effective zero interest rate bound, and as the Fed acquired the right to pay interest on reserves (brought forward three years to October 2008 under the TARP legislation), authority for which lies with the Board (15).

As the transcripts show, these monetary policy governance issues were given a fascinating airing at the Dec. 15-16, 2008, FOMC meeting. Chairman Bernanke's uncharacteristically lengthy framing of the issue is so fascinating and informative, let me reproduce it in full (pp. 27-30):

"Let me turn now quickly to the governance issues. Before getting into them, let me just say that, whatever difficulties we may have finding appropriate governance, it is certainly the case that the Federal Reserve Act did not exactly contemplate the situation in which we find ourselves today. I think we all agree that getting the right policies for the U.S. economy is the top priority and, whatever we do, we need to find a way to get the right policies in place. Frankly, I think the best way to achieve that—I am going to talk about some details—is through operating in good faith. If we work together and keep each other apprised of developments and our views, we will be able to make this work. If we take too narrow an approach, too legalistic an approach, I think it will be much more difficult.

So let me make a few comments. I think I can focus this best by simply answering the question: If the federal funds rate is at zero and the FOMC no longer sets the target, then what is the role of the FOMC in monetary policy? I have four answers to that question. The first is that the Federal Reserve's outlook is the FOMC's outlook. That is, the FOMC's views about the evolution of the economy, of prices, and of financial conditions will govern our policy decisions. In particular, it is the FOMC's outlook that appears in the minutes, it is the FOMC's outlook that appears in the projections, and it is the FOMC's outlook that appears in our communications. Therefore, if your board members ask you with respect to monetary policy, 'Well, what are we doing now?' the answer is, 'Keep telling us what you are seeing in the economy and financial markets. We will transmit that to the full FOMC because the FOMC's outlook is the perspective that governs the policy actions that we take.'

The second role of the FOMC, I believe, is in the communication policy, both in the narrow and in the large. In the narrow, if we decide to adopt a target, make a commitment about the length of time in which we hold rates low, or make any other kind of verbal promise in our statements or in other contexts, that is obviously the FOMC's prerogative, and I think we understand that that's how it would work.

The third area is the most difficult one, and that has to do with the balance sheet. The law provides a kind of odd co-dependence, if you will, between the Board and the FOMC with respect to the balance sheet. Both the Board and the FOMC are enjoined by the Federal Reserve Act to pursue the dual mandate, and both the Board and the FOMC have powers that affect the size and composition of the balance sheet. In particular, the FOMC has authority over Treasuries, agency purchases, and swaps, whereas the Board has, in particular, the 13(3) authority, which has been utilized a lot lately for credit programs. So we have dual authority, and we have dual or joint responsibility. I think the only way to deal with that essentially is through close consultation and collaboration. My commitment to you is that we will work together even more closely, even more collegially, going forward to make sure that everyone is on board and understands what we are doing with respect to our various programs on the asset side of our balance sheet and that each person on this Committee is well informed and is able to give views and input into the discussions that we have.

The legal authorities are what they are, but I do think that a collective and cooperative effort can help us solve this problem. In particular, I understand that the briefing sessions that I have provided have been useful. I am willing to commit to do those as frequently as necessary, and I am willing to make them into meetings if we need to have two-way discussions and input from the Committee with respect to policy actions. So it is a bit awkward, but I hope that cooperation will allow us to work together on the balance sheet.

Now, there is a special issue here, though, which is the unwind issue. One way in which the balance sheet affects the responsibilities of the FOMC is that, if the FOMC is going to be raising interest rates at some point in the future, clearly, it needs to have information and understanding about the constraints being placed on policy by the size and composition of the balance sheet. So I think that keeping the FOMC as a whole informed about the balance sheet, about the programs, about the constraints that may be placed on the unwind, and about alternative strategies for raising rates once the time comes, is incumbent upon me and the rest of the Board to do.

Fourth, and finally, with respect to the FOMC responsibilities, is communication to the public. The public doesn't make the distinction between the Board of Governors and the FOMC. The public understands the Federal Reserve. What we need to do is to come together and decide what policies we want to pursue and then collectively take responsibility for those policies and communicate them in a coherent and consistent way to the broad public. That is the responsibility of all of us, and I hope we can work together to provide everybody with the information that they need to do that effectively. In particular, I am going to say that, given the state of confidence in the markets and in the economy, I hope whatever disagreements we may have that as much as possible we can keep them within these walls. With respect to the public, we need, as much as possible, to communicate a clear strategy going forward."

The broad issues raised by Chairman Bernanke came into focus during the policy deliberations at this meeting, which centered on both how to ratify a regime shift in policymaking from the federal funds rate being the key operating target to some form of balance sheet targeting and how to communicate that to the markets and to the public. The main proposals on the table envisaged a cut of at least 75 bps in the federal funds rate to close to zero or a target range of 0-0.25% and to shift the focus of policy and market attention to the "use of the Federal Reserve's balance sheet."

Federal Reserve Bank of Philadelphia President Plosser was characteristically forthright (pp. 191-194): "There's ample room for judgment here and disagreement, but, Mr. Chairman, with all due respect, I'm deeply troubled by elements of the steps that we are taking today. In effect, I interpret our proposed actions as substituting credit-allocation policies for monetary policies. Both the expansion of our balance sheet and the fed funds rate are now determined or will be now determined by decisions about which markets or firms are deemed worthy of our intervention and support and some assessment of how much money we want to throw at them.… Confusing our monetary policy objectives with our credit policies is not the kind of message that I'm comfortable with.… On the governance side, I continue to believe that the FOMC is the appropriate body for making monetary policy decisions and that replacing monetary policy with credit policies that are unconstrained by this Committee is to violate both good governance and the spirit of the operating understanding of the FOMC. …My interpretation is that the proposed language, particularly alternative A, does help indicate that we are moving to a new regime. That's important, and therefore, I lean in that direction. But that language fails to articulate how that new regime will operate, except to say that the Board of Governors will continue credit market interventions. It says nothing about the terms and strategies that we'll employ to do so. The implicit message is—and I think the market will clearly interpret it this way—that the FOMC has ceded monetary policy decisions to the Board of Governors, and I think that will be damaging. …I would like to emphasize that monetary policy remains in the purview of the FOMC and that we have entered a new regime."

Federal Reserve Bank of Richmond President Lacker also expressed some discomfort with how things were shaping up (p. 175-176): "The fourth paragraph in alternative A and the corresponding paragraphs in B and C discuss how we are going to conduct monetary policy while the funds rate is at zero. I think they are intended to signal a shift toward quantitative measures, but I found the language ambiguous and confusing. None says anything about the monetary base. None says anything about the size of our balance sheet. That paragraph also mentions two programs: the agency debt purchases, which we talked about earlier—let me set that aside—and the TALF [Term Asset-Backed Securities Loan Facility], which the Committee has not been asked to formally consider and approve. Now, I can appreciate the strict constructionist governance view of who gets to approve them; it is not important that we vote on them. But I have been thinking about this in terms of the ideal—the vision you portrayed and described for us yesterday of a cohesive consensus-building decisionmaking process. I compared the TALF and what the Committee has heard about it. Contrast that with the deliberations we gave to the extension of foreign exchange swap lines to emerging-market countries. There were fairly extensive briefing memorandums provided to the Committee, and there was a fairly lengthy discussion of that step. In contrast, we were basically informed about the TALF rather than consulted in any meaningful sense.

Part of the problem here is that this paragraph conflates the use of our balance sheet with expansions of the base, and these are two distinct policy actions."

As a result of much discussion, some small but significant changes were made. Whereas the main draft proposal had "The focus of policy going forward will be to continue to support the functioning of financial markets and stimulate the economy through open market operations and other measures that entail the use of the Federal Reserve's balance sheet," the final statement read: "The focus of the Committee's policy going forward will be to support the functioning of financial markets and stimulate the economy through open market operations and other measures that sustain the size of the Federal Reserve's balance sheet at a high level." The use of the term "Committee" signified that the FOMC would continue to be the locus of monetary policy decision-making and the change from "entail the use of" to "sustain the size of" made it clear that the FOMC was targeting the size of the balance sheet, not just having its composition driven by credit-easing policies made by the Board of Governors.

I would interpret the upshot of all of this as follows. Although for all intents and purposes the members of the Board of Governors drive FOMC decision-making, the locus of monetary policymaking has been firmly established to be the FOMC. The ramifications of the crisis in terms of monetary policy included elevating the role of the Board of Governors as an alternative locus of monetary policymaking, introducing potential friction internally and confusion internally and externally into the process. Chairman Bernanke was at pains to head this off and appears to have done so successfully. The real proof of the pudding, however, may be in the exit process when interest paid on reserves, for which the Board of Governors has responsibility, likely becomes the key operating target of monetary policy and the force behind the federal funds rate. It is likely that, rather than the Board of Governors setting this as a decision variable, the Board will do so pro forma, taking its cue from the decision-making process of the FOMC (16).

Could And Should The Fed Have Prevented Lehman's Bankruptcy?

This question is probably the most germane and controversial one surrounding the way the financial crisis erupted and played out, and no doubt will be debated for decades (17).

Chairman Bernanke succinctly summarized the Fed's official view in a Dec. 9, 2008, speech, incorporating views first expressed in an Oct. 7, 2008, speech: "In the absence of an appropriate, comprehensive legal or regulatory framework, the Federal Reserve and the Treasury dealt with the cases of Bear Stearns and AIG using the tools available. To avoid the failure of Bear Stearns, we facilitated the purchase of Bear Stearns by JPMorgan Chase by means of a Federal Reserve loan, backed by assets of Bear Stearns and a partial guarantee from JPMorgan. In the case of AIG, we judged that emergency Federal Reserve credit would be adequately secured by AIG's assets. However, neither route proved feasible in the case of the investment bank Lehman Brothers. No buyer for the firm was forthcoming, and the available collateral fell well short of the amount needed to secure a Federal Reserve loan sufficient to pay off the firm's counterparties and continue operations. The firm's failure was thus unavoidable, given the legal constraints, and the Federal Reserve and the Treasury had no choice but to try instead to mitigate the fallout from that event."

The legal constraints Mr. Bernanke refers to are that the Treasury did not have a TARP (Troubled Assets Relief Program) to inject capital into a failing investment bank and that Section 13(3) of the Federal Reserve Act limited the Fed's actions. The Fed used the Section 13(3) "unusual and exigent circumstances" authority numerous times during the crisis, notably in relation to Bear Stearns, AIG, Citigroup, and Bank of America lending, equity infusion, or asset purchase operations; subsequently modified and restricted by Dodd-Frank, at the time of the crisis, Section 13 held that:

"In unusual and exigent circumstances, the Board of Governors of the Federal Reserve System, by the affirmative vote of not less than five members, may authorize any Federal reserve bank, during such periods as the said board may determine, at rates established in accordance with the provisions of section 357 of this title, to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal reserve bank: Provided, that before discounting any such note, draft, or bill of exchange for an individual or a partnership or corporation the Federal reserve bank shall obtain evidence that such individual, partnership, or corporation is unable to secure adequate credit accommodations from other banking institutions. All such discounts for individuals, partnerships, or corporations shall be subject to such limitations, restrictions, and regulations as the Board of Governors of the Federal Reserve System may prescribe."

At the Sept. 16, 2008, FOMC meeting, the day after Lehman Brothers filed for Chapter 11 bankruptcy, some snippets hint that the Fed saw itself as having made a conscious decision in the preceding days not to use emergency lender-of-last-resort facilities to keep Lehman afloat or help to broker some kind of nonbankruptcy rescue operation along the lines of JPMorgan Chase's absorption of Bear Stearns. A couple of comments suggest that a desire to curb moral hazard was a factor. Federal Reserve Bank of Richmond President Jeffrey Lacker states that (p. 36): "By denying funding to Lehman suitors, the Fed has begun to reestablish the idea that markets should not expect help at each difficult juncture." Federal Reserve Bank of Kansas City President Thomas Hoenig says (p. 51): "I think what we did with Lehman was the right thing because we did have a market beginning to play the Treasury and us, and that has some pretty negative consequences as well, which we are now coming to grips with."

Federal Reserve Bank of Boston President Eric Rosengren was less comfortable (p. 51): "I think it's too soon to know whether what we did with Lehman is right. Given that the Treasury didn't want to put money in, what happened was that we had no choice. But we took a calculated bet. If we have a run on the money market funds or if the nongovernment tri-party repo market shuts down, that bet may not look nearly so good. I think we did the right thing given the constraints that we had. I hope we get through this week. But I think it's far from clear, and we were taking a bet, and I hope in the future we don't have to be in situations where we're taking bets. It does highlight the need to look at the tri-party repo market, look at the money market fund industry, and look at how they're financing. There are a lot of lessons learned, but we shouldn't be in a position where we're betting the economy on one or two institutions. That is the situation we were in last weekend. We had no choice. We did what we had to do, but I hope we will find a way to not get into this position again."

Chairman Bernanke's synopsis of the Fed's conundrum at the time given at the Oct. 28-29, 2008, FOMC meeting is worth reproducing here (pp. 149-151):

"The attempts to stabilize failing systemically critical institutions, beginning with Bear Stearns, have obviously been very controversial. There have been criticisms from the right and from the left. From the right, the initial criticism was that we have no business interfering with the market process. We should let them fail. The market will take care of it.

What are we doing? We heard this as recently as Jackson Hole. I never took this seriously. I just don't believe that you can allow systemically critical institutions to fail in the middle of financial crises and expect it to be not a problem. I don't want to get into the issue about the inconsistency. It's true that we treated senior debt differently between Fannie and Freddie and WaMu and Wachovia, but I don't think that that is the reason we are having the financial crisis we're having. I think there was a panic brought about by the underlying concerns about the solvency of our financial institutions. That panic essentially turned into a run. Companies like Wachovia that had adequate Basel capital faced a run on their deposits, which was self-fulfilling. The investment banks essentially faced runs. We did our best to stabilize them, but I think that it was that run, that panic, and then the impact the panic had on these major institutions that was the source of the intensification of financial crisis. So I don't buy the argument that we should stay out of the business of protecting the financial system, and I think that the major factor was, in fact, the panic that was generated by the underlying uncertainties and the effect that had on critical institutions.

Also more recently we have heard more of a critique from the left, which is, What in the heck were you guys doing letting Lehman fail? This is interesting given that the critique had been the other one for quite a while. I think that critique is unfair at a narrow level in that, first, Lehman was a symptom as well as a cause of the recent crisis and, second, the Fed and the Treasury simply had no tools to address both Lehman and the other companies that were under stress at that time. I think that criticism is appropriate, though, as directed toward the United States as a whole. We did not have—as the Europeans have or as we have FDICIA [Federal Deposit Insurance Corporation Improvement Act] for banks—a system that was set up to allow a reasonable and responsible orderly resolution of nonbank systemically critical institutions. I think we now have made a lot of progress there. The TARP will provide a good interim solution. It is very important that in the future we address the too-big-to-fail problem that we have, that we find ways to reduce that problem, and that we find ways to deal systematically with firms that are in crisis. So given the fog of war—which has, of course, been intense going back for more than a year—I would defend what we've done in terms of the general direction, acknowledging that execution is not always perfect and that communication is not always perfect.

Now, what about the future? History suggests that, whenever a financial crisis becomes sufficiently severe, ultimately the only solution is a fiscal solution, and we will have a fiscal solution. There are two possibilities. One is that the financial system will muddle through, in which case the fiscal solution will be of the sort we've already seen: injections of capital, support for critical firms, support for the credit markets in general; Keynesian-style demand support. That's one possibility. I hope that's where we're going to be. In my own testimony, I argued that we should try to focus whatever stimulus we have in solving the underlying problems rather than simply handing out money and that we could do that, again, by addressing credit markets. I would add, foreclosure, homeownership, and some of those issues as well. So I hope that's where the fiscal policy will be. I hope that will take the lead from us going forward. Obviously, we'll have to continue to play a supporting role in a lot of different ways.

The other possibility, of course, is that things get much worse and that we are in the same situation as Sweden or Japan, in which case a massive recapitalization of the banking system will be necessary. That will eventually happen, but I just note that, in all of these fiscal dynamics, there is a political economy overlay. You have to get to the point that it is not only the right policy to induce fiscal support but also that it is politically possible. That's one reason that I think the TARP was not possible before the most recent period. In fact, it was barely possible recently. So, again, I believe that fiscal policy will have to be a critical part of the solution going forward."

Particularly striking in light of the decision to let Lehman file for bankruptcy is Chairman Bernanke's statement that: "I never took this seriously. I just don't believe that you can allow systemically critical institutions to fail in the middle of financial crises and expect it to be not a problem." But this is precisely what happened with Lehman. He goes on to state that: "the Fed and the Treasury simply had no tools to address both Lehman and the other companies that were under stress at that time." True, the Treasury did not yet have a TARP-like fiscal capacity; but the Fed had Section 13(3) and used it repeatedly, both before and in the wake of the Lehman bankruptcy. Was it really the case that the Fed could not "secure" its advances to its "satisfaction," which would seem to be a fairly low bar for using a lender-of-last-resort facility whose other sole criterion is that the borrower be "unable to secure adequate credit accommodations from other banking institutions"? Or, in the absence of a TARP-like fiscal capacity, was a Bear Sterns-like Lehman rescue operation a political or a moral hazard bridge too far for the Fed, as hinted by the chairman's observation that: "there is a political economy overlay. You have to get to the point that it is not only the right policy to induce fiscal support but also that it is politically possible"?

Besides Section 13(3), the Fed had another tool: the Primary Dealer Credit Facility (PDCF), which the Fed put in place in the wake of the Bear Stearns rescue. The PDCF opened up the discount window to primary dealers, discount window lending normally being restricted to banks.

An observation by William Dudley, then Manager of the System Open Market Account (SOMA) of the Federal Reserve Bank of New York at the Sept. 16, 2008, FOMC meeting is noteworthy in this regard (p. 5): "If investors pull away, they have to take their money somewhere. It doesn't disappear. I think that the Primary Dealer Credit Facility has been shown to be pretty significant in providing support to this market. If you look at what happened to Lehman, for example, even though Lehman was under extreme pressure on Friday [Sept. 12, 2008], the tri-party repo investors stayed with Lehman on Friday night, which actually surprised me. I think the reason that they stayed is that they knew they didn't really have a lot of rollover risk. As long as the broker-dealer didn't file for bankruptcy over the weekend—and that was the risk they really were taking—the Federal Reserve and the PDCF would be there as the tri-party repo investor of last resort. Lehman's experience suggests to me that, if we can contain the broad parameters of this crisis so that it doesn't spread much further, then we can keep the tri-party repo investors from bolting because they don't really have a huge amount of risk as long as we are there behind them to take them out when their overnight obligation comes due the next day."

When the Fed put the PDFC in place on March 16, 2008, it restricted collateral for overnight lending to primary dealers to investment-grade debt securities, but on Sept. 14, 2008, the Fed, preparing for the fallout from the Lehman bankruptcy it saw ahead (18), broadened this to "closely match the types of collateral that can be pledged in the tri-party repo systems of the two major clearing banks." In principle, it would seem that, at least as a short-term bridging operation, the Fed could have made this change to the PDFC and then used it to fund Lehman to keep it afloat until either a buyer could be found or a TARP-like mechanism could be put in place (19).

There is a Catch-22, however. As Chairman Bernanke's comment about political economy hints, and as many commentators have surmised, it might have been virtually impossible to get Congress and the Administration to pass TARP legislation, let alone the whole panoply of Dodd-Frank that followed, without a Lehman-like failure occurring and a sufficient amount of financial and economic turmoil being triggered in its wake. Rescue Lehman and you get no TARP; let Lehman fail and you risk a financial meltdown and depression. Not a great choice.

Politics aside, there is also a tricky analytic point associated with a central bank acting as lender-of-last-resort, which complicates the ex post interpretation of the choices policymakers faced ex ante. Put simply, central banks acting as lenders-of-last-resort are supposed to solve "liquidity" problems, not "solvency" problems, which fall in the remit of the fiscal authorities or the politicians. But there is no bright line between a liquidity and a solvency problem in a financial crisis. Liquidity problems that warrant a lender-of-last-resort intervention almost by definition occur because of doubts about solvency, and, in a financial crisis, liquidity problems, if not treated, can turn into solvency problems (20). The key point is that the central bank's choices and actions themselves can influence the behavior of financial markets and the course of the economy and can help to determine whether individual institutions, and the system as a whole, remain solvent. Central banks don't have the luxury of treating solvency as an exogenous factor--their own actions can make it endogenous.

This point comes back to Chairman Bernanke's protestation that: "I don't buy the argument that we should stay out of the business of protecting the financial system, and I think that the major factor was, in fact, the panic that was generated by the underlying uncertainties and the effect that had on critical institutions." The transcripts speak to how much the Fed did to quell the panic; the question that will occupy the minds of future historians of the Great Financial Crisis, however, is whether, by not doing more to protect the financial system, the Fed helped to bring about that panic.

All Eyes On The Markets, Not On Congress

One way to think about central banks is as being "wedged" between politics and markets. On the one side, they are answerable to governments and politicians; on the other, they use financial markets to transmit monetary policy to the economy. On the one side, the conventional wisdom is that central banks should be independent: Governments should give central banks goals and the tools to achieve them but not interfere in policymaking. On the other side, the conventional wisdom is that central banks should be as clear and as transparent as possible to financial markets about what they are trying to achieve (their objectives), how they think they are placed to do so (their assessments), and what they intend to do about it (their reaction function). This is the theory. To put this into practice, central banks, while mindful of their political masters (accountability), should be much more focused on conditions in financial markets and how financial market participants are perceiving and likely to react to their policies.

The transcripts are very consistent with this characterization. Relative to the copious amount of discussion relating to financial market conditions, there is very little mention of Congress and almost no mention of politics. This is despite the fact that the period in question (September to December 2008) was one in which the Fed was feverishly breaking new ground with credit easing and quantitative easing policies. And what references there are to Congress are consistent with the way an independent but accountable central bank would be expected to behave.

At the Sept. 16, 2008, meeting (pp. 74-75), Chairman Bernanke, with the soon-to-be-born TARP no doubt in mind, was clearly wrestling with the issue of what the Fed could and should do, in a situation in which the most important policy interventions might have to be fiscal in nature and aimed at the banking system: "I have been grappling with the question I raised for President Lacker [about the desirability and sequencing of fiscal interventions in under-capitalized banking systems], and I would be very interested in hearing other views either now or some other time. The ideal way to deal with moral hazard is to have in place before the crisis begins a well-developed structure that gives clear indications in what circumstances and on what terms the government will intervene with respect to a systemically important institution. We have found ourselves, though, in this episode in a situation in which events are happening quickly, and we don't have those things in place. We don't have a set of criteria, we don't have fiscal backstops, and we don't have clear congressional intent. So in each event, in each instance, even though there is this sort of unavoidable ad hoc character to it, we are trying to make a judgment about the costs—from a fiscal perspective, from a moral hazard perspective, and so on—of taking action versus the real possibility in some cases that you might have very severe consequences for the financial system and, therefore, for the economy of not taking action. Frankly, I am decidedly confused and very muddled about this. I think it is very difficult to make strong, bright lines given that we don't have a structure that has been well communicated and well established for how to deal with these conditions. I do think there is some chance—it is not yet large, but still some chance—that we will in fact see a much bigger intervention at the fiscal level. One is tempted to argue that by doing more earlier you can avoid even more later, but of course that is all contingent and uncertain. So we will collectively do our best to deal with these very stressful financial conditions, which I don't think will be calm for some time."

At the Dec. 15-16, 2008, meeting, there was a good deal of discussion of whether it would be desirable for the Fed to adopt a formal inflation target. Regarding that idea, Chairman Bernanke says (p. 24): "[A]dopting what might be a de facto inflation target is a pretty big deal, and if we decide to do that, I would like to have some opportunity to consult with the Congress appropriately." Federal Reserve Vice Chairman Donald Kohn chimed in as follows (p. 68): "I also agree with your point, Mr. Chairman, about congressional consultation. Having an inflation target won't have any effect if it is repudiated by the Congress."

Another issue at the meeting, discussed in the context of the Fed moving to some form of QE regime, was how to manage an enlarged and potentially volatile balance sheet. Likely indicative of the way that Congress enters the Fed's field of vision, Federal Reserve Bank of Philadelphia President Charles Plosser made the following point (p. 42): "One option that has been discussed is for the Fed to issue its own debt—other than Federal Reserve notes, I assume. I am uncomfortable with this proposal. It is likely to require congressional approval, and oversight will no doubt be sought since the Fed's securities will be public debt. This potentially generates opportunities for the Congress to control our debt ceiling and perhaps the pricing of our securities, in ways that may limit our ability to conduct independent monetary policy. Thus, I am very skeptical that this would be a good path to follow."

At the Oct. 28-29 meeting, again in the spirit of concern for accountability, in a discussion on whether the Fed should extend dollar swap lines to emerging market central banks and, if so, to which ones (21), Federal Reserve Bank of Richmond Lacker posed the question to one of the senior staff (p. 32): "[W]hat would you suggest that we say if asked by the public or if the Chairman is asked in the Congress about what criteria or principles we used to draw the line between the countries that have swap lines and those that don't? I know that you posed the question to us, but what would you suggest that we say?"

The picture that emerges, of a Federal Reserve aware of its accountability to Congress but not fixated on second-guessing Congress or overtly influenced by political considerations, would not surprise most Fed watchers, this being how it is supposed to be and for good reason. But it is at odds with the motives and behaviors that some investors and commentators impute to the Fed. To me, the transcripts from this most sensitive period confirm that the best way to think about and try to forecast Fed decisions is to use Occam's razor, sharpened on the whetstone of monetary policy independence and professional excellence.

Hats Off To The Chairman

The 2008 transcripts came out just after Chairman Bernanke stepped down after eight years at the helm of the Federal Reserve. In what must have been one of the most testing times for anyone in the history of central banking, the transcripts show him in a flattering light, variously appearing at times as: thoughtful (in both senses of the word), modest, deft, firm, decisive, collegial, calm, and innovative.

Here are a few illustrative examples:

Thoughtful (Sept. 29, 2008; p. 9): "I'd like to note for the record that all three of the staff briefers today—Bill, Brian, and Scott—worked all night last night. So we have dedicated employees here in the System."

Referring at the Dec. 15-16, 2008, meeting (p. 25) to the proposed statement that "The Committee anticipates that weak economic conditions are likely to warrant federal funds rates near zero for some time," "I note that this is a forecast of policy rather than a commitment to policy, but it does provide some information about the Committee's expectations and should affect market rates."

Modest (Sept. 16, 2008; pp. 74-75): In coming back to the question of how to deal with the need for major fiscal interventions in the banking system when the right mechanisms are not in place: "Frankly, I am decidedly confused and very muddled about this."

Deft (Oct. 7, 2008; p. 24): "Quoting Keynes, I see, Jeff," after President Lacker said: "I think it would be worthwhile, as we go on with financial markets in such turmoil, to reflect on whether what we're seeing is genuine fundamental uncertainty about counterparties and whether our lending is the equivalent of pushing on a string, to use another metaphor from the Great Depression."

Firm (Dec. 15-16; p. 207): In discussing the possible adoption of an inflation target, in the context of the regime shift in monetary policy of moving to the zero bound: "Now, a lot of people have talked about inflation targets. I think we should look at that very seriously. Today is not the day to do it."

Decisive (Sept. 16, 2008; p. 3): "I would like to put on the table a request for authorization for [U.S. dollar] swap lines [with foreign central banks]. I prefer not to put a limit on it, so I know I've got my own bazooka here."

Collegial (Sept. 29, 2008; p. 3): "[We] are proposing to increase the [U.S. dollar] swap lines [with foreign central banks] fairly significantly, and although you have authorized the Foreign Currency Subcommittee to take those actions, we thought that, given the size of the change, it would be worthwhile to bring this back to you for your attention and your vote just to get the Committee's agreement on this issue."

Calm (Dec. 15-16, 2008; p. 211): In responding to an impassioned explanation by Federal Reserve Bank of Dallas President Richard Fisher as to why he was prepared to be the only member voting against the proposal to target the federal funds rate in a 0-0.25% range: "I think confusion is an extraordinarily dangerous thing for us." After lunch, Chairman Bernanke reported that President Fisher, the sole dissenter, had changed his vote to a "yes," "in order to maintain a united front with the Committee" (p. 216).

Innovative (Oct. 28-29, 2008; p. 154): In countering the objection expressed by some participants that interest rate cuts were not effective: "I don't think you can argue that we're not having any effect. To the extent that we're having a muted effect, you can just as well argue that we should be more aggressive because you need to do more to get the same impact."

And, without being flippant, he seemed to be able to keep a sense of humor, and encourage that in others (22).

Against this overwhelmingly positive assessment, it might be countered: As a governor of the Federal Reserve Board (2002-2005) and then chairman (from February 2006), didn't Mr. Bernanke, by errors of omission or commission, help to bring about the very crisis that he did so well in helping to quell? That may well be a judgment of history, but Mr. Bernanke was hardly alone in not seeing that the so-called "Great Moderation" was just a curtain-raiser to one of the biggest financial crises of all time.

The Award For Perspicacity

This goes to Federal Reserve Bank of Boston President Rosengren. The lone voice at the Sept. 16, 2008, FOMC meeting for cutting the federal funds rate (then at 2%), this is how he summed up the situation in the wake of the Lehman bankruptcy (pp. 30-31): "This is already a historic week, and the week has just begun. The labor market is weak and getting weaker. The unemployment rate has risen 1.1 percentage points since April and is likely to rise further. I am not convinced that the unemployment rate will level off where the Greenbook (23) is assuming currently. The failure of a major investment bank, the forced merger of another, the largest thrift and insurer teetering, and the failure of Freddie and Fannie are likely to have a significant impact on the real economy. Individuals and firms will become risk averse, with reluctance to consume or to invest. Even if firms were inclined to invest, credit spreads are rising, and the cost and availability of financing is becoming more difficult. Many securitization vehicles are frozen. The degree of financial distress has risen markedly. Deleveraging is likely to occur with a vengeance as firms seek to survive this period of significant upheaval. Given that many borrowers will face higher interest rates as a result of financial problems, we can help offset this additional drag by reducing the federal funds rate. I support alternative A to reduce the fed funds rate 25 basis points."

Not so perspicacious at this meeting were: Federal Reserve Bank of St. Louis President James Bullard, who saw "the demise of Bear Stearns" as "an event not too different in some respects from the current episode" (p. 35)--the key difference of course being that Bear Stearns was rescued by the Fed and Lehman was not--and continued to see "an inflation problem […] brewing" and it being "essential that we keep in position to put downward pressure on inflation going forward" (p. 36); Federal Reserve Bank of Philadelphia Plosser, who, while noting that "now is probably not the time to shock markets by raising rates" expressed "[discomfort] with the current Greenbook baseline path that has the funds rate remaining unchanged [at 2%] well into the second half of [2009]" and noted that "at some point, before the unemployment rate begins to improve substantially, I believe this Committee will need to raise rates in order to deliver on our inflation objectives" (p. 40); and Federal Reserve Bank of Richmond President Lacker, who stated that "Overall, I don't take what's happened in the last few days as changing much" and who, supporting standing pat with the federal funds rate at this meeting, "[thought], looking forward, that we will want to raise rates sooner rather than later if core inflation doesn't moderate" (pp. 48-49). All three of these regional bank presidents, who are still serving, are top-notch policymakers with strong academic and policymaking credentials. Yet they couldn't see what was coming. It just goes to show how hard it can be for even the most qualified policymakers to "see into" (to forecast) the future and to be able to anticipate how policy, financial markets, and the economy at times can interact in "nonlinear" ways.

Lehman filing for bankruptcy, rather than being the recipient of Bears Stearns-style or similar treatment, was the signal event that triggered "non-linear" effects in the financial markets and global economy. In retrospect, the "Lehman shock," a term used almost synonymously with the "financial crisis" in Japan, marks a clear break-point in the crisis, giving rise to a "pre-Lehman" and "post-Lehman" view of the world. That this was the unfolding reality was far from clear to FOMC participants as they struggled to adapt their intellectual and empirical world views to a new and highly unpalatable reality. The transcripts provide a unique a verbal blow-by-blow account of how rapid, uneven, and uncomfortable that process was for the men and women at the helm of the world's most important central bank.

The biggest lesson from the crisis and message from the transcripts?: Forecasting, and policymaking, are devilishly hard and among the most humbling of professions.

Related Research

- The Market's Shocking Shock At The Fed's Non-Taper Shock, Sept. 20, 2013
- Carney Guides The Bank Of England Forward, Aug. 20, 2013
- Repeat After Me: Banks Cannot And Do Not "Lend Out" Reserves, Aug. 13, 2013
- "Hawk" And "Dove" Labels Are For The Birds, July 29, 2013
- The Fed: Parsing Its Communications, Jan. 7, 2013
- The Fed: Full Steam Ahead, Dec. 13, 2012

Endnotes

(1) The lag is not five years to the day. The Fed releases all of the transcripts for that year in one go, so the lag by meeting in this case runs from a little over five years and two months for the last meeting of 2008 to a little over six years and one month for the first one (a conference call).

(2) In fact, meetings of the Board of Governors of the Federal Reserve are open to the public unless exempted by one of the 10 conditions stipulated in the Government in the Sunshine Act. A key one is if the meeting "involves information the premature disclosure of which would be likely to lead to significant financial speculation in currencies, securities, or commodities." Most meetings are closed.

(3) In September 2007, the target federal funds rate was 5.25%; at the beginning of 2008, it was 4.25%, and by December 2008, it was effectively zero (0-25 bps).

(4) President Bullard much later published an article expounding on this material, warning of the danger of the U.S. falling into a Japan-style deflation trap and arguing against the Fed using forward guidance on low policy rates and in favor of aggressive quantitative easing. Although the Fed did not adopt President Bullard's recommendation against interest rate forward guidance, this paper attracted wide attention at the time and was widely seen as establishing the intellectual case for the Fed's so-called "QE2" (buying an additional $600 billion of longer-term Treasury securities by the end of second-quarter 2011), which it launched in November 2010. See "Seven Faces of 'The Peril,'" Federal Reserve Bank of St. Louis Review, September/October 2010, 92(5), pp. 339-352.

(5) Interestingly, not on the list of options for nonconventional policy and never mentioned, let alone discussed in the transcripts, is the idea of implementing a negative interest rate on reserves. This presents a stark contrast with the ECB: As it has approached the zero bound, the ECB has been reluctant to embrace a QE approach, either in BOJ-like terms of purposefully expanding the size of the monetary base or Fed-like terms of expanding its asset holdings. Rather, the ECB has been willing to flirt with the idea, although has not yet decided to implement, a negative interest rate on reserves.

(6) One indication is that a total of 58 Federal Reserve System staff attended part or all of the meeting, 12 of whom were present just for the portion of the meeting relating to the zero lower bound on nominal interest rates. By way of comparison, 37 staff attended the December meeting in 2007.

(7) President Lacker was an assistant professor of economics at the Krannert School of Management at Purdue University from 1984 to 1989, and Chairman Bernanke was formerly chair of the department of economics at Princeton University and director of the monetary economics program of the National Bureau of Economic Research.

(8) Michael Woodford, professor of economics at Columbia University and widely recognized as the leading modern day theorist of monetary economics (he is author of the 2003 book "Interest and Prices: Foundations of a Theory of Monetary Policy"). Woodford was a colleague of Bernanke at Princeton for many years.

(9) Alongside "forward guidance" about the future path of the policy interest rate (and QE itself).

(10) See "Repeat After Me: Banks Cannot And Do Not 'Lend Out' Reserves," published Aug. 13, 2013.

(11) This is the only time I have seen Chairman Bernanke use this common but deeply misleading terminology. That such an expert should fall into this trap (which, for someone with Mr. Bernanke's deep knowledge, I assume it is) shows just how powerful the meme of "lending out reserves" is. See my "Repeat After Me: Banks Cannot And Do Not 'Lend Out' Reserves" article for more details.

(12) President Lacker's thinking, that targeting the monetary base would help the communication of the Fed's new regime to the public, is very much in line with the approach that the Bank of Japan adopted in April 2013 under the new leadership of Governor Haruhiko Kuroda. In its third bite at the QE cherry (the first two being 2001-2006 and the "Comprehensive Monetary Easing" approach under Governor Masaaki Shirakawa from October 2010), Governor Kuroda explained it this way in a speech on "Quantitative and Qualitative Monetary Easing" on April 12, 2013: "In the

implementation of the quantitative and qualitative monetary easing […] we have taken account of the need to present our policy stance intelligibly to markets as well as firms and households. … [The] Bank decided to adopt the monetary base as an indicator for quantitative easing. This also reflects our judgment that the monetary base -- the total amount of currency that the Bank supplies to the economy as a whole -- will be the most appropriate indicator for conveying the Bank's aggressive stance on monetary easing to the public."

(13) It is well known that the BOJ pioneered zero interest rate policy (ZIRP) (February 1999 to August 2000) and quantitative easing (March 2001 to March 2006). It is less appreciated that the BOJ also trail blazed with forward guidance, in the form of what it called the "time duration effect"--committing to continue with QE and therefore to keep the short-term rate at or close to zero until consumer price inflation returns stably to positive territory--and credit easing, notably in the form a "New Initiative Toward Financial System Stability" (announced in September 2002) involving the outright purchases of equities held by banks and conducting a comprehensive review of the nonperforming loan problem and the outright purchases of asset-backed securities (announced in April 2003) aiming "to strengthen the transmission mechanism of monetary easing."

(14) The peak of dollar swaps outstanding was reached the week of Dec, 17, 2008.

(15) I am grateful to Krishna Guha for pointing out the latter fact, and its potential significance, to me.

(16) This is consistent with the statement of Richmond Federal Reserve Bank President Lacker at this meeting (p. 174): "We have a similar sort of governance disconnect between the discount rate approval decisions of the Board of Governors and the federal funds rate decisions taken by the Federal Open Market Committee. We have managed to coordinate those very effectively, with cohesion and with consensus. It seems to me to make sense to take the same approach to the excess reserves rate."

(17) Full disclosure: I was global chief economist for Lehman Brothers at the time it failed, having worked there since September 2000.

(18) On the Sunday, just hours before Lehman filed for Chapter 11 bankruptcy, the Fed issued a statement including the following quote: "'In close collaboration with the Treasury and the Securities and Exchange Commission, we have been in ongoing discussions with market participants, including through the weekend, to identify potential market vulnerabilities in the wake of an unwinding of a major financial institution and to consider appropriate official sector and private sector responses,' said Federal Reserve Board Chairman Ben S. Bernanke. 'The steps we are announcing today, along with significant commitments from the private sector, are intended to mitigate the potential risks and disruptions to markets.'"

(19) In fact, according to the then U.S. Treasury Secretary Henry ("Hank") Paulson's biography ("On The Brink," 2010, pp. 215-216), the Fed did use this facility to help the Lehman broker-dealer (as opposed to the holding company, which filed for bankruptcy) unwind its repo positions over the subsequent few days.

(20) For instance, at the Sept. 16, 2008, meeting, SOMA Manager William Dudley observes: "The AIG problem is at least starting as a liquidity crisis. … AIG is in a situation in which the parent is basically going to run out of money—today, tomorrow, Thursday, or very, very soon. Now we say it's a liquidity thing, but a lot of times when

people look closer at the books they find out that the liquidity crisis may also be a solvency issue. I think it is still a little unclear whether AIG's problems are confined just to liquidity. It also may be an issue of how much this company is really worth."

(21) In the event, swap lines for Brazil, Mexico, Korea, and Singapore were approved.

(22) In the transcripts for the Sept. 16, 2008, one-day meeting, there were 22 notations for "Laughter," and in the two-day December meeting, there were 36.

(23) The "Greenbook" is an in-depth analysis of the U.S. and international economy, produced by the staff at the Board of Governors, which is distributed to FOMC meeting attendees the week before the meeting.