General Discussion: The Federal Reserve's Balance Sheet as a Financial-Stability Tool

Chair: Kristin J. Forbes

Mr. Kimball: I want to say first that this is a brilliant paper, discussion and presentation. I think this is an excellent idea. I wanted to say I think this overnight reverse repurchase agreement (RRP) program is important for a very large number of reasons. I want to talk about it in relation to having in your quiver things that will help you with negative interest rate policy. First, it's something that helps reinforce the electronic unit of account. The second thing that's good about the RRP is that you can probably legally have negative interest on reserves, but you don't even have to do that because you can cap the reserves at slightly above required reserves and then just use the RRP program for the same function that you would have used interest on reserves and have that go negative. Then the final thing relates to this problem of people moving to the RRP; I think the right answer is you just drop the interest rate on RRP very, very fast, along with the fed funds rate when you do get into that crisis.

Mr. Lacker: This comment basically picks up on a point made yesterday. I think we as a central bank at the Fed should think really hard before deepening and broadening a relationship with the money market fund industry. This is an industry born as regulatory bypass. There are clear flaws in this regulatory regime right now, and we set some substantial precedents by way of rescue and support in

the last crisis. To the extent that crowding out works, I'm not quite sure how it works here. If we raise the RRP rate to 10 basis points below IOER, my sense is that this is just going to crowd out the arbitrage that banks do between either deposits or the RRP market and IOER. It's not at all obvious that that would make much of a dent in the extent to which money funds or others intermediate between these sort of liquid liabilities that they issue and private sector assets. Given that, I think the financial stability concern that would be most prominent for me is how this affects our incentives in adverse circumstances going forward in which we have a broad and deep counterparty relationship with the money fund industry and prices are falling for the private sector assets they're holding. Does that alter the political economy? Does that alter the calculation in the balancing act between moral hazard concerns versus the urge to rescue?

Ms. Reinhart: I really enjoyed the paper. I also very much enjoyed Randy Kroszner's discussion. I'm going to echo some of the points he made. There is a literature and a big issue in international finance also on short-term inflows, capital inflows and the instability associated with maturity transformation of these inflows. The basic point you make that there's an externality here that leads to higher financial instability is also very much present in that literature; the tack usually taken there, which is somewhat different from what your proposal essentially is for the Fed to take over private sector activity. Most of the proposals or discussion out there is to tax the private sector activity and address the externality issue, and this is made very clear in your paper that the regulation, of course, only applying to banks just shifts activity elsewhere. But if you would consider also discussing the possibility of a tax on maturity transformation that is more broadly applicable to all financial institutions.

Mr. Duffie: If the Fed has a larger footprint on short-term money markets, you're crowding out not only some credit monitoring benefits, but as Arvind Krishnamurthy and I were concerned about when promoting the pass-through benefits of RRP, you're also crowding out some price discovery benefits both with respect to credit spreads or credit pricing information. But if you use the RRP rather than T-bills, you're also actually losing some price discovery on short-term,

risk-free interest rate information. I'm wondering if you could briefly discuss the cost benefit on that, and in that respect, T-bills versus RRP. At least with T-bills, you get some price discovery with respect to short-term, risk-free rates that you might not get as well, with the current format for RRP, which has a fixed-price rather than an auction-based format.

Mr. Stein: Let me see if I can answer both Jeff Lacker and Darrell Duffie's question a little bit together. So Jeff, you pointed out the issue, the concern with sort of running monetary policy through the money fund industry, and some of these guys didn't exactly distinguish themselves, and you don't want them as your partner. I agree, and we actually had some debate among the three of us on how to best think about this. I just want to echo what Darrell said. I think the platonic ideal here is Fed bills for your reasons, that is to say then you don't have to go through the money fund sectors; for your reasons of price discovery. That's where you want to be. Now we wrote this paper maybe a little too much in a second-best spirit, taking as given the constraint that you couldn't do that. But if you remove that constraint, I think that's the right way to think about it. And then if you think about how can you get as close to that as possible, I would, I think maybe my co-authors disagree a little bit, I would say the Fed should do RRP, but should restrict itself in terms of its counterparties to only dealing with government-only money funds. That I think addresses at least some of the concerns about who you're in bed with and some of the moral hazard issues, and gets closer to synthesizing something that looks like T-bills, albeit maybe not quite as elegantly as doing it directly.

Mr. Hanson: I'll quickly respond to Carmen Reinhart's point. I think the analogy with international finance—there being an externality and then trying to figure out a way to tax it—is very apt here. So, we would agree that, if we could have a regulatory framework that "taxes" maturity transformation in all of its possible guises that would be the first best thing. However, a fundamental problem in financial regulation is that new forms of intermediation can evolve that are outside whatever regulatory framework you have created. In other words, financial regulators are always locked in an evolutionary

arms race and need to continuously play "whack-a-mole" as activity migrates outside of the regulated sector in response to regulations. In that world, our "crowding out" strategy that directly reduces the underlying incentive to engage in maturity transformation can be a very useful complement to regulation.

Mr. Greenwood: I'd like to pick up on two points from Randy Kroszner's discussion that I thought were really interesting. One, you said that maybe one of our points was that the good old days were not that good; we absolutely believe that. An interesting counterfactual to run through is: what if the Fed had been kind of operating in this way pre-crisis and especially during the period when the federal funds rate was much higher. And I think it would be reasonable to think that the Fed would have been successfully able to crowd out a certain amount of private sector maturity transformation. The second question you raised at the beginning was: what is the actual optimal size of the balance sheet? And you're right; we don't come out with a number there. I think maybe a different way to frame that is, maybe we shouldn't be so focused on the dollar size of the balance sheet. Maybe we should just be trying to measure the spreads and what the incentives are for private maturity transformation. One way to think about that is the interest on reserves, fed funds spread, something that we talked about. The other thing you could do is look at the Z-spread which is that measure that Jeremy Stein was describing early in the presentation. The Z-spread pretty directly captures how attractive it is for private sector financial intermediaries to issue at the very short end of the curve. That might be something that we could monitor, rather than saying, for example, the Fed balance sheet needs to be $3 billion or $4 billion or $6 billion, whatever the number is.

Mr. Svensson: Why would not the obvious third instrument, Fed one-week bills, work and solve this problem? Is it illegal for the Fed to issue its own bills? Why would that sort of instrument not be as good or better a solution to this problem? There is something I don't understand there.

Ms. Yudaeva: There are a number of emerging market countries that do very similar to what you suggest. They have large balance sheets, for example, because at some point they bought a lot of

reserves. They issue central bank bills, and they operate in this particular manner. They even sometimes lend foreign currency to the banking system, when it's needed. I think Brazil is doing this; we used to do this. Well, we in Russia are still doing this. My take from your paper is that it is a bad policy for an emerging central bank to do a foreign exchange transformation (using terminology from your paper) in this particular way, and emerging countries' central banks should go back to the operation mechanism with small balance sheets and target interest rates by lending money to the banking sector. Am I correct?

Mr. Sims: I just provoked a comment by the platonic idea notion that Fed bills would be a platonic ideal. I think there's a real danger in making the liabilities of the Fed look more and more like the liabilities of the Treasury. Right now, Fed liabilities are not part of the debt that has a ceiling. If you started saying these are Fed bills, I think Congress would start to wonder why not. And there can be worries, and you see this in some of these emerging markets, that bills are issued by the central bank and the people start to wonder whose obligation is this? Are these really fully backed by the taxing power of the government? If you issue Fed bills and people see Fed bills, and they look just like Treasury bills, is there a difference? Would there be a spread? There might be because people would start to wonder what's the ultimate institutional arrangement in a crisis? Who is backing what?

Mr. Rogoff: Let me just echo that this is a terrific paper. The clarity is absolutely stunning; it raises a very important policy issue and provides an interesting suggestion. As you say, it's in the family of the second best. Following up on something Carmen Reinhart said, there are many policies for financial regulation; an extreme is the Chicago plan ideas for narrow banking. You ideally want to find a way to tax all private maturity transformations. What you have here, however, is actually distorting the maturity transformation of the federal government. You can say it's immune to crisis, but I would beg to disagree with that. It's very much in a second best world where you're making that trade-off.

Mr. Kohn: I echo what Ken Rogoff said about a terrific paper, and a great idea using the price, the structure of interest rates to internalize

the externality and reduce the incentives. But we've identified a whole bunch of costs and benefits here. I have one additional cost I'd like to ask about and that is, would this in any way, by starting with a higher balance sheet, would the Fed feel constrained in its large-scale asset purchases (LSAP) if a bad thing happened? Janet Yellen discussed yesterday that the tools are there to fight a bad shock. If there were any perception that there was a limit on this balance sheet, and I'm not sure why there would be, it would constrain the FOMC's actions at the zero lower bound, and that has to be considered in the cost-benefit. And my second point is a governance issue. If the Federal Reserve goes down this route, and it's worth very serious consideration, this should be done in a very open, transparent way with white papers, with congressional testimony. Here's what we've decided to do; here's why we think we're the right agency to do it; we've had these discussions with the Treasury Department; we're having the discussions with the public right now through the congressional oversight; here's why this is better than other ways of accomplishing the same thing. Please don't back into this, and admit that there are costs as well as benefits if that's where you end up.

Mr. Stein: Let me just take a couple in reverse. So, to Don Kohn's point about LSAP capacity. The way I would think about it is, at a time when you don't need the monetary accommodation, you would have a large balance sheet but of relatively short duration. So now if you needed to do LSAPs, it would have the form of more of an MEP (maturity extension program). You know, you could basically keep the balance sheet the same size but go from two year duration to 10 year duration. So, I don't think you give up that. Of course, I couldn't agree more on the open and transparent and not backing in. Just absolutely. And on Ken Rogoff's point about, that you're trading off the distortion of private sector maturity transformation for government, of course, that's exactly right. So in some sense, our argument, it's a comparative advantage argument. In other words, who do you want to be bearing the rollover risk? The private sector or the government? And the answer is not to go to the limit of course, but that you're willing to assume to the extent that regulation is imperfect, you're willing to assume a little bit more. This also is bit suggestive of, if you think that the real rate, you know, risk the government bears is not just auction risk but is just what's the right duration in some sense,

what's the right interest rate exposure. What our thing suggests is do a lot of very short-term bills, and at the same time you can term out some 10-year bonds to 30-year bonds, so you have some independent ability with a kind of barbell structure to actually keep the government funded long on an overall aggregate duration basis while still doing a lot of bills because this whole problem really lives at the short end of the yield curve.

Mr. Greenwood: I'll take Chris Sims' comment. I don't think this changes the net amount of government debt, because remember all we're proposing is that the Fed issue short-term liabilities and then of course they're buying at the same time, say, five-year notes as an example. So it doesn't change—if there's an expansion, it's not affecting the debt limit.

Mr. Hanson: To Lars Svensson's question, you said why not just have one-week Fed bills? Our understanding is that the Federal Reserve does not have legal authority to sell bills. Obviously, the Treasury Department could sell one-week bills. However, the fact that they don't—the fact that the shortest bills that Treasury is willing to auction are four-week bills—speaks directly to our point about their aversion to taking on this type of auction risk. I think a mistake we probably made in this paper, at least in the way we've presented it here, is to take as given the legal constraints and then to think about a second-best approach given those constraints. So, you're absolutely right: the basic logic of our argument would push you toward something that looks like Fed bills.

Mr. Stella: As was said earlier, there have been dozens of countries dealing with large balance sheet for decades and I think we can learn something by looking at how they've transitioned from where the Fed is today to where they wound up. First, I don't think the size of the central bank balance sheet, as you were saying, is particularly an interesting question. The more interesting question is the size of the consolidated sovereign balance sheet. In other words, how much should the United States be issuing debt to acquire private financial assets? I think that's an interesting question that should be asked. But the paper basically starts by saying the Treasury should be adding safe assets and, in particular, Treasury bills to the financial system. I

would agree that that would be a good outcome. But then you quickly reject this proposal on the grounds that it would raise Treasury debt rollover risk or auction risk and then move on to say, OK, the central bank is in a better position to add safe assets—issuing its own liabilities—since it has no rollover risk. Now, I think it is important to note that there are some countries who have really gotten to an advanced point in dealing with this issue of treasury debt rollover risk and one of them is Mexico, another is Israel, where the central bank has the right to issue treasury debt in primary auctions for monetary policy purposes. What happens to the funds that are raised in those auctions? In Israel and Mexico, also India and Singapore, that money is put in a segregated account. You can call it a frozen account or sterilized account. The only use of those funds by the treasury that's legal is to redeem the debt that the central bank has issued. What are the advantages of that sort of scheme? Well, the central bank actually has the ability to choose the duration of the instruments that it issues. So when the Bank of Mexico issues cetes, bonos, bondes and udibonos, basically it issues bonds when it's sterilizing or financing a part of the balance sheet that is expected to be on the balance sheet for a long time like the foreign reserves; and it issues bills when it's basically doing the typical monetary operations. In Israel, the breakdown is a bit different, the Bank of Israel has the unlimited right to issue treasury bills up to one year. And again the mechanism is the same. The funds are sterilized; they can only be used to redeem that debt. So what this enables the central bank to do is to basically swap out the reserves in the system for treasury securities. It doesn't cost the treasury anything. There's no rollover risk obviously because the money is there to redeem the bills. So I think that is pretty much a first-best situation. You don't have this problem with central bank bills competing with treasury bills which we had in Mexico and Israel before they arrived at this solution.

Mr. Goodfriend: Let me try to put these issues in a little more perspective. Broadly speaking, there are two types of balance sheet policies. First, there is credit policy, the central bank acquisition of private securities financed by the issuance of central bank liabilities. Second, there is maturity transformation, essentially a bond-market carry trade in which the central bank acquires of long-term securities

financed by the issuance of short-term central bank liabilities. This paper focuses on the second type of balance sheet policy. In effect, the argument is that the Federal Reserve should make the financial system more stable by running a bond-market carry trade, perhaps on a permanent basis, to supplement and suppress private maturity transformation. The argument is attractive, but raises many questions. To start, there is no need to finance bond-market carry trade policy with bank reserves. A bond-market carry trade policy could be pursued by the Treasury and financed with Treasury bills. So first and foremost, this is really a paper about the virtues of bond-market carry trade policy per se, and less a paper about central banking and monetary policy. It is far from clear that the Federal Reserve rather than the Treasury should be assigned what amounts to a pure fiscal-financial policy. Moreover, maturity transformation in the private sector is not without management costs and risk; neither is maturity transformation without such costs and risks when conducted in the public sector by the central bank or the Treasury. It is far from self-evident that nationalizing maturity transformation to any great extent is socially beneficial. A final point is that if one wants to argue for the Federal Reserve to undertake maturity transformation, then at a minimum one would want the Federal Reserve have the right and obligation to retain surplus capital against the expected costs and risks of maturity transformation on its balance sheet, just as a private bank is required to do. Last year, however, legislation took away the Federal Reserve's long-standing discretion to retain surplus capital for any reason whatsoever, including against the expected costs and risks of maturity transformation on its balance sheet.

Mr. Spencer: My question is about the nature of the risk we are trying to manage. In our own situation the issue we had in the global financial crisis was really about liquidity and maturity mismatch risk in the banking system. So regulation was brought in, the core funding ratio, and Basel now is following up with the net stable funding ratio, effectively addressing that issue in the banking system. That is where we see the liquidity risk. That is the sector that's really vulnerable to runs. So my question is, to me, this looks as though it's trying to reduce duration and liquidity risk in the whole private sector. Is that really a risk that needs to be addressed? Certainly in our system

we don't see that as a systemic risk. While we look to try and manage liquidity risk in the banking system, the nonbank sector can get on with it and we don't see a need for policy intervention. Where is the externality in terms of maturity mismatch in the broader private sector or the nonbank sector? My second question relates to the context of a small open economy, and the ability of the central bank to influence duration and liquidity risks through the shape of the yield and maturity curves facing the broader private sector. So for many countries there is a question of whether such a policy would in any case be achievable.

Mr. Greenwood: Let me take those last two questions in reverse. I think what we're trying to say is that you can do this without taking duration risk. In fact, a primary point in a part of the paper is that you may be concerned when you're expanding the balance sheet about the long-term securities that you buy, but you can actually take down the duration risk, offsetting the concerns from the larger balance sheet. Then to Marvin Goodfriend, I think you basically summarized the evolution of our thinking on this issue, which is to say when we started we have a 2015 paper that actually doesn't mention the Fed at all; and in fact, we thought about this just as a generic problem and tried to quantify what the costs are and what the benefits are from a consolidated government basis. The further step that we're trying to take here is really to think about *who* should do it, and also to be a little bit more careful about if the Fed should do it, what are the costs that it takes on its balance sheet, and how do you think about the ensuing fiscal risk and so on. So, I think you're capturing the spirit of our thinking.

Mr. Kroszner: I really liked your response on the size of the balance sheet, and I think that's a useful way to think about these things, that perhaps there's ways of looking at spreads in the economy, different types of measures that we can get to get a feeling for how large we want the balance sheet to be, or if you want to intervene to try to change the amount of maturity mismatch or get a feeling for the amount of maturity mismatch because I think these are the concrete things that you need if you're going to do it for policy. And I think this is one of the benefits of their paper, by thinking about

these kinds of things, it's going to help us perhaps to get some better benchmarks to think about the optimal size of the balance sheet, of this mismatch, etc.