Ms. Forbes: Nick (Bloom), I was hoping to start with a first set of questions.

I was wondering if you could discuss whether the effects of uncertainty and the channels by which uncertainty affects the economy, may have changed due to the nature of this pandemic? I hate to say this time is different, we know that always gets people in trouble, but as Jan (Eberly) clearly showed, this recession is different. This is not the typical investment-led recession. Instead most of the decline in GDP has been due to consumption and especially services. Let me expand on that. Given these differences and the nature of this recession, could the effects of uncertainty be more muted? For example, the measures of uncertainty that you focused on, at least most of them, were probably more correlated with businesses and investment. I did some work a few years ago in the U.K. where I looked at the correlation of different measures of uncertainty with consumption and investment. Measures such as the dispersion of economic forecasts did matter for investment, but consumers really could care less if economists were fighting about where growth was going to be in a couple of years or not. This measure of uncertainty just has very little correlation with consumer spending. Instead, there were very different measures of
uncertainty that were more correlated with consumption. One, at least in the U.K., was uncertainty about individual’s future economic situations. That was far more important than economists disagreeing about growth in a couple years’ time. Also, you talked about channels by which uncertainty affects the economy; and while those are traditionally very powerful it seems that some might be more muted this time around. For example, one channel you discuss is that more uncertainty increases the cost of and access to credit. When costs go up, (it’s) harder to get loans. But this time around because of the extremely aggressive responses by governments and central banks, the cost of credit has eased, and it is easier to get access to credit for most segments of the economy, including most consumers.

Also, as Jan talked about, the option value is an important channel by which uncertainty affects the economy. But this time around, if we believe that the effects of the pandemic in 1-2 years are largely gone, then the option value may be a lot lower because this may be just a short-term period of high uncertainty rather than a prolonged period of heightened uncertainty. So, could you expand on these arguments of why the effects of uncertainty might be different this time around. But before I give you a chance to answer, I’ll give you a few minutes to think and we’ll bring in some other speakers.

Ms. Gopinath: My question builds on what Kristin (Forbes) said, so you might have actually covered it. I recall that around the time of Brexit there was a sense that with all the uncertainty, there would be a serious negative effect that would happen relatively quickly, and that did not. But the Brexit has certainly lasted a while and we did see light effects. The question is, how does that episode help us understand what will happen this time around? And if indeed, as Kristin said, this is going to be a short-lived hike in uncertainty, is it possible we will not see these long negative effects?

Mr. Hatzius: We’ve now heard two papers, yesterday and today, that have taken a pretty negative line on the prospects for a rapid recovery. And I’m curious how you square that with the observation that financial markets have taken quite a positive line, and
financial assets have rallied very sharply over the past few months. If you look at China, which was sort of a forerunner and obviously experienced the pandemic earlier, China has already completed a V-shaped economic recovery with a level of real GDP now slightly above the pre-crisis level. And as Chair Powell said yesterday, most of the economic indicators in the U.S. are also coming in stronger than expected. He talked about May and June, but I think we can say that about July as well. I’m wondering whether there is a risk that we’re overdoing the doom and gloom here and whether we’ll ultimately find that this huge economic hit ultimately turns out to be much more temporary than incorporated in more forecasts.

**Ms. Veldkamp:** I’d like to know, like Kristin asked, what type of uncertainty this is. In your test measures, is what you were measuring high frequency uncertainty, what will happen in the next one to 30 days, or low frequency? So, for years to come, how risky do I think the world will be? These can be quite different. In the firm surveys, there’s cross-sectional uncertainty reflecting the fact that some firms will be hurt, others may not. And aggregate uncertainty. Will GDP fall? All these types of uncertainty have different effects and different remedies. And furthermore, maybe this cross-sectional difference speaks to what Jan (Hatzius) was talking about. Some of the measures that he says rebounded quickly may reflect large firms and not small firms. So, my question is can you distinguish aggregate and dispersion or short and longer maturity and do you have a sense of how large each is?

**Mr. Feroli:** My question builds on Kristin and Jan Eberly’s comments. Not only were durables not the driver of the recession, but actually real consumer spending on durable goods recently has been more than 10% above its pre-COVID level and total home sales are the highest since 2006. Since both these categories are obviously lumpy and partially irreversible, how would you reconcile these facts with an important role for a real options channel of uncertainty in describing or characterizing the current recovery?

**Ms. Wilson:** I had a similar question. The exogenous nature of the shock, the potentially temporary nature of the shock, the
uniquely strong and rapid policy response may all attenuate the uncertainty effects. The industry composition and the uncertainty by industry may be very different and it looks like in your tech space, possibly your survey and also the VIX, you may be able to identify more specific industry uncertainty and see if that is linked more to performance—you know, services versus manufacturing impact—and you might be able to get a cleaner impact of uncertainty. The second is a bigger question, which is, if these things have attenuated the uncertainty effect then should the virus prove to be a bit more difficult to contain, and should there be cliff effects in the policy response, what do you see as the risks of uncertainty and these channels going forward?

**Ms. Forbes:** I will now turn the floor back to Nick and then Jan (Eberly). Nick, there seems to be some skepticism that maybe we shouldn’t worry so much this time around. Maybe the effects are mitigated; maybe this time is different. Could you comment on that?

**Mr. Bloom:** I’d rather take a positive line. One is, in terms of the impact of uncertainty, I think the drop was obviously primarily not driven by uncertainty. I mean, we have a drop in the recovery, and the drop was obviously almost entirely driven by supply side issues. You know, the virus impact. I think the cost of uncertainty is going to be much more in the recovery, slowing it down. Why do I mean that? In order to have a strong recovery, you need to have firms investing in a hurry. Investment hasn’t dropped that much but on Jan’s day tour, what you see is a big spike in investment in computer equipment. Basically they’re paying for people to work from home. But everything else has dropped back. And hiring in particular is obviously very poor right now. I know the labor market is not in great shape. That’s another investment firms need to make, in basic human capital, we’re just not seeing. Don’t get me wrong, it’s not like I’m claiming uncertainty is everything. I think it’s just a factor, but particularly a problematic headwind now. And then in terms of measures, I only showed five; I just didn’t have time. To your question and Laura (Veldkamp’s) question, there were definitely lots of different measures. I loved Laura’s presentation yesterday; it was very consistent. You see in
here a full class of disagreement or Michigan Consumer Survey Measures of Uncertainty—these all go up and remain very high.

Gita (Gopinath) asked about Brexit. I started working with the Bank of England, Nottingham University to look into Brexit. I think the impacts of Brexit have turned out to be roughly true in the sense of investment in the U.K. is about 15% down versus what we would expect. It just surprised me taking a long time. One puzzle from Brexit is why it took so long for U.K. investment to drop. If you look at the rest of the world until the pandemic goes up, for the U.K. it just flatlined after Brexit.

Jan asked about Wall Street versus Main Street. This is a topic du jour. It’s like, why is the stock market going so well? I spoke to two journalists. Even he asked that on exactly this topic. I mean, look, one reason is of course the Fed has done a fantastic job in trying to stabilize the economy. It’s had a very positive effect on asset prices. Another of course is the stock market is incredibly long high tech. It’s about 30% high tech whereas the real economy is much shorter. I think we know from the labor markets that the U.S. economy has this reverse square root recovery. There’s this huge drop of partial recovery and then moving sideways. And Michael (Feroli) asked, along with Jan, again, don’t get me in terms of why consumer durables have jumped up. Again I don’t want to claim uncertainty is the only thing. There are many other things going on and we know that. Just from my own personal experience, we had to cancel all of our summer holidays. We haven’t been able to eat out. Our bank balance in the short run is up because we can’t spend any money. We haven’t gone out and bought a new car or a new house. But there’s a lot of cash flooding into the U.S. economy through the stimulus checks, and one argument is that that money has found its way into durables. I don’t want to say, if there had been lower uncertainty I think that rebound might have been higher.

And then finally Beth (Wilson) mentioned about industry and firm variation. Yes, definitely, there is a big variation across that. If you look at the uncertainty measures, particularly the Bank of England we have 3,000 firms, they are very rich detail by
industry. It’s very highly correlated with the impact on those industries from the shop down. For example, accommodation, food services, entertainment have seen much bigger increases because there’s so much they’re uncertain about what will happen. If you’re in entertainment you’re basically shut down and you’re really just waiting for the virus to clear and that of course is incredibly uncertain because nobody knows, not even the medical community. Thanks for the great comments.

**Ms. Forbes:** Jan Eberly, would you like to add anything? Especially on this debate of whether this time is different and we shouldn’t worry as much?

**Ms. Eberly:** I think we worry about different things. I don’t think we should worry less. The enormous decline in services is very clear in the data and that tracks directly into the large and continuing decline in employments, because the service sector is more labor intensive. And that is exactly where I think uncertainty is showing up now. Why have services declined so much? —because there is a risk associated with face-to-face service provision. And even when there is not a lockdown, self-protective behavior has shown to be very powerful in keeping people away from those kinds of services. Uncertainty, or this kind of risk, is very evident in specifically the virus risk, and is very evident in the economy. It’s not that the uncertainty effects are not present; it’s that they are focused on a very particular kind of behavior.

What many policymakers have said in response to the pandemic is to focus on addressing the virus itself and the risks that it faces, and that the economy will strengthen when consumers feel safe again to consume those services. It really focuses economic policy on a particular set of outcomes.

We certainly don’t want to forget uncertainty. It has an important effect potentially, on the economy but in this particular crisis the uncertainty is coming from a specific shock, and so I think policy benefits, and our thinking benefits, when we focus specifically on that. There are some other terrific questions. I think Laura’s question, “uncertainty about what,” is always important and a number of the other questions focused on that set of issues—
different risks have different impacts and require different measures. Focusing on this specific shock, the source of uncertainty and its effect on the economy will help guide us through the policy needs and impact of this crisis.

**Ms. Forbes:** This topic of the day, Main Street versus Wall Street. There is a tradition at the Jackson Hole conference that if we see any wildlife, such as a moose or a bear, reporters find some cute way of linking that wildlife to what is going on in financial markets. This year I think it is safe to say there is no bear in sight. Maybe that’s why the markets are doing so well. I’m sure a reporter could do better than that to explain this divergence. But on a more serious note, you’ve clearly showed that we are living in a period of heightened uncertainty. There is a debate about whether the effects will be as strong or as negative or as long lasting as other periods. Time will tell. But this does raise the risk that this recession could last longer; there could be more scarring as we heard about yesterday.