Ms. Forbes: Let me start with the first set of questions. I am going to try to link some of the topics that have come up with some of the themes that came up earlier today and yesterday. First, as discussed by Governor Bailey today, what do all of you think about adjusting the pace of asset purchases as a new policy tool? It seemed to have some effect in the U.K. Do you think that is a valid new tool we can add to our toolbox? Or is this tool more limited and state contingent?

Second, Chair Powell discussed the Federal Reserve’s new approach of focusing on average inflation targeting. I was wondering if each of you thought this would have a meaningful impact in today’s environment? Or is this more of a minor tweak and we shouldn’t expect it to have meaningful affects?

Third, yesterday we discussed the challenges from slow productivity growth. And Laurence (Boone) rightly raised the important point that this is key to raise growth. Faster productivity growth will address many of the concerns and challenges in front of us, including the low neutral rate of interest. But I was wondering if any of you have thought about how your proposals and what you focused on could in turn affect productivity growth. Could the issues you discussed reduce productivity growth and aggregate growth? For
example, some research suggests that if interest rates stay low for an extended period, this can slow the productive reallocation of resources. It could keep some insolvent firms alive, and thereby slow productivity growth over time. I was wondering if any of you had thought about these types of issues.

And finally, most of the discussion today and yesterday focused on policy tools for advanced economies. That makes sense as those economies are more constrained in their ability to lower interest rates, while many emerging markets still have some policy space because interest rates are not at their lower bounds. But during the pandemic we’ve also seen some potentially important changes in how emerging markets are doing monetary policy. We’ve seen some use QE, even before they reach their lower bounds. In the past, we thought emerging markets wouldn’t be able to use QE because it would raise more concerns about central bank monetization of deficits and fiscal sustainability. That doesn’t, so far, seem to have happened. Do you think that QE could be a more useful tool for emerging markets in the future? Or is there something unique about the nature of the pandemic so that we shouldn’t draw any strong conclusions from this?

**Mr. Visco:** We are very much focused on the policy measures that we are going to take, and we are now taking, in central banks, but the issue of the appropriate policy mix that Laurence has emphasized is also crucial. There clearly is a dimension related to the demand side, but also the one related to the supply side has been rightly emphasized, with the allocation of resources that results from structural measures. However, I think that in the coming months the single most important factor that may hold back the recovery is the rise in precautionary savings. That is the consequence of the substantial increase in uncertainty, and the reduction in confidence, that we are observing. Most of the savings accumulated up to now has been generated by the lockdown measures and the social distancing that have been imposed almost everywhere, and which put a cap on the households’ ability to spend. But we are seeing that precautionary motives are playing a growing role. The exceptional uncertainty emphasized by Nick (Bloom) and Laura (Veldkamp) today and yesterday is an indication that savings may remain high even after our economies
will be out of the health crisis. We have some evidence now in Italy, collected from an ad hoc survey, that helps to shed some light on the matter. Not surprisingly, it shows that in the coming two years most of the households facing greater financial difficulties intend to reduce nonessential expenditures relative to the pre-epidemic levels. But what is worrying and surprising, and alarming, is that the share is high (above 40%) also among wealthier households and among those who did not suffer significantly from this epidemic and do not expect to experience it in the future.

The big question is how long these precautionary saving motives may last, and how much the interest rate could fall because of that, and for how long. Now, this I think will very much depend on all that we are going to do, on the monetary side, the fiscal side, the structural side. However, I think that it will mostly depend on what will happen on the sanitary front, how that will be communicated and confidence restored. I believe that we have to interact substantially more than we are doing now with scientists, with physicians, and also with the media. There is a need to communicate all the news in an orderly way, and also what we are trying to accomplish with the measures that we are putting in place. We need them to have a significant effect on spending, which has to be put back in motion. Otherwise we risk entering into a vicious circle of too high saving and depressive pressures.

_Ms. Forbes:_ Let me ask a variant of a question I asked earlier to try to end on a positive note. Let’s consider a potential scenario, one that we don’t talk about often. I’m not saying it’s probable, but just to try to be a bit more positive and end our moniker of being the dismal science. Let’s say the vaccines we are developing are successful. We are able to mass produce them by the end of the year, so that we have ended the lockdowns, we are not concerned about COVID, business is back up and running, pent-up demand is released, the savings that has been discussed is being spent, and people are delighted to be able to go out to restaurants, football games and movies. Companies raise prices and it’s not only clear that growth has recovered and unemployment is falling, but inflation is picking up quickly. This occurs because not only is there substantial monetary and fiscal stimulus in
the system, but there are also supply-side shocks and other structural issues. For example, supply chains may not be as efficient, and companies have spent a lot of money trying to restructure businesses in the face of the pandemic. Even though some of this restructuring is no longer needed, businesses want to raise prices to cover these additional costs. So, inflation is picking up and now central bankers have to think about unwinding some of the stimulus. How do you think this will work with so much unconventional stimulus in the system? Is it going to be difficult for the traditional tool of raising interest rates to rein in inflation in this scenario? Will it be hard to unwind balance sheets? Could some of the changes we have made to frameworks, such as moving to average inflation targeting, make it harder for monetary policy to work in the opposite direction? To summarize, if at some point, hopefully in the future, we get back to the old-fashioned problem of inflation being too high instead of too low, will our traditional tools work as intended?

Mr. Hoenig: My question is mostly for Michael Woodford and it has to do with this misallocation of resources. If you considered the possibility that you’re lowering nominal interest rates to zero, near zero, and leaving them there for an extended period of time, do you not then cause a misallocation of resources, which pushes the natural rate down further, then causing the central bank to want to pursue it further, further misallocating resources and you get yourself in an undesirable, vicious cycle. How do you get out of that, other than through fiscal policy?

Ms. Gopinath: My question is for Jordi (Galí). I was wondering what you made of the presentation from Yuriy (Gorodnichenko) that showed the negative impact of higher inflation expectations on decisions by households and firms. You, in your presentation said that one way to solve the problem going forward is to have a higher inflation target, moderately higher, to 3%. And you also mentioned some work you have that shows it actually does well. I was just wondering and I was looking forward to your views on Yuriy’s work.

Ms. Forbes: Let’s turn back to the panelists now and we’ll go in reverse order. Start with Michael, then Jordi, then Laurence.
Mr. Woodford: Responding to Tom Hoenig, who was asking about whether keeping lower interest rates at their lower bound for a long time is potentially a problem leading to a misallocation of resources that can make it harder to get out of that situation. I think that the answer is that that is a concern. I think that one of the reasons why I am a little uncomfortable with the degree of focus in recent discussions on the idea that we are now going to be permanently in a low interest rate environment, perhaps permanently at the lower bound, is exactly this concern. We may be constantly at the lower bound because we are trying to use low interest rates to solve problems that they are not very effectively able to solve. And so I think that more attention does need to be given to the sacral allocative effects of different levels of interest rates in judging when low interest rate policy is what’s really called for. And I don’t think that all times, when overall economic activity is lower than we think would be efficient, is a time for that. In particular, using fiscal policy and thinking about when fiscal policy is the more appropriate tool is going to be important.

In terms of Kristin’s questions I guess one that I am particularly happy to get to say something about given the dramatic development of this conference being Jerome Powell’s talk yesterday, talking about the Fed’s new framework, she asked is this development likely to have a major impact? I think that it is an important step forward. I think it’s most obviously useful for dealing with this issue of operating in a low interest rate environment and the question of how often policy may, in future circumstances, be seriously constrained by the lower bound. And the concern there, as we have been talking about, is that having lower inflation expectations is going to be something that makes this constraint even tighter. And so concern with chronically undershooting the target eventually leading to lower inflation expectations that makes real interest rates higher, is something to worry about. And something that I think was very positive about this new proposal was it tries to deal with this issue of not having inflation expectation creep down without doing it by raising the long-run inflation target. I think there were two respects in which it did that. One was by talking about inflation averaging, which would mean that under some circumstances you would be indicating that you are not in a hurry to remove accommodation simply because inflation
has been undershooting for a period. But secondly there was a lot of emphasis I think in the way that Chair Powell presented things on the idea that what is being communicated right now is that the Fed is not going to be in a hurry to judge that inflationary pressures are coming simply because economic activity is picking up.

I think that way of talking about things is also going to be particularly useful given some of what we were talking about this afternoon. The evidence that the public will often react to announcements that higher inflation is coming by taking that as meaning that their personal economic situations are going to be worse, and therefore being inclined to cut back spending in response to it. Emphasizing that we are not going to be putting the brakes on the expansion quickly is instead something that ought, I think, to be more effective in achieving what one wants, which is not giving people a reason to cut back spending in a period when one thinks that spending is currently too weak because of the kinds of uncertainties that Ignazio Visco was just talking about.

Mr. Gali: Regarding Gita’s question, I also find Yuriy’s findings both intriguing and fascinating, but I should say, I believe they are largely driven by what George-Marios (Angeletos’) calls partial equilibrium thinking. For most people if inflation is higher, they think they will be worse off because their wage will not increase. And ultimately, I think it may be shaped by historical experiences that many of the respondents of the survey have gone through, in which high inflation was associated with very poor economic performance. So people may somehow associate high inflation with bad things. Now, I don’t think that the kind of very moderate changes in inflation that I was referring to when I had mentioned the possibility of raising the inflation target to 3% would have any significant impact on people’s views about their welfare prospects, in the same way that having experienced inflation below 2% for a number of years now in many advanced economies has not made them happier. I wouldn’t view this as a factor to be considered when thinking about the possibility of raising the inflation target.

Let me address one of Kristin’s points. You asked whether the Fed’s announcement of a reformulation of their strategy was just a minor
tweak or a significant change—I really think it is a major change in the sense that as far as I know it is the first time in recent history that the commitment to overshoot the inflation target is put on paper. And that’s very significant. Now, of course the proof is in the pudding, so we’ll see in the next few months or years the extent of that commitment, and one way to test it will be to look at FOMC members’ forecast of inflation at different horizons and the extent to which they believe they can deliver on that commitment. With inflation below the target today and the effective lower bound binding, if the new strategy is going to be effective, and the FOMC members are truly committed to it, we should observe their forecast of inflation somewhere down the road to exceed the 2% inflation target. I look forward to seeing whether that will be the case or not.

**Ms. Forbes:** Yes, Jordi, I can already imagine the number of academic papers that are going to be written testing whether this announcement has had a meaningful effect on inflation expectations and market pricing. Maybe next year at Jackson Hole we will see some first results. For our final set of comments today, our final reactions, Laurence, the screen is yours.

**Mr. Boone:** I will be very quick because I think I agree with a lot of what has been said. I think we all agree that r is very low and close to the zero lower bound and we have difficulty actually getting some efficacy out of further monetary stimulus, especially when the shocks were asymmetric like Michael was highlighting. Therefore, fiscal support is the appropriate tool to support income of those directly and indirectly affected by the crisis. That brings me to emphasize the main difference we haven’t mentioned here between monetary and fiscal policy, which is the distributional impact. I actually find that it’s a huge progress of this crisis, if I may say so, that we are using fiscal policy for what it’s best at doing, which is targeting distributional effect and correcting the possible side effects of monetary policy on wealth distribution.

I want to come back to this also for the average inflation targeting. I think, the average inflation targeting framework will help avoiding hysteresis effects, which will prove helpful if the crisis is long lasting. If that is the case, the behavior of the people will change. Having this
prolonged fiscal support will help the economy restructure, which will be superimportant. Overshooting the target for a while, with such a credible framework, will hopefully be the least of our worry.