General Discussion: Financial Intermediaries, Financial Stability and Monetary Policy

Chair: Martin Feldstein

Mr. Kashyap: This was a great paper. I wish I had written it. I want to check two things that are implications, just to make sure I am following along.

Most central bankers in this room have discovered the workhorse models used by their research staffs haven't been very helpful in thinking about this crisis. The standard new Keynesian model that had become a workhorse and was convenient for talking about inflation targeting has no financial system.

It seems to me the first way many central banks then would try to proceed is to follow the Bernanke-Gertler-Gilchrist way of thinking about modeling this. One of the implications of this paper is that it's not necessarily a good way to go. Thinking about the next imperfection to add should not be on the credit demand side and the contracting problem with entrepreneurs, but it really should be on the credit supply side. That is an imperative task to begin work on.

So then I have a question if that is right. Outside of the United States, lots of the central banks aren't going to have big broker-dealers in their economies. I am wondering if you have thoughts as to how they should go about trying to measure the credit supply conditions to add into their models, at least outside of the couple of very developed markets where broker-dealers operate.

Mr. Stein: I am also enormously sympathetic to the diagnosis and want to ask a question about the prescription that follows from that diagnosis. At the very end of your talk, you talked about monetary policy essentially taking up the slack. That is to say, when the financial sector is getting overleveraged, you might want to raise the funds rate to lean against it. It seems like an alternative takeaway from your evidence and your arguments—and I think I am echoing what John Lipsky said—you are suggesting we need two instruments to solve two problems. It seems like a very natural takeaway would be that what you want to do is have active control of capital requirements. This is how I heard what Chairman Bernanke was saying this morning when he said, "We want to have a more macroprudential approach to capital regulation."

There is a very direct way to do it in your model, which would be raise capital requirements to the point where leverage is no longer procyclical. Wouldn't that be a more direct way of addressing the problem than trying to get at it through the federal funds rate, which seems like an awkward tool for doing so?

Mr. Berner: Like the other questioners, I am pretty supportive of the thesis of your paper that leverage is procyclical in both directions and something that monetary policy needs to think about, both in the traditional sense and in the macroprudential sense.

The questions are: Is there in your view an asymmetry in that indirection? In other words, is deleveraging far more procyclical to the downside than is the leveraging up process as euphoric as market participants may think it can be? Maybe that is one of the reasons they complain more about it. Perhaps that is because liquidity dries up more quickly in a bust than is created in a boom. Perhaps it is because lenders are always short the option and those options behave asymmetrically in a bust than the way they do in a boom.

What are the policy implications of that? Does it support the idea, as Rick Mishkin for example has said, that you need to act very aggressively in a downturn with monetary policy—more aggressively than you would in leaning against the wind to the upside—or not?

The second question that arises from that is obviously we are going to hear from the folks behind me—Jeremy and Anil—about countercyclical capital regulations. But you also talked about the implied leverage in haircuts and maybe implicitly in trading margins. Should we think in a countercyclical way about those regulations as well from a policy standpoint?

Mr. Feldstein: I have a related question to that. If you are thinking about using countercyclical capital requirements, how do you extend that beyond the commercial banks? Interest rate policy affects all financial institutions, but an entirely new set of capital requirements would be required to go beyond the banks.

Mr. Redrado: Although the paper has a strong U.S. focus, I think it is very relevant for emerging economies, in particular because it brings back the financial sector to the heart of monetary policies, as it has a very solid foundation in explaining the transmission mechanism of credit supply. You revisit monetary aggregates, which are particularly relevant for countries that have very shallow financial markets of a single-digit ratio of credit to GDP. I would like to focus on bringing the balance sheet dynamics of the financial sectors into monetary policy equations. In countries that have gone through periodic crises, you need to have built-in crisis-prevention mechanisms, or anticyclical policies, in order basically to provide a longer-term horizon.

Although you probably haven't thought about emerging markets in writing your paper, I think it has strong implications for inflation-targeting regimes in developing economies.

Mr. Weber: I also think that we should, at this stage, not only look at the monetary policy response to the increased procyclicality of banking, but keep the regulatory side firmly in focus. We very much talked about capital requirements and leverage being procyclical. There is a nice passage in the paper by Gary Gorton beginning on pg. 179 where he highlights these issues for the CDO market.

One thing that is striking about capital requirements which are rating-based is that they are intended to be preventive in the sense that if you invest in a noninvestment-grade asset, the capital requirements are so high that you think twice before buying such assets.

But that is a static view. We are finding out nowadays in the midst of a financial crisis, that the breaking of the overcollateralization triggers in case of events of default can lead to a rating migration of these structured products from AAA to noninvestment grade, just like that. Of course at that point in time, the capital requirements become punitive rather than being preventive.

As a consequence, we need to look at better regulation in the sense of a more dynamic approach, which takes into account how regulation interacts with downgrades and capital requirements.

Let me come to the issue of deleveraging. The deleveraging process has basically caused the need for many banks to seek new capital, largely due to the rating migrations, less due to an impairment of the underlying cash flows of the assets. This has severe accounting consequences, which we need to adress by allowing more choices for banks. They should be able to move assets from the banking to the trading book and vice versa. And they should be allowed to decide on different avenues on how to deal with distressed assets when they have to repair their balance sheet by taking on balance formerly off-balance-sheet investments.

Mr. Trichet: Again, a fantastic paper and very stimulating! Let me only mention, as a matter of record, that as far as we are concerned as you know our concept of monetary policy is based on two pillars: an economic pillar and a monetary pillar. Underlying the latter pillar is a very deep analysis of the monetary situation, which includes both components and counterparts of monetary aggregates. What I derived from the paper that was presented is precisely the extreme importance of what in this framework corresponds to the counterparts of collateralized borrowing. This element seems to contain a lot of relevant information, including for the shorter run. As you know in our own understanding the two pillars are complementary over time: the economic analysis being mostly short to medium term and the monetary analysis being mostly medium to much longer term.

The paper is extremely interesting, in that it underlines the importance of collateralized borrowing, which not only conveys information

in the longer term but also in the shorter term. This is a very important new insight that the paper provides.

Mr. Sinai: I, too, thought this was an extraordinarily important paper in its focus for monetary policy—at the moment particularly in the practice of U.S. monetary policy. In other papers and research, I've seen very little evidence of how relatively small banking-based activity is now in the financial intermediary channel of the United States. If you added the off-balance-sheet activities of the banks into the data, the banking-based activity would be even smaller. The capital market-centric balance sheet is very, very fundamental because in my view the boom-bust cycle we have had, and are having, is a product of balance sheet expansion and impacts on the economy via nonbank financial intermediaries, who structurally now are more important. And your data are showing this increased importance, as is the market-based channels to the economy compared to the more traditional channels that macroeconomists have thought about.

I have a question. In your set of financial intermediaries that perform bank-like functions now and work through the capital markets, you didn't mention private equity venture capital and hedge funds. There may be more. In your analytical framework, in principle, would you include those?

The second question I have is, Are there any data on the other intermediaries, so that when we look at the picture of market-based versus bank-based, what would they show?

Mr. Shin: The quick answer is a "no." They are not leveraged mostly. We are only thinking about leveraged institutions.

Mr. Summers: Two questions, stimulated by the interesting analysis: First, there seems to be a strong conclusion, if I understood it right, that lower interest rates promoted greater leverage and there was a procyclicality most of the time.

This would—it seems to me—have broad implications for monetary policy, whether it wasn't reasonable to distinguish between normal times when institutions were not capital-constrained and abnormal times when institutions were capital-constrained. If one

envisioned abnormal times when institutions were capital-constrained, a reasonable thing to assume about those moments would be that monetary policy would affect their profit margins, but would not at all affect the rate at which participants in the economy could borrow from them, which would be the point where the demand curve for loans met the supply that was set by their capital constraints.

So, if one thought about the capital-constrained regime, one would think about depressed periods, like potentially the present, it seems to me in a quite different way than was suggested by your analysis. That would have a great deal of implications for the question of the efficacy of reducing interest rates or the negative aspects of raising short-term interest rates in an environment like the present one.

It would suggest that, in a capital-constrained environment, the dominant effect was on intermediary profits, whereas in normal times the dominant effect was on economic activity.

The second question was, implicitly you commented on most of the range of tools that people talk about. It wasn't obvious to me what the implications of your analysis were for the implications of the Federal Home Loan Bank System and systems of its kind and for a heavily regulated GSE system. To what extent, as you conflate financial stability and monetary policy, do you think about that government provision of capital or liquidity or lending or however you think about that instrument? It seemed to me to be a question raised by your analysis, and I couldn't quite see my way through to what the natural answer was from the paper.

Mr. Landau: It is a question about how procyclicality really works. What is said in the paper and is very interesting is on page 299, "Equity seems to play the role of the forcing variable, and all the adjustment in leverage takes place through expansions and contractions of the balance sheet."

That doesn't have to be the case. You could have imagined that those capital gains, which are made from marked to market during expansion, are distributed to shareholders, and the adjustment would take place through distribution. Why did it take place that way? I think that is a very relevant question for now because now

capital is not being created, it is being destroyed inside the financial system, and obviously there are big difficulties in reconstituting it to its normal level. Could we have policies in terms of regulation, provisioning, or accounting which would make sure that this kind of asymmetry between capital helping expansion of balance sheet in ordinary times and accentuating the contraction in bad times could be mitigated?

Mr. Meltzer: I like the thrust of this paper very much. I want to put it into a somewhat broader context because while I agree with the main thrust of the paper, the broader context is that there are two basic models that economists have used to discuss financial banking problems. One, which has very currently been popular, is the Woodford view that buries everything in expectations, despite Alan Blinder's comment in one of his lecture series that this model fails completely because the term structure of interest rate equation just isn't very good at explaining what happens to long-term rates.

The second view, which I have always rejected, was that an essential loanable funds kind of view, which said that monetary policy works through the banking system by making loans available.

A third view, which has never gotten much traction, is my own view that said asset prices are very important in monetary policy—all asset prices—because monetary policy works primarily by changing relative prices, that is, by making the price of new or future capital cheaper than the price of existing capital and therefore encouraging investment and similarly encouraging consumption.

That is the broader framework in which I think the Shin and Adrian paper fits. And it would be very good if economics would return to the view, or recover the view, that it is really the relative prices of assets that matter most for the transmission of monetary policy.

Mr. Blinder: I would like to join the chorus in saying this is a very, very important idea that all of us ought to be thinking about more than we have up to now.

I have a question prompted by John's Chart 4, which was the regression showing basically that in terms, speaking slightly loosely,

of how much is in broker-dealers versus how much is in banks, the United States is a huge outlier. Whereas, in terms of the procyclicality of those broker-dealers, so to speak, we are not a huge outlier. This is what raises the question.

What makes this interesting in terms of relative importance is this Chart 3 of yours that shows the broker-dealers have been growing like mad and the banks have not. We've heard in several suggestions in papers in this conference and in Chairman Bernanke's opening remarks that, in the future, the broker-dealer sector needs to operate first of all with less leverage and maybe with less complexity.

If you take down the leverage and you take down the complexity and push these businesses into standardized exchange-traded products that Chairman Bernanke was speaking about earlier, you suck a lot of the profit out of the businesses. So the question is, Do you agree with that and might that mean this Chart 3 starts heading downhill?

Mr. Shin: Thank you to John, especially, for the very good discussion. Let me pick on two points that came up. One was about transparency of monetary policy, and the other one was a broader one about whether we could take up slack with better regulation.

Transparency is a very important issue and it is intimately tied with central bank accountability. There is a tradeoff here between leaning against the wind and more disclosures. But if we take a step back, we could think of transparency in a broader sense, not simply in terms of publishing your forecast policy rate, but more in terms of first, promoting a better understanding of central banks' objectives; second, whether the objectives are the right ones; third, promoting a better understanding of the mechanism for the decision making in monetary policy; and lastly, why the means fulfill those ends. I think that will go a long way toward addressing those governance issues without necessarily going down the very narrow route of thinking of transparency just as about having to publish forecasts. If we can break that link between the narrow issue of publishing some stuff or other and the broader one of better governance issue, we may actually have a better debate.

On regulation and how far regulation can go, Marty's point earlier about why regulatory restrictions on quantities might be more difficult to enforce than doing it through prices is a very important one. As soon as you try to enforce the Basel rules by putting in an anticyclical capital requirement, you are going to see financial innovation being directed toward bypassing those rules. It will be difficult to plug all the gaps.

In contrast, prices are very democratic and everyone is ruled by those same prices. That is why the Millennium Bridge example works. Prices affect everyone equally at the same time. There should be an onus on using more price-based methods.

Just a brief note on better regulation. I was at a conference in May of last year when a risk manager said, "The value-added of a good risk-management system is that you can take more risks."

That is one of the eternal truths—that the constraint binds all the time. The constraint binds when things are bad, but paradoxically, the constraint binds when things are good as well. You are under constant pressure to meet that 20 percent return-on-equity target.

It is not clear that hiring more risk managers and getting more mathematical models in there and making the behavior much more sensitive to outcomes are going to be consistent with the macroprudential approach to regulation.

There is a general cautionary tale here about why better risk management from an individual perspective need not promote greater stability over all.

Anil Kashyap made the point that there are traditional models out there that look at frictions on the demand for credit. If the borrower's balance sheet is weakened, then of course there is going to be a reduction in the demand for credit.

Most of the models that are add-ons to the DSGE models are models of that kind. But the friction here is very much on the supply of credit and liquidity conditions. If you are going to tinker with the DSGE models, doing it through a demand for credit is not the right way.

I am short of time and cannot address the other excellent comments and questions.

Mr. Lipsky: I thought the comments and questions were very relevant and very good. Happily, they also pointed in directions in which we are working. My IMF colleagues and I consider that this line of research is very promising and important. As you could tell from my presentation, we have been working actively in extending the sort of analysis contained in this paper in an international context.

I recommend to all of you and hope you will read the relevant chapter in the upcoming *World Economic Outlook* and the related work in the *Global Financial Stability Report*.

Regarding ongoing work in this area, we are forming a new unit in the Research Department at the International Monetary Fund focused on macrofinancial linkages. We think this is potentially valuable contribution to our understanding of developments in financial systems and their important interaction with economic outcomes.