Mr. Coërè: I enjoyed the paper and the comments and I clearly also appreciated the tone of the paper, which is that negative rates work and are nothing extraordinary, or immoral, or absurd, as sometimes we can hear particularly in the media. So, I like that. But I would like to follow up on Marianne Nessén’s third set of comments on possibly deeply negative rates, and point to two issues. First, clearly as Marianne very simply and rightly put it, negative rates are not popular, so we’ve got to understand why. There may be cognitive issues which households face when rates become negative, which are not captured in normal models. There may be things happening when the households use a rule of thumb to make their consumption or savings decisions and the rates turn negative. The kind of rule of thumb that they’re usually using may unravel somehow. We don’t know really very well why, but there may be something happening here which is not well captured and which explains why people are uncomfortable with negative rates. I think we need more research here. Second one is financial intermediation and Marianne also makes a point that is very important. So far, with mildly negative rates, our experience in the eurozone has been positive in an unqualified way, meaning that any possible negative impact on financial intermediation has been dominated by a positive impact of lower funding costs, capital gains
on government bonds portfolios, and the general equilibrium impact of negative rates through higher aggregate demand, that is, less risk, higher demand for loans and these kind of things. But looking forward, it’s not clear that the financial system can function with deeply negative nominal rates. And then my question to Marvin Goodfriend is, it seems to me that the underlying assumption in the paper is that removing the “physical lower bound”— that is, the point where there would be massive substitution with cash—would be enough for the whole economy to function well with deeply negative rates. That’s assuming the only binding nominal rigidity is that one, substitution with cash. Aren’t there other nominal rigidities, in the functioning of banks in particular, which would make it difficult for them to function with deeply negative rates? As long as we don’t have the answer, we’ll be very cautious in pushing rates too much deeper negative levels. We can still decrease them but we would be careful.

Mr. Sturzenegger: The good thing about coming from Argentina is that about everything that’s going to be proposed in a paper in terms of monetary policy, we’ve tried it already. Not always with good results, I may add. So, we can talk about the 1873, the 1893 and 1907 flexible price of the paper currency, which is the second recommendation. But we’ve tried this quite recently in Argentina in 2001. Of course, we didn’t tell people beforehand we were going to do that, so people didn’t take it very happily. So they basically sued the banks. They actually attacked physically the banks and tried to get their money out. So the point, the comment I want to make is I think we need to, in order to make this recommendation, we need to understand better how the depositor is going to react, knowing that this price is going to fluctuate, and I think that’s stated a lot in the paper but I think that would be a very interesting line of future research, particularly considering that people always will have, even with electronic money, transactional accounts in their Starbucks or eBay accounts.

Mr. Kimball: I think this is a very interesting discussion. I think there’s an important message here which is that already any central bank that has a little political running room should set interest rates as if there is no lower bound because it is actually quite easy to
eliminate the zero lower bound. On the particular approach to eliminate the zero lower bound, Ruchir Agarwal and I have an IMF working paper, “Breaking Through the Zero Lower Bound,” that argues that a crawling peg can be implemented and defended very, very smoothly, contrary to what Marvin Goodfriend said. I also want to say that it’s a big deal for anyone to do the deep negative rates because any central bank using deep negative rates even once would avoid the downward pressure on long-term rates from markets thinking falsely that central banks might run out of ammunition. And so it would be a great, good turn for the world if any central bank implements deep negative rates just to demonstrate that there is plenty of monetary policy ammunition no matter what we face. There’s also another big benefit of being able to use deep negative rates that you can have quicker closing of output gaps. The last thing I want to say is in terms of the politics, I think the issues of bank profits can easily be dealt with by a lot of mechanisms and it’s also very easy for central banks to subsidize the provision of zero rates to small household accounts, by just using the interest on reserve formulas. So that’s a proposal I’ve made which I think can very much improve the politics of negative interest rates.

Ms. Forbes: This paper makes a compelling argument about the benefits of negative interest rates and potential for sharply negative interest rates and how to implement them. But as we all know as economists, every policy has cost as well as benefits. If you don’t spend very much time talking about the costs of these policies, you could also ignore a potential for nonlinearities in some of these costs if you move to sharply negative rates. I was wondering if you could talk about those and if you’ve thought about them at all. Benoît Coeuré mentioned, for example, some risks to the function of the financial system from sharply negative rates. Let me raise two other costs for you to comment on. First is to savers. You spent quite a bit of time on the intertemporal effects of interest rate policy, but if you went to sharply negative rates so savers now see they will not only earn no return on their savings, but lose money on their savings, might that instead of incentivizing them to spend more today make them panic about the future and save more for the future? Second, for pension funds. Many companies have gotten away with
funding gaps in their pension funds, gaps that have been aggravated during this long period of low rates. If you went to sharply negative rates, pension funds might then see a future of lower returns or even negative returns. They’ve been able to ignore some of these funding gaps, but it will make it much harder for companies to ignore those gaps in pension funds that have grown quite a bit recently. And then companies might have to put more money to shore up their pension funds, leaving less money for investment and the usual effects you’d expect from lower rates. So could you discuss if some of these costs of sharply negative rates could be large and nonlinear and therefore make them less effective?

**Mr. Goodfriend:** Let me reiterate that a main point of my paper is that central banks don’t have a choice about long-term real interest rates. Long-term rates are governed largely by real forces outside the purview of monetary policy. Rather, central bank interest rate policy must accommodate long-term rates in order to sustain a low targeted rate of inflation. Monetary policy is about managing short-term interest rates. Short-term nominal interest rates have had to fall a few percentage points below long-term nominal bond rates in the United States to stimulate the recovery from each of the eight recessions we’ve had since 1960. If inflation and inflation expectations are stabilized at a 2 percent target and real bond rates remain non-negative as seems reasonable, then nominal bond rates should remain somewhat positive. In that case, deeply-negative short-term nominal interest rates may not be needed except perhaps temporarily to stimulate the recovery from recession. In large part, short-term interest rate policy stimulus works by coordinating an increase in spending, first to help offset contractionary dynamics and then to help initiate a cyclical expansion. If employed promptly and decisively against recession, interest rate policy would not likely sustain deeply negative nominal short-term interest rates for very long.

I agree it’s not popular for central banks to say they might make short-term interest rates negative, even temporarily. That’s why I wrote the paper from the perspective of monetary history. It wasn’t popular when central banks left the gold standard. It wasn’t popular when fixed exchange rates were abandoned. Even though there
were good reasons to do so. It took a long time for the public to get comfortable with a flexible money price of gold and later with flexible foreign exchange rates. Taking a longer-run perspective, it’s taken hundreds of years for the world to accept flexibility in relative prices as necessary to allocate goods and services to their most valued uses in society. Thomas Aquinas, notably among a host of other thinkers, thought of prices largely in terms of fairness rather than allocative efficiency. The real intertemporal terms of trade is one of the most controversial relative prices in this regard. This is so in part because of the widespread misapprehension that central banks are free to choose interest rate policy as they see fit, which tends to perpetuate the erroneous view in some quarters that interest rate policy is a matter of balancing fairness and allocative efficiency. Let me come to the comment about Argentina. It’s been a great laboratory and I’d like to hear more about that. On Miles Kimball’s point, we both recognize the feasibility and desirability of negative interest rate policy, and have said so in our own ways in the past. The point I’m emphasizing in my paper today is that interest rate policy can and should be unencumbered expeditiously in a future crisis so that negative nominal interest rates can be made freely available and fully effective as realistic policy option.

Kristin Forbes raised an important concern about insurance companies and pension funds. In the past, insurance and pension services have been bundled with promises of significant positive returns. They’ve been bundled saying, “We will promise you a high long-term yield and we will also provide you insurance.” The bundled promised return will not be viable in a low-interest world. However, that is not a problem for monetary policy; it’s a problem for business practice.

Mr. Svensson: I have a very quick, short question. Suppose we have a system of flexible exchange rates between reserves and electronic money on one side and currency on the other? Which one is the numéraire, the unit of account? In stores, do they post prices in currency, and do they post prices in electronic money? Are consumers and households supposed to be able to distinguish the two? What’s the answer to that?
Mr. Stella: Negative rates would be much more popular if central banks were lending at them, rather than borrowing at them. What we’re seeing now is that central banks are major borrowers at negative rates and that’s very different from their intervention in financial markets in the advanced countries for the last 20-30 years. I think that’s why what Minouche Shafik was mentioning earlier is so important. The Bank of England lowered Bank Rate and we could say, well maybe that didn’t have much pass-through or maybe it had a negative pass-through because you’re reducing the rate at which you’re remunerating those large excess reserves. What ought to work, with the appropriate sign, is the Bank’s Funding for Lending scheme, essentially a subsidized term lending program. There, low rates should be quite popular. I just wanted to have your reaction to whether you think the fact that central banks are huge borrowers now instead of marginal lenders in the past influences people’s views on negative rates.

Mr. Reis: Two questions. A few years ago, a long discussion of the money market fund industry led to some agreement that it should not stick to “no break the buck” rules. We agreed it was likely optimal to have floating net asset values, and yet it wasn’t done. Likewise in Europe where some central banks have negative interest rates, we probably all agree that commercial banks should have negative rates on deposits and yet many banks prefer to instead charge user fees instead of those negative rates. Your proposal which essentially amounts to breaking the buck on cash would likely face similar objections. So what do you think can be learned from the experience of these other attempts at breaking the buck that would inform your proposal? It seems like we could go beyond theory, and look at data, to see what happened in those two “breaking the buck” smaller experiences. Second question: For decades we’ve met in economic conferences and said that, given some shocks, especially international terms of trade shocks, then wages should fall. We understand it is important that wages fall in order to lead to macroeconomic adjustment. And yet, wages do not fall during big shocks, and this is a big factor behind the severity of recessions after these shocks. Is there not an analogy between having nominal wages fall and having nominal interest rates go negative? After all, these are two allocative prices, one intertemporal and one intratemporal between labor and consumption goods.
For both, we seem to see the same aversion of the public to have a negative. I don’t think we can dismiss this aversion. We have learned that there are good and bad, behavioral and rational, reasons for why people don’t like wage cuts. Likewise, they will not like negative nominal interest rates. To what extent do you think we can use the insights from the downward-wage rigidity literature to learn about the non-negative interest rigidity that we detect in public opinion?

**Mr. Tóth:** A policy question maybe to Marianne Nessén. We had sort of two strategies of applying negative interest rates, small by small steps, and maybe a bigger cut in the negative interest rate. With the benefit of hindsight, would you agree that experience suggests that having mildly negative interest rates seems not to be an issue so far. However, there’s a big answer in thinking about the impact of deeply negative interest rates, and at the same time of keeping negative interest rates for too long. So the question is, would you agree that with the benefit of hindsight, a better policy would be to maybe tend to even overshoot on the side of the negative, of cutting the rates, to make sure that the period during which we do face negative interest rates is as short as possible, so we don’t need to keep the negative interest rates for too long or even go into deeply negative interest rates?

**Mr. Goodfriend:** My short answer to Lars Svensson is that the public has often been confronted with multiple means of payment at the point of sale with different prices attached to the different means of payment. Think of cash and credit, or domestic and foreign currency in some countries, and in the 19th century banking crises in the United States discussed in my paper, the floating deposit price of currency. In all these cases, differential pricing in two separate means of payment has appeared to work reasonably smoothly. My answer to Peter Stella is that central banks should shrink their balance sheets to avoid the problem he identifies. As I see it, one of the main advantages of relying on unencumbered interest rate policy is that it obviates the need for a big central bank balance sheet, at least for general purpose stabilization policy. I appreciate Ricardo Reis’ concerns. But as I pointed out in my paper, the public was resistant to leaving the gold standard at first, and later to floating the exchange rate. And as the public experienced the new regimes, it gradually accepted them.
I admit, however, that just as in the previous cases, it will likely take a future crisis before the deposit price of paper currency is floated to unencumber negative interest rate policy.

Ms. Nessén: It’s difficult to give a good answer to the question by Ján Tóth, but with the benefit of hindsight, i.e., with perfect certainty you would perhaps go for doing it all at once and then perhaps getting out of the problems as quick as possible. But this is not the experience that I described. This was a situation with deep, deep uncertainty about what would happen and a more gradual approach is what the central banks opted for. Going one step at a time. Learning by doing.