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**“Quantitative Easing: Entrance and Exit Strategies”**

**Federal Reserve Bank of St. Louis**

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Well, thank you very much. It's really an honor for me to be here giving the Homer Jones Lecture at the Federal Reserve Bank of St. Louis, which as Jim mentioned, has always, in my professional memory, been known as a center for research within the Fed system, and still is to this day. For all I know, it even happened before Homer Jones, but for a very, very long time.

As I was putting the finishing touches on this PowerPoint presentation, New Jersey was flooding — northern New Jersey — rivers were overflowing their banks. And it occurred to me, gee, maybe I ought to check the weather in St. Louis. So I went on weather.com, where it said the Mississippi was threatening to flood in St. Louis. It seemed like the whole country was going awash in liquidity, and I think that's what I'm going to talk about here today.

Here's an outline of what I propose to do. A few minutes first on the conceptual basis for quantitative easing. That is, what in the world is a central bank trying to do when it does things like that. Much more time on the Fed's entrance strategy and then the Fed's exit strategy. Entrance strategy, of course, being a recounting of the past within a framework; the exit strategy being much more speculation about the future, although we're helped in that speculation by statements that have come out of Federal Reserve officials, principally Chairman Bernanke. Then I'll just have a few things to say about the implications of all that for central bank independence, and then wrap up; I will leave some time for questions and answers.

First, the conceptual basis of what this is about. I think we learned in December 2008 that it can happen here. That was when the Federal Open Market Committee cut the Fed funds

rate to essentially zero, not quite zero. From then on, with its conventional ammunition gone, the Federal Reserve was squarely in this brave new world that's called "quantitative easing."

Some of you may know that Chairman Bernanke tried to name the Fed's new policies "credit easing," presumably to differentiate them from what Japan had done earlier in the decade. But that label just hasn't stuck, and it gets called quantitative easing. I don't mean, by the way, to imply by that that the Fed did just the same as the Bank of Japan did, which is not the case, as you will see.

Roughly speaking, quantitative easing refers to changes in either the composition or the size of the central bank's balance sheet, but done for a reason, designed specifically to ease liquidity or credit conditions, or both, in the market.

Presumably, reversing such policies — exit strategy — would constitute "quantitative tightening," but nobody seems to use that terminology, and so I won't either. The terminology, it's telling, I think, that the terminology is "exit strategy," indicating something aberrant, something you want to get away from, that you don't want to keep for the long run.

Conceptually, where does this come from? Reacting to the requirements of a near-zero interest rate, the Fed went into what's now called quantitative easing. Why is that a problem? The term "liquidity trap" is often used. The basic issue is that when central banks fight deep recessions, they often want to bring real interest rates down to negative territory. So in these symbols,  $r$  here is the real interest rate,  $i$  is the nominal interest rate, and  $\rho i$  is the rate of inflation. As it says on the chart, a central bank can find itself in a position where it can't get  $r$  (the real interest rate) negative enough — maybe not even negative at all. If you look at that simple equation,  $r = i - \pi$ , if the interest rate is brought all the way down to zero, but inflation's actually negative at the time — which was the case in Japan but is not the case in the United States — you can't even make it negative at all. Even if you can make it negative, which it now is in the United States, you may not be able to make it negative enough to give the economy some real forward momentum. That's the first thing that leads you to think about quantitative easing.

The second thing — Milton Friedman's already been mentioned here in his role as a student; now I'll mention him in his role as a teacher — Milton Friedman reminded us all many, many years ago about the hazards of a central bank holding fast to a fixed nominal interest rate when inflation is changing. This is hazardous in either direction, but in the circumstances we now find ourselves in, or did find ourselves in, we're worrying more about the downward spiral.

How would this work? If nominal interest rate is held fixed, then of course, if it gets jammed up at zero, it's ipso facto fixed, and the inflation rate falls, then the real interest rate goes up. That squeezes the economy further, and so you get into a vicious dynamic cycle of ever-increasing deflation. Another way to think about the conceptual basis of quantitative easing is getting out of a trap like that, or never getting into it in the first place — the latter being more germane to the United States, the former being more germane to Japan.

The basic idea, the way I think of quantitative easing, is this: Once the nominal interest rate on Fed funds, say, is essentially zero, what can you do? The answer is that the Fed funds rate (the interbank lending rate) doesn't really matter for most transactions. What matters are corporate loan rates, mortgage rates, bond rates, and so on. Think of any one of them,  $R_j$  (any interest rate), as being composed of the corresponding riskless rate,  $r$ . If that's an overnight loan,  $r$  would be the Fed funds rate; if that's a three-month transaction,  $r$  would be the Treasury bill rate. Plus — and this is the important part — a risk premium,  $R_j$ , relevant to that particular asset. By the way, another interpretation is — it says immediately above it — could be that these are term premium rather than risk premium. We could be talking about the slope of the yield curve, flattening it, or we could be talking about shrinking various risk premiums.

That then becomes the objective of the central bank: It can't lower the riskless rate anymore — it's plugged up at zero — but it can still lower if it has instruments that will be effective to so doing — that's a big if, perhaps — it can still lower the interest rates that actually matter for economic activity in the way that the Fed funds rate really doesn't.

The proviso that I just made allusion to is this last point: That of course requires — and economic theorists worry about things like this a lot, but people in the practical world don't worry about it too much — that requires that these assets that you will be buying and/or selling are not perfect substitutes for one another. If they are perfect substitutes, or if the financial market is entirely friction free, the fact that you buy Asset A and sell Asset B won't matter at all. In the real world, with Assets A and B different things, it probably does matter, and it might matter a lot in certain specific instances.

To be more specific, suppose you want to shrink term premiums, flatten the yield curve, which is, by the way, mostly what the Japanese were trying to do in their quantitative easing. Then the obvious thing to do is to buy the long-term government bonds and either sell short-term government bonds — T-bills in this country — or create new central bank money and just buy them. The first would be changing the composition of the central bank's balance sheet; the second would be blowing up the size of the central bank balance sheet. And the friction you'd be relying on is imperfect arbitrage across the yield curve in this case.

Just as a footnote, there's another way to attack this same problem. If the problem is I want to flatten the yield curve, because long-term rates are what really matter for the economy and I want them lower, another way, which I think probably should not be called quantitative easing, though some people do, is to commit verbally to keeping the overnight interest rate for a long time, or you might even say, "for an extended period," or some phrase like that. It's another way to accomplish that same objective.

I'll say maybe a little more about that, but I want to say much on shrinking risk premiums rather than term premiums. This is not about pushing down long rates and perhaps pushing up short rates but rather about reducing those  $R_j$ 's that were on the previous slide, the things that intervene between the riskless rate and the rates in real economic transactions, rates that matter.

The obvious thing to do there, again, has to be predicated on some sort of imperfect substitutability, or friction, is to buy the risky asset — so you could think of that as a mortgage-backed security, to take a not-very-hypothetical example — and sell the safe asset. So sell down your holdings of Treasuries, for example, or, again, by creating brand new reserves and just doing what only the central bank can do: “print money” to buy assets. The rest of us don’t have that privilege, but the central bank in any country — in this country the Federal Reserve — does. It’s the same two options used in a different way that one would use to flatten the yield curve. The very same two options would be used to shrink the risk premium. Then the questions become a whole host of empirical questions: Will this actually work? Can I actually do this? Or will there be, for example, private market arbitrage that undoes it, just to take one example?

Okay. Let me now turn to what the Fed actually did in this context as it first embarked on its new strategy of quantitative easing. I want to take this somewhat chronological, because the nature of quantitative easing, as practiced by the Fed, changed a lot over time — over, by the way, a fairly short period of time, because events were moving very, very fast — but changed a lot. As the Fed decided that it really had to fight this incipient credit stringency and recession, the first thing it did is what central banks always do: lowered its policy interest rate. This is a graph of the effect of Fed funds rate, and the Fed, in September ‘07 — remember the financial crisis starts in the summer of ‘07; the first really acute event comes in early August of ‘07 in France — in September of ‘07, starts cutting the interest rates down, down, down, there, reaching 2 percent by April of 2008. It started at 5.25, as you can no doubt see from that.

While this pace of cutting interest rates was pretty rapid by historical standards, as I looked at it, the Fed didn’t seem to be showing any great sign of urgency in that period, certainly not an urgency to get to zero. As you see, it then stopped at 2 percent, and then it just waited for more information to see what it should do next. You’ll see, of course, what it then decided to do next.

Perhaps more germane to the quantitative easing story, during this period — emphasizing the temporal procession of events — during this period the Fed was not blowing up its balance sheet. This is a picture from the New York Fed of the size and composition of the assets owned by the Federal Reserve. We’re now talking in this period, so the graph starts in March of 2007, so the crisis is starting in here someplace, and for all this time, the Fed is not blowing up the size of its balance sheet. In consequence of that, or related to that, I guess I should say, is also not increasing bank reserves. All the attention is paid, of course for good reason, to this — and I’m coming there, of course. But if you look at this, here’s where the crisis is starting right here. You see these little bounces. The scale gets so large, this looks like a constant, but it’s not, it’s moving. But the Fed is not increasing bank reserves all the way to that point. And you know where that is — that’s Lehman Brothers — so I’m coming there shortly. However the composition of the Fed’s balance sheet is not changing very much, though it’s changing a little. The size of the Fed’s balance sheet is not changing very much, though it’s changing a little. But the Fed is already engaging in several what I could call mild forms of quantitative easing, even apart from the emergency interventions in cases like Bear Stearns.

To understand these things, it's useful to look at this very simplified balance sheet of the Federal Reserve. If you look lately at the balance sheet of the Federal Reserve, it is complicated — it goes on for pages and pages and pages. I don't need all those pages to make the points that I want to make. This is enough to make the points that I want to make here. The first sort of quantitative easing showed up entirely on the asset side of the Fed's balance sheet, and starting in early 2008, the Fed started selling down some of the Treasury securities (T-bills) that it owned, and it owned a lot, and buying other less liquid assets instead. This is the same balance sheet as was up there a second ago, just showing in red, Treasury securities are falling, less liquid assets are rising. This is a pure change in the composition of the Fed's balance sheet, and purposeful, not random. The view was that the markets were thirsting for liquidity. One of the things that meant is they were desperately short by the market participants' thinking on Treasury bills. Who had a lot of Treasury bills? The Fed. The Fed started selling Treasury bills into the market, and that meant, of course, they were taking on less liquid assets in return, the goal being to cut down the liquidity premiums, which were getting very large, scary large, at the time, although they were going to get much worse later; nobody knew that at the time.

All the while, however, the financial situation is getting worse, not better — not linearly, it's going up and down, but on trend is getting worse. And the market's real problems may have been fears of insolvency more than problems with illiquidity, a distinction that's not always as clean in practice as it is in theory. In theory you draw this bright line that's insolvent and illiquid. In practice it's not quite such a bright line. In any case, this is aimed at providing liquidity. The second sort of quantitative easing operations begins on the — oh, so what did I have this here for? Oh, yes, so I guess I just wanted to show you that in this period we're still not changing the size — the top line is showing you the size of the Fed's balance sheet, and I'm now talking about this sort of period. But the composition is starting to change, and this light blue area is the Fed's holding of Treasuries; that's going down. I should have had that before. The other type of quantitative easing started on the liability side and in particular started here.

To assist the Fed, the Treasury started borrowing in advance of its actual needs — the Treasury has to borrow to finance the deficit. But it started borrowing more than that and depositing those funds in its bank accounts at the central bank, at the Fed. While, these were fiscal operations — what I just described is a fiscal operation — they enabled the Fed to increase its assets without increasing bank reserves. Here again is bank reserves, and I'm now talking about this period here. Bank reserves are still not going up. What's happening instead is that by dint of having more deposits — in this case from the government — like any bank, the Fed can acquire more assets. The Fed was lending more, and it was buying more of these illiquid assets without increasing bank reserves. That's very helpful to a central bank that's still a bit hesitant, I would say, about going all out to stimulate aggregate and to fight the credit crisis, and by the way, was also getting worried about running out of T-bills. If I go back to this, you see the T-bill supply the Fed is starting to grow, it almost halved.

Notice, however, that this amounts to the first breaching of the wall between fiscal and monetary policy. As I said, purely fiscal actions were done — borrowing more, putting it on

deposit at the Fed — to assist monetary policy in this case. Of course, there would be many more breechings of that wall.

Then came Lehman Brothers and everything changed. The FOMC resumed cutting interest rates at its October 10th, 2008, meeting, which is here, about — this is the effective rate, by the way, rather than the target rate; they correspond pretty well, except for jiggers — and quickly, I would say, pushed the funds rate all the way down to, essentially, zero. More germane to this story of quantitative easing, the Fed started expanding its balance sheet. So that's right here; this is Lehman. My hand's not steady enough to point to the exact day, but that's September 15th, more or less. And the balance sheet starts blowing up very, very rapidly. That means more lending, more acquisition of assets, and more bank reserves being issued, and more bank reserves being pumped into the system.

By the late months — let's say by the last quarter of 2008 — any reservations the Fed had about boosting aggregate demand were gone, and it was battle stations: What can we do to prevent Great Depression 2.0? So you've seen the assets skyrocket in this slide; you've seen the reserves skyrocket in this slide. In addition — I guess I should go back — the composition of the Fed's balance sheet is getting pretty interesting — all these other colors. I'm not going to go into that. Many, many things are showing up on the Fed balance sheet that were not there before.

The early stages of this quantitative easing policy, the serious quantitative easing policy were very ad hoc, reactive to events, and institution based — this institution's going over, this might go over, et cetera — and the Fed was making things up on the fly. But starting with the commercial paper funding facility and then continuing through the MBS purchase program and other things, the Fed's parade of innovative purchase lending and guaranty programs took on a much more systematic, thoughtful, and important to me market-based flavor. It went away from being institution by institution — what are we going to do about Bear Stearns; what are we going to do about Lehman; what are we going to do about AIG — and much more market based — what needs to be done to get the commercial paper market functioning again; what needs to be done it — with asset-backed securities; and so on.

This was a notable change in focus, I think, and a smart change in focus, for the reasons that I was saying earlier. Any interest rate can be thought of as the corresponding riskless rate plus this risk premium. These things here, whether we're talking about the Fed funds rate or the T-bill rate, which actually went negative a couple of times in this period, or any riskless rate, were already very low. But these things were very high because of the risk premium.

If you're going to focus your energies at some place where it might have a return, this was the place to focus it: bringing down the risk premiums, or as I said, the term premiums, but I want to emphasis the risk premiums. In fact, the one aspect of the Fed's quantitative easing campaign that I've been critical of is its purchases of long-term Treasury bonds, so that's making it look more like what the Japanese did. And it's for the reason that I said before, that the real target of opportunity — when the Fed started purchasing long-term

Treasurys, long-term Treasury yields were already quite low. That's not to say they couldn't have been pushed out a little bit more, but they were all very, very low. The problem was, say, if this is a 10-year Treasury, and this is the spread for a 10-year corporate bond, that was the thing that was causing the problems.

In any case, the Fed's quantitative easing attack on interest rate spread seems to have been successful, at least in part. Here are two different graphs, one of a short-term interest rate and one of a long-term interest rate. This is the spread between commercial paper and Treasury bills, bounces around quite a bit, and here it really, really falls. This is late 2008.

This one happened slower. This is a spread between corporate bonds and 10-year Treasurys, which again is peaking around the same time but moving down much more slowly, but in any case, moving down quite a bit.

This is not the last word on evidence with this one slide; other things are happening in the world at this time that are moving interest rates for sure. Still, I think this "coincidence in timing" is not really a coincidence, let's put it that way.

That's the entrance, in three stages, basically. What about the exit strategy? This is an actual place, by the way; this came from Google images, of course. So if anybody knows where Solutions, Missouri, or Solutions, Virginia, is, I'd appreciate knowing. So this is what the Fed is looking for, the exit solution.

The exit strategy's of course in its infancy; it's barely begun. Chairman Bernanke first outlined the major components of what would be the Fed's exit strategy in some July 2009 congressional testimony, and he's followed up with several other speeches and testimonies since. We now have a pretty good picture of what's on the Fed's menu for exit, and here is the menu. This all comes straight from Bernanke, not from me — just with some commentary as I go over it.

Right at the top, phasing out the extraordinary liquidity facilities, which is essentially done, and I marked here the Fed gets this more or less for free. What do I mean by that? As financial institutions no longer need these things, they stop using them, and the outstanding balances sort of dribble away to zero. And that happened, and the Fed then just shuts them down.

That, by the way, is perfect — so the reason I want to mention that — that is perfect exit strategy timing: You want to pull away the support at exactly the times that it's not needed anymore. In this case the Fed gets it for free. The timing of that piece of the exit strategy is almost, by definition, perfect; the rest is not.

If you're going to do that, you probably want to normalize the discount lending, that is the spread of the discount rate over anything else you want to think of, but think of the Fed funds rate, for example. The Fed has just begun to do that, so this is a supplement to number 1.

The other thing you get for free, although the timing may not be perfect, is once the Fed stops buying MBS — mortgage-backed securities and GSE debt, which it stopped as of today — I think March 31st was the last day; I don't know if any purchases were made on March 31st — the stuff will start dwindling, but at a quit slow pace. That pace may have nothing to do with the disappearance of the need for extraordinary support, which of course is what's going to bring us down at the bottom of Bernanke's list, to outright asset sales — selling the stuff.

These are the really novel things on the Fed's menu. These things sound novel, but they're not. This is conventional open-market operations, contractionary open-market operations, though presumably on a grand scale. And, as I marked down here, it's discretionary. The Fed does not get these things for free; the Federal Open market Committee is going to have to decide on the proper timing and amount of the contractionary open-market policy. But that's conventional; I think it will differ in size from what the Fed's been accustomed to doing for decades. But it doesn't really differ in character from what the Fed has been doing in decades; numbers 4 and 5 do.

Let me go then to number 5, which is offering banks "CDs." What do I mean by that? Banks have always had checking accounts at the Fed; we call this bank reserves. They now are going to be offered the option of buying various certificates of deposit — term accounts — at the Fed. But here's the wrinkle: Unlike their checking account balances at the Fed, these new CDs will not count as bank reserves. The consequence of that is when a bank transfers money from its "checking account" to its "savings account" — the same thing individuals do at ATMs every day of the week — bank reserves will simply vanish.

Here's a graphic that starts at \$1 trillion of reserves and just makes up that maybe the Fed takes out — but I want to say this is made up, has nothing to do with anything Ben Bernanke or anybody else ever said. But when you put a graphic up there, the line changes at some point. Here the Fed takes out 400 billion of them just by converting them into savings accounts instead of checking accounts, leaving reserves here. You can just make bank reserves vanish like that — if, of course, you could induce the banks to make these voluntary transfers from their checking accounts to their savings accounts.

I must say I wonder and worry a little bit about that. Nobody knows how this is going to work in practice — certainly not me. But the idea behind these new certificates of deposit is, first of all, they can't be withdrawn prior to maturity; at least, this rule was in the Federal Register proposal put out by the Fed. They will not count as bank reserves, as I already said, and they also will not serve as clearing balances, which all banks need for the normal business.

In consequence, it seems to me they may have to bear high interest rates, higher than those on T-bills, in order to get banks to make this conversion. So I'm wondering about this aspect of the exit strategy, as are many other people.

I come finally to the instrument that Chairman Bernanke and many other Fed spokespersons seem to view as the most central to the exit strategy, and that's the interest rate

paid on bank reserves. The Fed started paying interest rates on bank reserves in October 2008, having not done it before. Federal Reserve officials seem to view paying interest on reserves as something approaching a magic bullet. I certainly hope they're right about that, but I confess again to being just a little bit worried about it. I don't mean that it's a bad idea — it's a good idea. The question is: Is it a panacea?

Everyone recognizes that the Fed's entrance strategy in quantitative easing created this mountain of excess reserves. These are, by the way, almost all excess reserves. Required reserves went up a little bit during this period, but nothing compared to the rise in reserves. And banks are now holding them voluntarily, despite the paltry interest rates that the Fed is paying, because every riskless interest rate is paltry these days. The key question is how urgent will it be to whittle this mountain down to size, not necessarily all the way back to here, but to something much less than \$1.25 trillion, which is roughly where it is standing today.

The traditional textbook money multiplier view sees all of those excess reserves as financial kindling that will prove inflationary unless it's withdrawn as the system normalizes. We know concretely that under normal circumstances — say, go back to the summer of 2007 and before the Fed was paying interest on reserves — we know how many excess reserves the banking system wanted to hold: zero, essentially; practically zero. Of course, now excess reserves do pay interest, so banks will not want to hold zero excess reserves, depending on the various constellation of interest rates and liquidity needs and so on. The banks are not going to want to go back here; they'll want to go back to some bigger number that nobody knows, including the banks and including the Fed. But it's hard for me to believe that they'll want to stay up here; I think it's hard for almost everybody to believe that.

The Fed's looming task will be to reduce the supply of excess reserves at the same pace that banks are reducing their demands for excess reserves. Remember what I said about the liquidity facilities. You got that for free with the liquidity facilities; they just fell into disuse. You don't get that for free with the reserves, because the Fed is going to have to do contractionary open-market operations, or something like that, to take these reserves out of the system. The questions are how fast and how far the process of reducing bank reserves should go.

Remember that as the Fed's liabilities shrink, so must its assets shrink. As it reduces bank reserves — in the future; the Fed has not started doing this yet — the Fed is also going to have to reduce some of the loans or less liquid assets that are now on its balance sheet. Here's that balance sheet again, and it makes the point I just made: You can't look only at the bank reserves. There's double-entry bookkeeping; something here has got to go down. It could have been Treasury securities, but that's not what the Fed's interested in; the Fed wants to wear down these things. So the liabilities and assets sides have to move down together; that's arithmetic. That's the conventional view.

There is, however, an alternative view that's prominently spoken about by many people in the Federal Reserve system that argues that this larger parent overhang of excess reserves is not really a cause of concern. Specifically, once the funds rate falls to the interest

rate paid on reserves,  $z$ , the demand for excess reserves becomes infinitely elastic because its opportunity cost is zero. The Fed funds rate, which is measured here, and the interest rate on reserves match up, as they do now, more or less, but they can match up at a nonzero interest rate.

As long as the Fed supply — remember the Fed is controlling the supply of reserves — as long as this vertical supply curve cuts the horizontal portion of the demand curve, then you see it can move left or right and it doesn't affect interest rates at all, and if it doesn't affect interest rates, it probably doesn't affect much of anything. In this view, this huge mountain of reserves, or at least a lot of it, can remain on the central bank's balance sheet and on the bank's balance sheets more or less indefinitely without kindling inflation. Of course, the hard part of this is to make sure you're on the vertical portion as this demand curve is moving. In this view, what the Fed should concentrate on is how quickly to shrink the asset side of its balance sheet, and the liability side is just sort of the passive partner by double-entry bookkeeping; as you shrink, the assets-to-liabilities also shrink.

In the interest of time, I'm going to skip this one. This is the so-called floor system, with  $z$ , the interest rate on excess reserves. This is the corridor system, with  $z$  the interest on excess reserve and  $d$  the discount rate, and the Fed funds rate, in this picture anyway, someplace in between them, or down at the floor or down at the ceiling. I'm going to skip that because I'm watching the clock, and I do want to get to what I said I would get to next, or almost last, which is the implications of quantitative easing for central bank independence, a doctrine that is held very dearly in central banking circles, and I might say in economic circles; it's not just central bankers that think central bank independence is important.

Why do I bring this up? The answer is that many of the Fed's unorthodox policies have put taxpayer money at risk, and therefore constituted quasi-fiscal operations. At the margin a dollar lost by the Federal Reserve is a dollar cost to the taxpayer. By the way, it goes the other way too: A dollar made by the Federal Reserve is a dollar made by the taxpayer. So it's a quasi-fiscal operation, but with this very important difference: Congress never appropriated a nickel for the purpose.

Some members of Congress are quietly quite happy that the Fed took these extraordinary actions on its own initiative, thereby saving them from some absolutely horrific votes. Just imagine the bill that came to Congress said, "We'd like to appropriate \$180 billion to lend the money to AIG." If I were a member of Congress, I would not want to vote for something like that. Others, however, complained bitterly that the Fed has usurped authority that, according to the Constitution, resides in Congress.

On that last point I want to take a look with you now at the wording of what the previously obscure but now famous Section 13(3) of the Federal Reserve Act — this is the Federal Reserve Act; you can't read it there, but this is Section 13(3), blown up — and I want to read it for you, emphasizing the parts that I've put in bold:

**"In unusual and exigent circumstances"** — so this is supposed to be rare, extraordinary events — "the Board of Governors, by the affirmative vote of not less than five

members” — so a super-majority, not an ordinary majority — “may authorize any Federal Reserve Bank during such periods” — blah, blah, blah, blah, blah — “to discount for any individual partnership or corporation.” That’s not very exclusive. I once said, when I was on the Fed, I told some people the Fed could lend to my brother-in-law if they thought it was in the national interest. They didn’t, and they still haven’t, but they could — “notes, drafts . . . bills of exchange, [et cetera], when such notes, drafts . . . bills of exchange are endorsed or otherwise secured” — to whose satisfaction? — “**to the satisfaction of the Federal Reserve Bank.**” (Emphasis added.)

If the operative Federal Reserve Bank happens to be the Federal Reserve Bank of St. Louis, the Federal Reserve Bank of St. Louis decides if the collateral is good, according to Section 13(3).

If you’ve grown up in America learning about checks and balances since you’re age six, this is an extraordinary grant of power. But reading the law carefully does at least answer one very narrow question that’s been raised over and over, which I alluded to a moment ago: The Fed clearly did not overstep its legal authority. Here is its legal authority — it is very, very broad — and the Fed was fully authorized to do all of those Section 13(3) operations. The real question, the interesting policy question, is whether Section 13(3) grants the central bank too much power. And I must say, my tentative answer to this question is, “Yes.”

So what do you do about it? Here’s what I think should be done about it. There ought to be a political check, so the sensible way to do this, I think, is to get the permission of the Secretary of the Treasurer, who’s the agent of the President, as essentially the Chief Financial Officer of the United States of America. Or, if it exists — this is the Financial Stability Oversight Council, which is supposed to be created if the House or the Senate bill gets into effect — it doesn’t exist right now. The Secretary of Treasury does; that’s why I put it that way. And then require prompt reporting to the two banking committees of Congress, which, as I say this, I cross my fingers, will be kept confidential. It’s a worry. I have to admit, it’s a worry, though the National Security Committee seemed to do pretty well on that. By the way, these ideas, or variants of them, things very much like this, are in both the House and the Senate bill.

But this is an example of the broader question, and the broader question is: How far beyond conventional monetary policy should the doctrine of central bank independence be extended? We’re very comfortable with the doctrine of central bank independence within the limits of conventional monetary policy — FOMC meetings and what normally goes on at FOMC meetings. But the Fed has never had that much independence when it comes to regulation and supervision. As you know, there were four — soon to be three — well, maybe, who knows; I don’t know what’s going to get through Congress — there were four bank supervisory — federal bank supervisory agencies. When policy changes are made, they all have to cooperate, and the Fed doesn’t just dictate to the other agencies the way it dictates, of course, in monetary policy; nobody else has a hand in monetary policy.

The hard part becomes figuring out what happens when Section 13(3) actions become monetary policy, which is where the Fed has been, basically, since December ‘08. So

monetary policy, it's clear: The doctrine of central bank independence applies full force. Supervisory and regulatory, it's clear that the Fed never had that kind of independence, and nobody is suggesting that it does.

Some of these section 13(3) actions are hybrids, and it's very hard to figure out where they should fit in, in this spectrum of independence versus nonindependence — I'll just leave that as an open question.

When the FOMC met in August 2007 and declared that inflation was a bigger threat to the economy than unemployment, nobody guessed what the coming years were going to bring. When the FOMC met the day after the Lehman bankruptcy, no one imagined what the Fed would wind up doing over the next six months. The quantitative easing policies that began as a trickle in 2007, but became a flood after the Lehman failure, may have changed the Federal Reserve forever; it's too early to know that. But they've certainly raised numerous questions about the Fed's policy options, its operating procedures, and its position within the United States government. The Fed's entrance into quantitative easing was haphazard and crisis-driven at first, though it became more orderly and thoughtful as time went by. But the Fed now finds itself on an alien planet. With the Federal funds rate near zero, a \$2 trillion balance sheet, a variety of dodgy assets on that balance sheet, the wall between the Federal Reserve and the Treasury breeched numerous times, Congress up in arms, and its regulatory role up in the air, your mission, Mr. Bernanke, since you've chosen to accept it, is to steer the Federal Reserve back to planet Earth, using, as principal aspects of your exit strategy, some new instruments you have never tried before.

As always, should you or any member of the Fed fail, the Secretary of Congress will disavow all knowledge of your actions. This lecture will self-destruct in five seconds. Good luck, Ben. Thank you.

(End of Recording)