Meeting of the Federal Open Market Committee on September 15–16, 2020

A joint meeting of the Federal Open Market Committee and the Board of Governors was held by videoconference on Tuesday, September 15, 2020, at 11:00 a.m. and continued on Wednesday, September 16, 2020, at 9:00 a.m.

PRESENT:
Jerome H. Powell, Chair
John C. Williams, Vice Chair
Michelle W. Bowman
Lael Brainard
Richard H. Clarida
Patrick Harker
Robert S. Kaplan
Neel Kashkari
Loretta J. Mester
Randal K. Quarles

Thomas I. Barkin, Raphael W. Bostic, Mary C. Daly, Charles L. Evans, and Michael Strine, Alternate Members of the Federal Open Market Committee

James Bullard, Esther L. George, and Eric Rosengren, Presidents of the Federal Reserve Banks of St. Louis, Kansas City, and Boston, respectively

James A. Clouse, Secretary
Matthew M. Luecke, Deputy Secretary
Michelle A. Smith, Assistant Secretary
Mark E. Van Der Weide, General Counsel
Michael Held, Deputy General Counsel
Stacey Tevlin, Economist
Beth Anne Wilson, Economist

Shaghil Ahmed, Michael Dotsey, Marc Giannoni, Trevor A. Reeve, Ellis W. Tallman, William Wascher, and Mark L.J. Wright, Associate Economists

Lorie K. Logan, Manager, System Open Market Account

Ann E. Misback, Secretary, Office of the Secretary, Board of Governors

Matthew J. Eichner,[1] Director, Division of Reserve Bank Operations and Payment Systems, Board of Governors; Michael S. Gibson, Director, Division of Supervision and Regulation, Board of Governors; Andreas Lehnert, Director, Division of Financial Stability, Board of Governors

[1] Attended through the discussion of developments in financial markets and open market operations.

Sally Davies and Brian M. Doyle, Deputy Directors, Division of International Finance, Board of Governors; Rochelle M. Edge, Deputy Director, Division of Monetary Affairs, Board of Governors; Michael T. Kiley, Deputy Director, Division of Financial Stability, Board of Governors

Jon Faust, Senior Special Adviser to the Chair, Division of Board Members, Board of Governors

Joshua Gallin, Special Adviser to the Chair, Division of Board Members, Board of Governors

William F. Bassett, Antulio N. Bomfim, Wendy E. Dunn, Ellen E. Meade, Chiara Scotti, and Ivan Vidangos, Special Advisers to the Board, Division of Board Members, Board of Governors

Linda Robertson, Assistant to the Board, Division of Board Members, Board of Governors

David Bowman, Senior Associate Director, Division of Monetary Affairs, Board of Governors; Eric M. Engen, Diana Hancock, and John J. Stevens, Senior Associate Directors, Division of Research and Statistics, Board of Governors

Jeremy B. Rudd, Senior Adviser, Division of Research and Statistics, Board of Governors

Glenn Follette, Associate Director, Division of Research and Statistics, Board of Governors; David López-Salido, Associate Director, Division of Monetary Affairs, Board of Governors

Christopher J. Gust, Deputy Associate Director, Division of Monetary Affairs, Board of Governors; John M. Roberts, Deputy Associate Director, Division of Research and Statistics, Board of Governors; Jeffrey D. Walker,[2] Deputy Associate Director, Division of Reserve Bank Operations and Payment Systems, Board of Governors

Brian J. Bonis and Laura Lipscomb, Assistant Directors, Division of Monetary Affairs, Board of Governors

Penelope A. Beattie,[2] Section Chief, Office of the Secretary, Board of Governors; Dana L. Burnett and Felicia Ionescu, Section Chiefs, Division of Monetary Affairs, Board of Governors

Mark A. Carlson, Senior Economic Project Manager, Division of Monetary Affairs, Board of Governors

David H. Small, Project Manager, Division of Monetary Affairs, Board of Governors

Michele Cavallo, Jonathan E. Goldberg, and Kurt F. Lewis, Principal Economists, Division of Monetary Affairs, Board of Governors

[2] Attended Tuesday's session only.

Randall A. Williams, Senior Information Manager, Division of Monetary Affairs, Board of Governors

Meredith Black, First Vice President, Federal Reserve Bank of Dallas

David Altig, Kartik B. Athreya, Joseph W. Gruber, Sylvain Leduc, Anna Paulson, Daleep Singh, and Christopher J. Waller, Executive Vice Presidents, Federal Reserve Banks of Atlanta, Richmond, Kansas City, San Francisco, Chicago, New York, and St. Louis, respectively

Argia M. Sbordone and Patricia Zobel, Vice Presidents, Federal Reserve Bank of New York

Jenny Tang, Senior Economic Policy Advisor, Federal Reserve Bank of Boston

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September 15 Session

CHAIR POWELL. Let the record show, it's 10:59 and a half. This meeting, as usual, will be a joint meeting of the FOMC and the Board. I need a motion from a Board member to close the meeting.

MR. CLARIDA. So moved.

CHAIR POWELL. Without objection. Before we move to our formal agenda, let me review some logistics. We again have a parallel Skype session that participants and others can use to indicate they have a question or a two-hander. I will also call for any further questions at the end of each Q&A session, in case anyone is having difficulty with Skype. A link to a single file containing all presentation materials was distributed yesterday evening. You can open the file—and I have no doubt you already have—at that link and follow along during the briefings.

Before turning to our formal agenda, I would like to say a few words about Thomas Laubach. You will have noted that Book B of this round's Tealbook is dedicated to Thomas's memory—a reflection of how integral he, his work, and his team have been to providing this Committee with outstanding analysis and advice, and our work, of course, has been the better for it.

Thomas was unquestionably one of the great economic minds of his generation, and his research has been central to some of our biggest discussions and policy actions over the past several years. He had a rare and underappreciated gift for translating arcane and academic theory into real world practice. That ability made a real difference in the conduct and communication of monetary policy. From his work on r*, to the balance sheet, to leading the steering committee for our monetary policy review, Thomas Laubach's intellectual fingerprints are all over the Committee's decisions that will define this era of the Federal Reserve.

Thomas was also an exceptional colleague, leader, and friend. No one here will be surprised to know that, as condolences pour in, the admiration for his kindness and equanimity match, if not exceed, the esteem for his intellect. Thomas was a model of leadership who fiercely believed that every member of his team is critical to our collective success, and he made certain they knew it. Even as he battled his own health problems, working through treatment to help fight the economic fallout of a global pandemic, his concern lay with others. Amid a deluge of emergency work to fight a historic downturn and the upending of daily life, Thomas urged people to take care of themselves and their families first. It is a testament to the mutual respect and amity that it was Thomas's team who proposed the Tealbook dedication in his memory.

As friends, colleagues, and collaborators, we all grieve his loss. His absence leaves a space that cannot truly be filled. We will miss Thomas Laubach's intellect and his insight. More importantly, we will miss Thomas Laubach.

I'm going to invite Vice Chair Williams and Governor Clarida to offer remarks now, and anyone who wishes should, of course, feel free to share any thoughts you may have during the regular go-round. Thank you. Vice Chair Williams.

VICE CHAIR WILLIAMS. Thank you, Mr. Chair. I'll just add a few words to what you very eloquently said. Thomas and I started working together 20 years ago. He had just arrived at the Board from the Kansas City Fed, and I had returned from my stint at the Council of Economic Advisers. And it was truly serendipitous. We immediately recognized the shared interest in figuring out how to estimate this thing called the natural rate of interest. And, more importantly, Thomas was an expert on the Kalman filter, so we were off to the races on that project. Ironically, given subsequent events, the question of the time was whether the productivity boom had driven r^* higher. In fact, if you go back to our December 2000 memo, our first memo to the Board on r^*, our original estimates had r^* at 4¼ percent—and that's real, not nominal. So that's a 6¼ percent nominal r^*. Those were the days.

To jump ahead 15 years, following his appointment as director of Monetary Affairs, Thomas would frequently and very earnestly ask me how he could be most effective in his role as an adviser to the FOMC. And I'd remind him that the Committee has at times been compared to a herd of cats. [Laughter] But he was always looking for ways to raise his game, and hopefully ours, and help the Committee grapple with issues and decisions before us. Sometimes that effort led to briefings with a labyrinth of charts and figures, with Thomas heroically trying to make sense of our SEP submissions and the implicit policy rule that must be embedded in them if you only looked hard enough—or, it goes without saying, how everything makes more sense once you factor in r^*.

His role as trusted adviser was never more on display or important than during the framework review, and, as Chair Powell just commented, Thomas focused on making sure the Committee was prepared with the very best information and analysis. He consistently moved us toward the goal line, even as he engaged in a complex range of issues and dealt with the effects of the pandemic. He scrupulously played the role of honest broker throughout. Indeed, he perfected the formula for herding cats: It's one part keen intellect, a dollop of understated humor, and a big helping of patience and perseverance.

CHAIR POWELL. Thank you, John. Vice Chair Clarida, please.

MR. CLARIDA. Thank you, Jay. Thomas Laubach was a remarkable human being who just happened to be a world-class economist. His passing last week represents, of course, an incalculable loss for his family, but is also a devastating blow felt by each and every one of us in the Federal Reserve System and, indeed, in major central banks around the world that he frequently visited.

Before I arrived at the Board, I knew Thomas primarily through his research. His book on inflation targeting with Ben Bernanke, Rick Mishkin, and Adam Posen is a classic reference on the subject—indeed, Thomas and I first met when he was a Ph.D. student working on the book, and we were both visiting the New York Fed; and, obviously, his work with John. Thomas had a talent for picking coauthors, I would point out.

I remember well our first meeting 25 years ago, and I was struck then by Thomas's enthusiasm which he brought to economics as a graduate student. Thomas, of course, never lost that spark and joy for the practice of monetary policy, and we are all fortunate that he did not. I—and I'm sure Jay and, before him, Janet—trusted him implicitly. And speaking for myself, I always sought his insight and advice privately in my office and counsel on all of the big policy decisions I've had to consider in my two years as Vice Chair.

Thomas made everyone that he worked with better and inspired them to put forth their best energy and effort to achiever larger goals. That was most certainly the case in the framework review, and I'll second what John and Jay said. Thomas brought peerless leadership, energy, and a commitment to the entire framework review. We simply would not have achieved the evolution of our framework and strategy without Thomas and the insight, inspiration, and good judgment he brought to the project and the ambitious process that he designed and worked with us to implement.

I understand that, in Thomas's last days, he was able to watch Jay's Jackson Hole speech rolling out the new framework, and that he was so proud to have been part of what the *Wall*

Street Journal called a landmark change in U.S. monetary policy. I'm sure I speak for all of us when I conclude by saying that it is we who are proud to have had the privilege of working with Thomas Laubach during his 20 years at the Fed. He is and will be deeply missed, but his spirit and inspiration to us all will endure. Thank you.

CHAIR POWELL. Thank you Rich, and thanks everyone. Let's move to our formal agenda, and first up is the Desk briefing. Lorie, would you like to begin, please?

MS. LOGAN.[1] Thank you, Chair Powell. My presentation starts on page 1 of your briefing materials.

In my remarks, I'll cover three questions, outlined on slide 2: First, what were the factors behind the improvement in risk sentiment and easing in financial conditions over the period? Second, how did the strategic review affect market expectations of Federal Reserve policy? And, third, how are market participants assessing and positioning for near-term risks? I'll conclude with a few updates on policy implementation.

I'll now turn to the first question. On slide 3, figure 1 summarizes price changes over the intermeeting period and year to date. Figure 2 shows their translation into the Goldman Sachs financial conditions index, which reached its easiest level since early 2018. As detailed in figure 3, equity prices rose and were the principal contributor to the net easing in conditions over the period. At one point, the S&P 500 index was 11 percent higher, before falling in early September, led by declines in technology shares. In addition, as shown in figure 4, the broad dollar continued to depreciate from its crisis-driven peak in March, with emerging market currencies accounting for most of the change this period. Longer-dated nominal Treasury yields increased modestly, while real yields fell.

Regarding slide 4: Market participants attributed these developments to a more supportive economic outlook, better news on the COVID-19 trajectory, better-than-feared corporate earnings, and low interest rates. Nonetheless, some contacts continued to express concerns about risk asset valuations, and, in this context, the decline in technology share prices at the end of the period was considered by some to be a healthy correction.

As shown to the left of figure 5, Desk survey respondents' perceptions of downside risks to U.S. real GDP growth this year declined notably from the July survey. And forecasts of overall growth for 2020 were revised up significantly, as

[1] The materials used by Ms. Logan are appended to this transcript (appendix 1).

economic data in the third quarter have continued to surprise to the upside, as shown by the economic surprise indexes in figure 6.

This better macroeconomic news came despite the upsurge in COVID cases in June and July. Market participants noted that the milder social-distancing measures employed by many states were effective at moderating new case growth, as shown in figure 7. Reports of advanced testing for several vaccine candidates also fostered optimism.

Additionally, though quite poor for some industries, second-quarter corporate earnings were better than feared, as shown by the difference between expected and actual earnings in figure 8. In particular, as shown to the left, the largest technology companies reported surprisingly strong earnings growth, bolstering the perception of their resilience to the pandemic and supporting the view that this episode could hasten the longer-term trend toward digitalization.

On slide 5, market participants also continue to note that valuations are supported by accommodative policy and historically low rates. As the economic outlook has stabilized, measures of shorter-dated inflation compensation have risen significantly since March, as shown by the light blue line in figure 9. Contacts and Desk survey respondents attribute the increases to perceptions of reduced downside inflation risks as well as improved TIPS market liquidity. More recently, measures of far-forward inflation compensation—the dark blue line—have also risen and are now around levels that prevailed before COVID-19, though I would note they’re still low by longer-term standards. With nominal yields remaining relatively range bound, the increases in inflation compensation have contributed to historically low real rates, shown in figure 10.

As shown on slide 6, even with more supportive fundamentals for equities, a number of contacts have expressed concerns that the market valuations for some firms are elevated. Notably, the S&P’s five largest firms—all in the technology sector—have seen a nearly $2 trillion rise in market capitalization this year, as illustrated to the left of figure 11. Attention recently focused on a sharp increase in trading in single-name equity call options, shown in red in figure 12, mostly on the shares of large technology firms. This activity, along with increased momentum-driven trades, reportedly amplified late-summer equity gains. When stocks corrected in early September, the shares of these five firms experienced more pronounced declines, as shown in figure 13, as hedge unwinds reportedly magnified price volatility. Market participants point to this type of activity as an example of some elevated risk-taking, including by retail investors, with spillover risks to the broader market.

Regarding my second question—How did the strategic review affect market monetary policy expectations?,” slide 7 shows that the release of the revised consensus statement elicited a relatively limited immediate reaction across markets, as the outcome was seen as well telegraphed. However, contacts generally viewed the completion of the review as an important milestone, and many indicated that building expectations of a flexible average inflation-targeting regime meaningfully affected markets over recent months. For example, they suggested this was a factor contributing to the recent rise in far-forward inflation compensation that I discussed.

The results of the most recent Desk surveys also suggest shifts in policy expectations since July, which many respondents connected to the outcome of the review.

Most notably, respondents' perceptions of the FOMC's reaction function underwent a significant change, with most now expecting higher inflation and lower unemployment at liftoff than they had projected just seven weeks ago. As shown in figure 14, more than three-fourths of respondents now expect headline 12-month PCE inflation to be strictly above 2 percent at liftoff, up from around one-half in July. In addition, figure 15 shows that the expected unemployment rate at liftoff shifted down. Trevor will discuss these expectations for conditions at liftoff further in his briefing.

So how have expectations for the Committee's policy tools changed? Notwithstanding recent signs of a faster recovery and better news on the pandemic, survey respondents revised down their expected rate path a bit and revised up their expected asset purchases.

Slide 8 reviews policy rate expectations. As shown by the blue dots in figure 16, the modal path of the target federal funds rate implied by median survey responses is now flat through the end of 2023, as the expected timing of liftoff shifted out to the first half of 2024. This implied path is broadly consistent with market pricing and the mean rates implied by survey respondents' probability distributions, also shown in the chart. As shown by the bars to the right in figure 17, these distributions shifted down a bit, with the average probability assigned to an increase in the target range by the end of 2022—the dark blue bar—falling to about 30 percent down from 40 percent in July and 50 percent in June.

In line with these changes, market participants continue to expect the Committee to update its forward rate guidance. However, the timing is now less certain. As shown in figure 18, some survey respondents shifted out their expectations for the timing of a change, linking this assessment to Federal Reserve communications over the period that were viewed as signaling a lack of urgency to revise the guidance. Still, as outlined to the bottom right, most continued to indicate that they expect outcome-based guidance linked to inflation, and some think employment measures could be featured as well.

Regarding asset purchases, on slide 9, expectations of purchases this year remain tightly centered at the current pace and have not changed since the previous meeting. However, as shown in figures 19 and 20, many survey respondents revised up the amount of purchases expected in 2021 and 2022, and the shifts in expectations were large relative to our "read" from our outreach over the period. As shown in figure 21, the median expectation for total purchases from now through the end of 2022 implies around $350 billion more in purchases of Treasury securities and around $300 billion more in MBS purchases than in the July surveys. Most respondents expect asset purchases to cease after the first half of 2023.

As outlined to the bottom right, many also anticipate changes in communications regarding asset purchases at some point soon. In written responses, some survey respondents noted that they expect or see some chance of the motivation for purchases being expanded to include providing policy accommodation. And several indicated that they eventually expect outcome-based forward guidance on asset purchases. Over the period, we also heard some speculation, particularly from our contacts in interest rate markets, that a shift in the composition of purchases toward longer-dated securities could come as soon as this meeting, although there was not much commentary on this in the Desk surveys.

This uncertainty on when the Committee might adjust its tools comes against a backdrop of elevated near-term uncertainty and risks. Let me now turn to that, and how market participants are assessing and positioning for risks ahead, on slide 10. In recent discussions with senior market participants, many expressed concerns that markets could be disrupted in the months ahead, particularly in the period just before and after the November election. The main concern raised was that there could be an extended period of uncertainty about which presidential candidate had won the election amid a contested outcome.

In line with this, options markets for a range of asset classes are already pricing in elevated volatility for the period surrounding the election. To give some perspective, figure 22 plots the implied excess volatility for a two-month window, one month ahead over the past decade. The last observation that you see in the chart shows this measure of excess implied volatility, covering late October to late December of this year. As you can see, of late this excess volatility has been far higher than at any time over the past decade.

Separately, concerns about a no-deal Brexit have resurfaced and could also weigh on sentiment later in the year. A soft October deadline for an agreement with the EU on post-2020 trade looks unlikely to be met.

Another frequently raised concern relates to fiscal policy. Most contacts have been assuming that an additional pandemic-related fiscal package would be approved this year and would be on the order of $1 trillion to $1½ trillion. Absent a new package, growth may decelerate at a faster-than-expected pace in Q4, a scenario that Stacey will discuss, which could also significantly affect risk assets. With the election approaching, some think it may take pressure from financial markets to bring the parties back to the table.

In light of these and other risks, market participants continue to note that the supportive policy environment and the backstops to market functioning remain important stabilizers.

With that, I'll close with a few developments related to policy implementation. On slide 11, conditions in short-term dollar funding markets remained stable over the period. As shown in figure 23, overnight secured and unsecured rates continued to trade in narrow ranges near the IOER rate. Notably, forward measures of funding rates imply that conditions are expected to remain stable for the rest of this year.

One development that could influence the trajectory of overnight rates is the path of reserves over coming months. The Treasury General Account, which is shown in red in figure 24, is highly elevated but should decline as the Treasury makes pandemic-related outlays. This would further increase the already elevated level of reserves in the system, shown in blue, which could put downward pressure on money market rates. I would note, though, that the projections of both the TGA and reserves are highly uncertain.

Regarding slide 12, markets for Treasury and agency MBS continued to function smoothly, with bid-ask spreads and a range of other indicators remaining near pre-pandemic levels, as reflected in figures 25 and 26. As such, the Desk conducted purchases to increase holdings of Treasuries and agency MBS by approximately $80 billion and $40 billion per month, respectively. Given the stability of market functioning, increasing holdings beyond this minimum pace was not warranted.

Indicators of market functioning in agency CMBS, including bid-ask spreads shown in figure 27, also remained stable. In light of the improved conditions, the staff are proposing that the Desk no longer be required to increase CMBS holdings or reinvest principal payments, as indicated in the panel on the bottom right. The Desk would continue to conduct regular CMBS operations to maintain backstop capacity, consistent with other facilities and operations. Unless conditions warrant, we would expect to purchase very little and believe the operations could be conducted less frequently or put on standby at some point soon.

Should the Committee adopt the directive included in Tealbook B, we would intend to release a Desk statement, a draft of which is on page 19 of your materials. This statement confirms that holdings of Treasury securities and agency MBS would continue to increase at the current pace and in a similar composition unless greater amounts are needed to sustain market functioning. In practice, we believe that indicators of market functioning would have to worsen meaningfully before additional purchases would be warranted. The statement also confirms that CMBS purchase operations will continue.

Slide 13 shows the Federal Reserve's balance sheet, which expanded modestly over the period. Consistent with the improvement in broad market conditions over recent months, usage of Federal Reserve operations remained limited. Neither the overnight or term repo operations saw any usage over the period, while U.S. dollar swaps outstanding fell further to just $53 billion. Usage of 13(3) liquidity and credit facilities declined slightly. The ongoing purchases of Treasury securities and agency MBS, alongside the declines in outstanding amounts of these facilities, resulted in a $70 billion increase in the balance sheet, which now stands at $7.0 trillion.

Most market participants expect usage of Federal Reserve facilities to remain low because of the availability of private liquidity. However, contacts continue to view the presence of these facilities and operations as important backstops.

Your final slide summarizes the key recommendations stemming from the Desk's annual investment review of the foreign currency holdings in the SOMA and ESF portfolios, which was described in a memo sent in advance of the meeting. Barring any questions or concerns at this meeting, we will seek instructions for the SOMA and ESF portfolios from the Foreign Currency Subcommittee and the Treasury undersecretary that incorporate the recommendations by the end of the month and anticipate beginning implementation in October. Your appendix includes the usual summaries on operational testing, Treasury security and agency MBS purchases, and U.S. dollar liquidity swaps outstanding.

Finally, on behalf of my colleagues in New York who worked so closely with Thomas in recent years on policy implementation, I would like to recognize his invaluable leadership of our work. We will remember him for his profound intellect and curiosity, his kindness and optimistic spirit, and the humble way in which he led each and every day. Thank you, Chair Powell. Patricia and I would be happy to take questions.

CHAIR POWELL. Thank you, Lorie. Any questions for Lorie and Patricia? You can Skype. I see—President Kashkari, please.

MR. KASHKARI. Thank you, Mr. Chair. Lorie, I'm not sure if this is the right time to ask a question. I'm looking at your slide 7, which is "Expectations for Inflation Rate at Liftoff" and "Expectations for Unemployment Rate at Liftoff." I don't know if you've done this yet—and if you haven't, that's okay—but I'm just doing a quick comparison between that slide and our own SEP, which we saw in the initial draft package. You know, the numbers in your chart on panel 14 [Expectations for Inflation Rate at Liftoff] show a lot of estimates at 2.2, 2.4, 2.6. In our SEP, the highest number that any participant has—just out through 2023, granted—is 2.2. Four people have liftoff in 2023, with inflation at 2.1, 1.9, 2.0, 2.0.

It just feels to me, when I look at this, that there's a big disconnect between what we're putting in the SEP and what markets are expecting for an overshoot. I'm putting you on the spot—I'm just curious if you have any reaction to that. And when they look at the SEP when it comes out, they're not going to see the individual participants' numbers, but they're going to see the summary table. The highest number they're going to see is 2.2. It just feels like there's a big disconnect between that and what markets are expecting. Thank you.

MS. LOGAN. Thank you. And Trevor may want to share his observations as well, because I know he's going to talk about this in a little bit more detail in his briefing later today. When we talked about this at the previous meeting, we talked about both the levels that were indicated here but also the distribution, and the distribution was pretty wide.

What I took from this was that there was a shift, and there was a narrowing of that distribution. I'm not sure I would read too much into the exact levels that they've put there, because I think that their perspective on this is still forming. And I think there's a lot of information that's going to be released about how you will implement the new consensus statement. So my broad observation was just to note that there was the shift and we saw the narrowing in the distribution, although I think the distribution, as you're noting, is still pretty wide. Trevor, I don't know if you want to share some observations.

MR. REEVE. Yes. President Kashkari, I think something that you said in your question is also part of the answer, and that is the time horizon over which the projections are shown in the SEP. So I don't think there's literally a contradiction between the inflation projections in the SEP and what is shown here on slide 7, in particular because the SEP also does not have liftoff over that time period, with the exception of a few of you. So I'm not sure that the release of that SEP would contradict these current expectations. If anything, it may reinforce expectations of an extended period at the lower bound.

MR. KASHKARI. Thank you both. I mean, I'd just say, though, on the unemployment forecast in the SEP—and, again, I'm just looking at the individual participants—there are nine of us who have 4 percent or lower unemployment by 2023.

Anyway, fair enough. These are fresh data, and I think we're all trying to make sense of it. But my concern is just that people may say, "Hey, the SEP doesn't show much of an overshoot." And so it's something to think about. Thank you.

CHAIR POWELL. Thank you. President Evans, please.

MR. EVANS. Thank you, Mr. Chair. Just a quick follow-up on President Kashkari's question and Trevor's response. I guess when I looked at it, I tabulated that it looks like 55 percent had inflation liftoff at 2.2 percent, and so I guess it's getting ahead of this, but when Trevor talks about the alternatives, how does alt-B look in that context? The real question being, is there a communications challenge that we might be facing?

CHAIR POWELL. Thanks. President Daly, please.

MS. DALY. I'm going to follow up on both of those and just add that when I looked at the next slide, exhibit 18, it seemed like the result is, after the framework was released, some of the distribution moved way out in terms of when people expect outcome-based forward guidance. So one way that I was thinking about the questions that President Kashkari and President Evans had is that markets moved, but they don't expect more, necessarily—there's not a huge majority that expect more. And so us doing a little bit more in the statement on alt-B, or whatever we decide on, actually could help solidify some of these things.

Is that how you would read it? I mean, I was sort of surprised, honestly, that they pushed out their outcome-based forward guidance. But it seems like they took the statement that we released quite literally and moved up their inflation at liftoff and then didn't expect us to do more for some time. I guess my question for Trevor or for Lorie is, is that the correct assessment? Am I reading the data correctly from your perspective?

MS. LOGAN. Yes. My sense from the discussions over the intermeeting periods after the new consensus statement was released was that expectations solidified that the outcome-based guidance would occur at the September meeting. I think subsequent communications from various Committee members may have shifted that out a little bit, and there was a sense that there wasn't an urgency to make that announcement at this particular meeting. And so I think that's why we see this change.

I think there's still a very large consensus that outcome-based forward guidance is coming, it's just the timing of it, maybe this meeting or November or December—I think there's a little less certainty about that. I would say though, that, thinking about the market reaction to the statement as articulated in Tealbook B, there are a number of important components of that and a lot of cross currents relative to the expectations that I described on this sheet.

Of course, there's the forward guidance and where that is relative to the timing. The SEP was also just discussed, and I think that is an important point. On asset purchases, some expectations were building that there could even be a change in the composition of purchases as early as at this meeting. So I think those expectations are just pretty diffuse, and so it's hard to really say how these various crosscurrents will be read when the information is released. I don't know, Trevor, if you have further thoughts you'd like to share.

MR. REEVE. No, I agree with all of that. It seems to me that market participants have pretty solid expectations, as Lorie said, that you will move to a more explicit outcome-based form of forward guidance. I think the question is more about the timing. And if there's a strong conviction that that is going to happen, whether it be at this meeting or a meeting or two from now, I don't think that may make a big difference in market pricing, as it's just the timing of the message. At least that's my take on it.

MS. DALY. Thank you.

CHAIR POWELL. Great. I see no further questions on Skype. Does anyone want to wave a hand? [No response] Okay. Thank you. We now need a vote to ratify domestic open market operations conducted at the July meeting. Do I have a motion to approve?

VICE CHAIR WILLIAMS. So moved.

CHAIR POWELL. All in favor? [Chorus of ayes] Thank you, without objection.

MS. LOGAN. Thank you.

CHAIR POWELL. Thanks, Lorie. We will turn to our second agenda item, the review of financial and economic developments. Stacey, would you like to start, please?

MS. TEVLIN.[2] Thanks, Chair Powell. My material is on page 21 of the combined packet.

When we last met, the recovery seemed tenuous, with steeply rising COVID cases and unemployment benefits about to expire. Since then, new cases have fallen, and the economic data have shown surprising resilience, and we now consider the recovery to be on a firmer footing.

The first panel illustrates two key points about the staff's economic projection. First, we've revised up the path of real GDP substantially compared with our July projection because of the more accommodative policy rule we're using, which I'll return to in a bit, and the almost uniformly better-than-expected data. Second, we've interpreted the recent surprising strength in activity as partly reflecting a pull-forward of gains that we had expected to see later; accordingly, we trimmed our growth outlook in coming quarters. Of course, the path of activity remains well below our January projection, and there is still a lot of ground to make up.

Across many sectors, we are seeing a similar pattern in the recovery: a rapid bounceback in May and June followed by much more moderate gains since then. The remaining panels on this slide show three of the high-frequency indicators that we find helpful, along with the more traditional associated monthly data series. According to card-swipe data produced by Fiserv, the red line in panel 2, retail sales have remained strong in recent weeks. Tomorrow we will get the Census measure of

[2] The materials used by Ms. Tevlin are appended to this transcript (appendix 2).

August retail sales, and we expect it will be above its level from a year ago, the hollow dot.

Panel 3 shows the latest data on the manufacturing sector—which we published this morning. Manufacturing production rose again in August, the hollow circle, but by less than in the preceding months. More timely data on railcar loadings of manufacturing products, in red, paint a similar picture, though loadings declined some in early September, perhaps related to natural disasters.

Panel 4 shows alternative measures of private payrolls; the blue line is the BLS estimate, and the black line is our estimate using the ADP microdata on paid employment. Between mid-July and mid-August, both measures increased by 1 million jobs. Since then, the ADP–FRB data point to continued gains. Though the job market has continued to recover, the pace of job gains has slowed considerably as the stock of temporarily laid-off workers—which you can think of as the gap between the red and the black lines—has declined sharply.

Despite this slowing, the unemployment rate, which is the black line in panel 5 on the next slide, continued to improve rapidly. Although the improvement since the spring has been widely shared across various racial and ethnic groups, the gaps between several of these groups and the national average remain large, and the gap has widened for the black unemployment rate.

Panel 6 shows monthly changes in core PCE prices, in which the imprint of the pandemic is clearly evident. As shown by the yellow portions of the bars, a good part of the overall price declines in March and April came from the prices of items hit hard by social distancing, such as hotels, retail clothing, and airfares, and those categories have yet to recover. However, prices of goods other than apparel, the orange bar segments, which also dropped in March and April, have rebounded vigorously and by more than we expected. The surprising strength in goods prices in July—and also in August, which is estimated based on last week's CPI and PPI data—was mainly due to the prices of durable goods, like used cars, furniture, and appliances, which matches up with the strength we've seen in auto sales and housing activity of late.

The translation of these recent monthly price data into four-quarter changes is on the next slide in panel 7. Focusing for a moment on just the beginning of the pale blue shaded area, you can see that inflation has dropped sharply this year. Still, the surprisingly strong price data led us to raise our projection of core inflation at the end of this year from 1.1 percent to 1.5 percent. We expect this year's swings in the data will result in core inflation briefly breaching 2 percent in the middle of next year before settling back down below 2 percent through 2023—the last year shown in the blue shaded area.

Taking a step back, the panels on this page summarize our medium- and longer-term projections. Including the years beyond 2023 allows me to describe some of the implications of the new monetary policy rule that we have assumed this round.

To start, let me be clear about what we were aiming to do. We were trying to set a rule that would be fairly simple and would yield a path consistent with the salient features of your consensus statement. We want our economic projection to be predicated on a federal funds rate path that is plausible and helpful. As noted in panel 8, our new rule puts a zero weight on the output gap when it is positive, focusing only on "shortfalls" from full employment. It also remains at the ELB until inflation reaches 2 percent, and it has a notably lower intercept temporarily. These latter two mainly serve to make sure that inflation overshoots modestly. As shown in panel 9, our new rule has the funds rate lift off much later and rise more slowly than what we had assumed in July.

In our framework, achieving 2 percent inflation takes a sustained period with very low unemployment. This is demonstrated in panel 10, in which the unemployment rate falls to 3.3 percent by the end of 2023 and continues to fall, reaching 2.8 percent and holding there for some time. The rule that we chose to underpin our projection this time is one of many that could yield this kind of result. But in our framework, pushing inflation above 2 percent does require monetary policy to be highly accommodative for some time. In other models—for instance, one in which underlying inflation moves up faster—achieving the overshoot would require less accommodation.

Of course, many other outcomes are possible, and panel 11 on the next page plots our baseline outlook for the unemployment rate together with the unemployment outcomes under various alternative scenarios.

As we indicated in the Tealbook, we no longer view the "Second Waves" and the "Prolonged Slump" scenarios, the red and blue lines, as being quite as likely, given the positive surprises in economic activity and the decline in new COVID cases following the early summer surge. However, in view of the sizable upward revisions to our baseline projection this round, we can see many ways in which the recovery could disappoint. For example, the recovery might be slower than projected, the pink line, because more damage accumulates. Alternatively, the additional $1 trillion of fiscal support that we have assumed will be enacted could easily fail to materialize, the dashed line. In this scenario—which was not included in the Tealbook—we assume that recessionary dynamics will also worsen some, and, consequently, the unemployment rate falls more slowly, reaching only 6 percent by the end of next year. Given the scale on this page, this scenario might not seem very dramatic, but it is a full percentage point on the unemployment rate and about 2 million fewer jobs.

On a final note, it's an honor to be able to brief this Committee, and I wouldn't be here if it weren't for my friend, Thomas Laubach, who strongly encouraged me to apply for this job and was an invaluable mentor to me over the past 18 months and even before that. Everyone in R&S—and I especially—are going to miss him. I miss him already. Thank you. Beth Anne.

MS. WILSON.[3] Hi. Thank you, Stacey. Six months ago to the day, Stacey and I sat, distantly, in the Board Room and expressed grave concerns about the outlook for U.S. and foreign economies. As outlined in slide 2, at that time I highlighted three factors weighing heavily on the international outlook: "one, the rapid spread of the virus and the draconian containment measures that follow in its wake; two, the sharp deterioration in financial conditions . . . and plummeting commodity prices; and, three, for many countries, an expected precipitous drop in external demand."

Based on those factors, I warned: "[W]e could see a contraction of global growth on the order of 2 percent this year—near or around Global Financial Crisis levels. Fears of such an outcome have already unleashed a wave of policy actions abroad, and much more will likely be seen before this is through." In the event, we saw a tidal wave of policy actions, but not enough to prevent a unprecedented decline in output, one that we estimate will put the level of foreign real GDP in the fourth quarter 4½ percent below that of the fourth quarter last year.

Now, sitting here in my son's bedroom, having not seen the Board Room since that March briefing, I would like to do a stocktaking: assessing how the three factors I highlighted six months ago have played out, what we've learned, and what worries us going forward.

On your next slide, the first factor, COVID-19 and measures to contain it, still dominates our outlook across time and across countries. As seen to the left, the decline in overall foreign GDP so far and the subsequent recovery we project are tightly tied to the stringency of COVID-related restrictions—as captured by our "pain bow," with deeper shading representing periods of more intense lockdowns. In looking across advanced and emerging market economies, the scatterplot shows the observed collapse in the second-quarter GDP on the vertical axis and the severity of lockdown restrictions on the horizontal. Countries with tighter restrictions performed demonstrably worse.

Though still central to our forecast, our perspective on the effects of the virus has become more nuanced since March, as discussed on slide 4. First, we have been somewhat surprised by the significant variation in cross-country experience I just showed. Since the April Tealbook, our first forecast incorporating substantial COVID effects, our projection for aggregate foreign GDP growth in 2020 has changed little, but the range of country experiences that make up that aggregate has widened considerably. To show this, I compare the level of GDP in the second and fourth quarters between our April and current Tealbooks for each of the 37 economies we forecast, with each country's GDP indexed to 100 in the fourth quarter of 2019. The smoothed histograms illustrate that the range of what we have seen and are projecting for the level of output in our countries in this Tealbook, the dark gray areas, is much wider than in the April one, the light gray.

[3] The materials used by Ms. Wilson are appended to this transcript (appendix 3).

The experience of two important economies, Mexico and China, helps illustrate why the range is wide. On slide 5, as you can see by comparing our output projections, the fall in China's GDP is nearly half that projected for Mexico. Moreover, the Chinese economy has already bounced back almost to what we had in January, while Mexico's recovery is anticipated to be weaker and incomplete.

Two reasons for this divergence, and, indeed, the broader divergence across countries, are shown on slide 6. As seen to the left and middle, the virus has followed strikingly different paths in the two countries. China was hit first but responded swiftly and strongly, bringing infection and death rates quickly under control. In contrast, containing the virus in Mexico has proved elusive, and infection and death rates are an order of magnitude greater than in China. This difference has meant that Mexico has needed more extensive and prolonged social distancing, with the attendant economic costs.

Policy support has also varied greatly. As seen to the right, the boost coming from fiscal support in China exceeds the EME average, while that in Mexico, with its more limited fiscal space, barely registers. Divergences, though smaller, are also present in the degree of monetary policy support, not shown. These factors have left the Mexican economy more exposed to the full economic blow of the virus. A lesson we take away is that although all countries are experiencing a global exogenous shock, choices on how to address it, along with structural features that can limit these choices, play important roles in determining outcomes.

Another change or nuance to our understanding of the virus relates to our bounding of the risks, discussed in slide 7. In March, the global trajectory of the disease was extraordinarily unclear. Would it be contained rapidly with relatively modest death counts like SARS or spread like the Spanish Flu, leaving millions dead in its wake? Six months later, we no longer fear a Spanish Flu–like outbreak nor hope for a short SARS-like episode. But we are coming to terms with the fact that fully and enduringly containing the virus is proving hard, and we cannot yet return to normal.

Indeed, after effectively containing the virus in the spring, reopening caused cases to spike again this summer in several Asian economies, shown to the left, and cases are now resurging in some European countries. That said, with few exceptions, governments have refrained from re-implementing widespread closures, and mobility indexes, to the right, have moved only a little in response to the resurgences. Over the past six months, governments, firms, and individuals have gotten better at managing the disease. As such, we expect more targeted containment, better treatment, and greater health-care capacity to help limit, but not eliminate, the economic costs of these admittedly more intense than anticipated flare-ups.

The second factor that I highlighted in March as driving our outlook was deteriorating financial and commodity markets, discussed on slide 8. Here, the policy tidal wave has proved highly effective, and, in a remarkable turn of events, financial market conditions and commodity prices have declined far less and recovered far faster this crisis than during the GFC. The short-circuiting of the adverse financial channel has meant that the unprecedented decline in GDP that resulted from shutting down the global economy is not being further magnified by financial market stresses. This extraordinary development greatly diminishes the risks of extreme negative outcomes. Accordingly, we removed our "Depression" scenario from the Risks and Uncertainty section of the Tealbook and feel greater confidence in the outcomes around our baseline trajectory.

But, as seen on the next slide, the policy response has come at a cost. Monetary policy space is more limited, as you well know. And rising debt levels in both the advanced and emerging market economies leave sovereigns less able to bolster firms and households, especially if there is a second wave of the virus or a vaccine is long in coming. Indeed, for some of the most vulnerable emerging market economies, shown to the right, sovereign default probabilities have already moved up. If employment and output do not quickly and fully recover, the income lost by households and firms will start to manifest itself in defaults and bankruptcies. With more limited capacity for policymakers to respond, market dynamics could turn far more negative.

The third factor driving our March outlook was an expected precipitous decline in external demand, discussed on slide 10. Here, our expectations have certainly been realized. As seen to the left, the plunge in U.S. exports was almost twice that seen in the GFC, which until now had been described as the "great trade collapse." Not just in the United States, but also around the globe, trade ground to a halt as factories were shuttered, ships anchored, and planes grounded. Unlike in the GFC, however, we expect a much swifter recovery, and data are supporting this view. In part, this reflects the rapid rebound in key exporting countries in Asia as the disease was contained. It also reflects the unique nature of this shock, which has hit hard the traditionally less cyclically sensitive service sector as well as manufacturing. Globally, we have seen a sharper bounceback in manufacturing production and in demand for manufacturing products—products that make up the bulk of global trade. This rebound in trade, if it is not derailed by another widespread shutdown or trade restrictions, should serve as a tailwind to the recovery.

To wrap up, on slide 11, with six months under our belt, where do we now see the risks? The path of the virus remains the dominant concern—should recent flare-ups portend greater infection rates, especially as the flu season bears down, the increased shutdowns, blow to confidence, and more limited policy space could derail recovery.

Even without a sizable second wave, should a vaccine prove elusive, we could see large-scale losses threaten the balance sheets of households and firms. In the face of such losses, policy may prove insufficient or be withdrawn too soon to prevent financial stresses from mounting, and financial markets and institutions could turn rapidly from supporting recovery to amplifying the crisis.

Finally, we may see further erosion of globalization as countries struggle with the economic, social, and political costs of the virus. The global trading system was already under attack, and the crisis has revealed additional vulnerabilities to global supply chains. Right now, the threat of a no-deal Brexit is back, U.S.–China strains are mounting, and firms are rethinking their supply networks. Should we see a retrenchment in worldwide trade, the strength of the recovery would be lessened in the near term and productivity and potential growth could suffer in the longer run.

These first six months have been ones of great loss for the global economy and for us personally, and we are all grieving the great loss of our dear colleague and friend, Thomas. The road to recovery is long, but for now the trajectory is up, and we are all hoping that the report six months from now will be a brighter one.

On that note, it is fitting that I turn it over to Felicia to present your views on the road ahead.

MS. IONESCU.[4] Thank you. I will be referring to the "Material for Briefing on Summary of Economic Projections" that begins on page 37 of your packet.

Let me start with a few headline results. All of you notably revised your outlook up for economic growth in 2020 and down for unemployment. As many of you indicated in your narratives, although economic activity has rebounded more than expected in recent months, the path of economic recovery is still uncertain in light of potential further social distancing and other measures aimed at containing the pandemic. Many of you have also mentioned risks associated with another wave of contagion potentially arising or delays in the development of a vaccine. Almost all of you revised up your projections of inflation; however, most projected it will be at or modestly below 2 percent in 2023. Almost all of you judged it appropriate to maintain the current target range for the federal funds rate through 2022. A vast majority of you projected no hikes in 2023.

Although the dispersion in your forecasts generally decreased since the June SEP, all of you viewed the uncertainty surrounding the economic outlook as elevated. Almost all of you pointed to the course of the pandemic, including the measures taken to address it, as a major source of uncertainty for the economic outlook. Most of you continued to view the risks to your outlook for economic activity and inflation as weighted to the downside and for unemployment as weighted to the upside.

I will now discuss the projections in greater detail. Turning to exhibit 1 on page 38, while all of you upgraded your growth projections for this year since June, there is widespread agreement in your forecasts that real GDP will contract in 2020, with the median participant seeing a contraction of 3.7 percent, a much milder contraction relative to the median projection in the June SEP. GDP is then projected by the median participant to expand at a pace above its estimated longer-run rate through 2023, though all of you revised down your growth projections for either 2021 or 2022 or both. The median projection of the unemployment rate in the final quarter of this year was revised down notably to 7.6 percent. The dispersion of your

[4] The materials used by Ms. Ionescu are appended to this transcript (appendix 4).

unemployment rate projections narrowed considerably compared with the June SEP. As many of you mentioned in your narratives, your revisions in the near term reflect better-than-expected incoming data. Only a few of you revised your longer-run estimates of the unemployment rate or real GDP growth, with some of you mentioning that it will take longer than five to six years for the SEP variables to converge to their long-run values. Many of you indicated that you are still assessing whether the sharp contraction in economic activity during the first half of this year is likely to leave a lasting imprint on the labor market or the productive capacity of the economy.

Now, with respect to inflation, most of you revised up your projections for headline and core PCE inflation throughout the forecast period compared with the June SEP, with the median projections for this year at 1.2 percent for headline inflation and 1.5 percent for core PCE inflation. A vast majority of you expect inflation to rise over the next three years, although about half of you expect inflation to still fall short of 2 percent by the end of the forecast horizon. A couple of you project an inflation overshoot that would dissipate by 2023. A couple of you expect inflation to overshoot its longer-run level in 2023, and several of you mentioned in your narratives that you expect inflation to overshoot in the years after.

Exhibit 2 reports your assessments of the appropriate path of the federal funds rate. As shown by the blue dots in the top panel, most of you indicated that it would be appropriate to maintain the current target range through at least the end of 2023. Most of you noted in your narratives that your assessment of appropriate monetary policy takes into account the new consensus statement and, in particular, linked your assessment of the appropriate path of the federal funds rate to a moderate inflation overshoot to help anchor inflation expectations. The median longer-run level for the federal funds rate, at 2.5 percent, is unchanged from June.

The green diamonds in exhibit 2 show the most likely year-end midpoint of the target range for the federal funds rate, as reported by the median respondent to the latest Desk surveys of primary dealers and market participants. The green whiskers show the corresponding interquartile ranges of the distribution of most likely policy rates. These statistics indicate that the majority of Desk survey respondents, like most FOMC participants, expect the current target range to be maintained through 2023, with the remaining respondents generally seeing only modest increases starting in 2023.

Exhibit 3 presents your views about the uncertainty and risks surrounding your projections. As shown in the left panels, almost all of you continued to view the uncertainty about all four variables in your projections as greater than the average over the past 20 years. As the top-right panels illustrate, a substantial majority of you continued to judge the risks to your real GDP growth projections as weighted to the downside and the risks to your unemployment rate projections as weighted to the upside, with one more of you than last round viewing the risks to your projections to GDP growth and unemployment as broadly balanced. Similarly, as the bottom-right panels show, most of you continued to view the risks to your inflation projections as weighted to the downside. One more of you than last round assessed inflation risks to be broadly balanced, and one more of you assessed these risks to be weighted to the upside.

As noted at the beginning, almost all of you continued to view the trajectory of the virus as a key source of uncertainty. In your narratives, many of you mentioned the possibility of another wave of contagion and delays in developing a vaccine as potential downside risks to the economic outlook. As for upside risks, many of you mentioned the possibility of faster-than-anticipated progress and better-targeted measures in responding to the virus. You also pointed to a number of other risk factors, including the extent and timing of fiscal support, the magnitude of supply-side disruptions associated with postponements of in-class school openings and with small business closings, elevated levels of business bankruptcies, and credit quality problems that could potentially curtail lending. Several of you also expressed concerns about global geopolitical developments and related tensions as well as prolonged recessionary dynamics, such as labor market scarring or inflation persistently undershooting the Committee's longer-run goal.

I will end my briefing here. I have a few more words to add to what everyone has said. I also greatly benefited from Thomas's guidance and his support. And I know I speak for all my colleagues in MA when I say that he will be deeply missed. We would now welcome any questions that you might have.

CHAIR POWELL. Thank you. Why don't we begin with Vice Chair Clarida, please.

MR. CLARIDA. Thank you, Chair Powell. I have a question for Stacey. First of all, congratulations to all of you. The briefings have been uniformly excellent since March. In the Olympics, there's a degree of difficulty in diving, and you all have definitely come through. So I thank you on behalf of all of us.

A particular question for Stacey. There are a lot of elements of the new policy rule that I think make sense. I guess a question and then a comment. The question is, what is the assumption about underlying inflation in the outyears? I believe that, historically, the staff has assumed underlying inflation for PCE of 1.8 percent, so what's assumed as you do these projections? And then a follow-up question or comment.

MS. TEVLIN. So in what we call the medium-term projection, out through 2023, we're holding the underlying inflation rate at 1.8 percent, as we have for some time. And then, beyond

2023, we have a very gradual updating rule, which looks at what actual inflation is and puts some weight on the target, but it's very slow. I think it rises about 2 basis points a year or something like that, so it takes five years to get to 1.9. It's very gradual, but there is some upcreep beyond 2023.

MR. CLARIDA. Thank you. And then the second comment—this is probably for a subsequent FOMC meeting—is, I believe in the Tealbook, certainly in past Tealbooks, the staff has assumed a pretty material increase in bond yields in the outyears. And, obviously, that may or may not happen. But, presumably, that's also a factor in the length of time it takes to get the inflation overshoot. You're putting a lot on the policy rate here, because it's having to offset a pretty big increase in bond yields. Again, I'm sure detailed analysis can follow later. But is that, broadly, a correct reading of what's going on here?

MS. TEVLIN. That's right. We have the 10-year moving up from something like 70 basis points to 2.3 percent by the end of 2023. So it's a pretty big move up in the 10-year across our projections. Some of that has to do with the fact that we, in our projection, have you stopping purchases in the beginning of next year. So we do have 50 basis points of increase there. But, more generally, we also have some of the flight to safety and low global rates gradually moving off. So we do have a rise in the 10-year, and that does hold down the projection somewhat.

MR. CLARIDA. Thank you very much.

CHAIR POWELL. Thank you. President Kashkari, please.

MR. KASHKARI. Thank you, Mr. Chair. This is for Beth Anne. Beth Anne, on your slides 6 and 7—those are pages 30 and 31 in the big packet—I think there were COVID-19 spikes in Europe. I didn't realize how big these were in Spain and France. I mean, Spain and France make Mexico look like Mexico has this well under control.

I'm just wondering about your thoughts on the possibility of a subsequent lockdown. I mean, I saw some comments recently that Boris Johnson in the United Kingdom said he's calling for a testing breakthrough, and if we can get a testing breakthrough, then we can avoid another lockdown in the United Kingdom. Israel just announced a lockdown. I'm just wondering about your judgment on whether we will see lockdowns in some of these countries in which cases are blowing past where they were in the spring.

MS. WILSON. That's certainly a risk, and, certainly, where the numbers are increasing rapidly, these countries are starting to put on more and more intense, targeted measures as they deal with this. We think that they'll probably not be as draconian as we saw in the spring at this point—at least that's what's assumed in our baseline—but we also have particularly weak expectations for Spain, and so we built into our forecast some drag that comes from these factors.

So it's definitely representative that these are a drag on growth, and it's definitely one of the risks that we think is very salient. So we had a very robust staff discussion about where we saw the balance of risks between the second waves and the baseline this time. In general, we've put more weight on our baseline throughout the past six months. The preponderance is still on the baseline, but we shaded it a little more toward the second waves in our thinking this time because of what we're seeing in these countries.

MR. KASHKARI. Thank you for that. Forgive me, one quick follow-up. My impression is other advanced economies have committed to fiscal support for the duration of this. Are any other advanced economies facing what we're facing here in the United States, where maybe we're going to pull the rug out on the fiscal support? Are you hearing anecdotes of that anywhere else, or does that concern you?

MS. WILSON. It's something that we're watching. Our baseline is based on what we've seen and announcements that have been made, and I think a number of countries are either extending their policies or building gradual off-ramps.

We actually had slightly less of a fiscal boost than in the United States for 2020. We have slightly less drag coming in 2021, and that is because, in cases like Germany and other cases in which their programs either go for 24 months or they're gradually extending, sometimes they are diminishing the generosity, but there's less debate about a cliff. I think they've been further out in advance to take some of that uncertainty away.

MR. KASHKARI. Thank you.

CHAIR POWELL. President Evans, please.

MR. EVANS. Thank you, Chair Powell. I'd like to echo Governor Clarida's thanks. I think that the briefings have really been outstanding, especially under these extraordinary circumstances. I'd like to also, in particular, thank the New York Desk financial markets for getting the packet out early. I know we're doing that because we're doing this remotely. I'm hopeful that someday we'll be able to meet back in Washington, and then it would be really useful to receive that packet ahead of time, because being able to study those charts ahead of time has really helped me. So I really appreciate that.

Both of my questions have actually been touched on by the previous ones. So my first question was what Governor Clarida asked about the underlying inflation trend. I'd like to apologize if in the past I have ever described the Board's assumption about underlying inflation as being magical in terms of increasing, because Stacey described something that was clearly not magical. Two basis points per year based on a filtering technique seems sensible. I would hope for even more than that. So that's—wow—that was my reaction to that. Thank you.

The second question was related to Neel's on second waves. It's something that I've been struggling with in my own forecast, and I noticed that in the domestic outlook, less emphasis is put on the second wave. Beth Anne mentioned the same thing in the international briefing. I agree with that. What I've been struggling with is the way the U.S. economy is just powering through devastating COVID-19 outbreaks, in terms of very large quantities of death. And it looks like we're just going to be able to continue doing this and sort of put at arm's length some of these very poor health outcomes.

So I wonder how, Stacey and Beth Anne, you might describe a little bit more about what you mean by "second wave." Is this what Neel is saying, that actually there'll be more shutdowns, or would the current production precautions be less likely to be effective so that everybody would have to struggle through this?

And then, lastly, Beth Anne's chart indicated how important it was that employment and output fully recover. Maybe if you had a couple more words on that, because I certainly see things improving quite a bit through September, but fully recovering is really something. Thank you.

MS. TEVLIN. So I'll start. On the domestic side, when we think about the "Second Waves" scenario, it's that the virus comes back much bigger because of cold weather and maybe bad luck, and people are forced to be inside. And, importantly, in that one, we did have widespread shutdowns being put back in place. That was part of what we described in that scenario.

And exactly the point you make, about how the economy seems to be able to power through this, and that spending has been so resilient even with rising caseloads earlier in the summer—that's part of the reason we're putting less weight on that scenario. We think it's less likely, first of all, that it will come back that much, but also that, if it does, it's less likely we have to go to a full-on shutdown, because we see things have been more resilient than we had expected when we first started putting that scenario together six months ago. It just doesn't seem quite as likely. Not zero likelihood, unfortunately, but a little bit less likely.

MS. WILSON. Yes. To amplify what Stacey said, I think there's a difference between the second wave of the virus and the effect that we assume that second wave of the virus will have. And so in our scenario, those two are very deeply linked. And I think that we're putting not less probability on the second wave of the virus happening, but less probability on that second wave having the very strong economic effect that's described in our scenario. And that gets to the point I tried to make earlier, which is, there's been some learning and some behavioral adjustment over the past six months—I know I've learned—that has allowed us to sustain economic growth or a level of economic activity greater than we had thought earlier in the face of this virus.

I think another sort of subtlety is, one of the reasons for the shutdowns was because we feared globally that the public health system would get overwhelmed by the numbers. As these viruses have resurged, they're hitting a slightly different population, which is resulting in less acute cases. They're hitting the younger more, and those cases are less acute. And the public health system is more robust, and treatments are better. So there's a little bit less risk in the public health system, and then that reduces some motivation for the acute economic shutdown.

On the "fully recover"—and I chose these words carefully, but you can disagree—even though we are seeing improvements in employment and we're seeing improvements in output, we will still have losses that become manifest if people remain unemployed. And right now, there are places in the world with sizable chunks of people unemployed—numbers that would have scared us six months ago or a year ago.

And I think it's easy, in the relief that we are seeing in this bounceback, to forget that those people will eventually, if they are not reemployed, not be able to make their house payments or their rent payments and not be able to buy a car and goods. Firms will, and are, going under, and those losses are going to have to show up somewhere, whether it's on the balance sheets of financial institutions or it's on the balance sheets of sovereigns. And depending on how big those are and how markets are able to absorb those losses, we could see market conditions become less favorable.

MR. EVANS. Thank you very much.

CHAIR POWELL. Thank you. Vice Chair Williams, please.

VICE CHAIR WILLIAMS. Thank you, Mr. Chair. I just want to add my voice to what Rich and Charlie said. I mean, the staff has done just an amazing job over the past six months. And I think even this previous discussion about the second wave, and the nuances associated with that, reflect very careful thought, both about the pandemic and also about the economic repercussions of that, and we've benefited greatly from that.

I have a very narrow question for Stacey, I guess, and that's really about the initial claims for unemployment and how you're interpreting those data. I did read the Tealbook on that a couple of times, but there have been news reports of fraud and maybe some double counting.

Stacey, do you think we should probably not pay that close attention to it, or how should we be thinking about those data in the context of our high-frequency monitoring of the labor market?

MS. TEVLIN. So, again, a lot of discussion—

MR. WASCHER. This is Bill.

MS. TEVLIN. Oh, sorry. Go ahead, Bill.

MR. WASCHER. Okay. I'll weigh in on that, and then Stacey can follow up. I think what we would say, in terms of a bottom line, is that we're following the contour of claims and thinking about the labor market trajectory, but we're not paying a whole lot of attention to the level.

And I think there are some puzzles in here, and there are a lot of moving parts. There are a couple of things that we think are going on. One is, because of the extra $600 federal bonus that was there until July, take-up rates were probably a lot higher than they are usually in recessions, or, certainly, take-up rates are higher than they are in normal periods. And that probably led to elevated claims for regular programs.

In addition, there was Pandemic Unemployment Assistance that went to people who aren't eligible for regular unemployment insurance claims. But to get that, they first had to file under the regular programs and then be turned down, and then they could move into the Pandemic Unemployment Assistance program. The other thing to note, I think, is, we've been told by the Labor Department that it took states a while to get the Pandemic Unemployment Assistance claims going. As states got them in place and started sending out the benefits to people, when they reported into the federal office, and when they paid out the claims, they were all backdated—they were retroactive, so they could pay a whole mess of weeks at once. And they would count all of those in the current week's numbers that they were reporting to the Labor

Department—which we think has elevated those Pandemic Unemployment Assistance continuing claims by a large amount.

So now, again, the bottom line is, there are a lot of different parts to these claims data. We think the total number is likely to be overstated, and so what we're doing is following the contour rather than focusing on the level right now and thinking about the trajectory of the labor market. And they came down a lot between June and July into August as the labor market clearly recovered. They have somewhat flattened out more recently, but it still seems like a lot of people are being recalled, and we're anticipating payroll gains of close to 1 million in the next couple of months.

CHAIR POWELL. Thank you. President Daly, please.

MS. DALY. Yes. I have two questions, one for Stacey and then one for Beth Anne. So let's start with Stacey. Stacey, just to follow up on the question that Governor Clarida and President Evans asked on this underlying inflation, if we're on figure 10, your unemployment rate path—I'm really just trying to fix ideas, and it's important… My video just went out. I don't know if you guys can see me. There it is, back. You guys disappeared. Maybe the gods did not want me to ask a question, but I'm going to do it anyway. [Laughter.]

To fix ideas—especially given that liftoff condition in the Market Desk briefing we were discussing—part of the reason you have to go so low on your unemployment rate projection is because you're anchored at 1.8 percent for inflation, and you really have to get the anchor back up to 2 percent. If we didn't share your view on the anchor of 1.8 percent but thought it was firmly at 2 percent, we wouldn't have to go all the way down on the unemployment rate, just hovering at 2.8 percent so long, in order to achieve our inflation goals. Am I correct about that?

MS. TEVLIN. Yes, mostly. We didn't change anything else except the underlying inflation rate. Yes, you wouldn't have to go as far because underlying inflation would be pulling you up some. I would just say, though, that if we changed underlying inflation in our projection, we might also change the natural rate that we put in our Phillips curve. And so we have to think about how those things balance, so you might still need a pretty low unemployment rate. It's not just the underlying inflation that's doing it here, it's also the flat Phillips curve.

MS. DALY. I completely see that. Because we are fixing ideas, and if 2 percent is the anchor that outside commentators use, and we're overshooting it, we have to go further in this particular thing. But, again, natural rates, of course.

Okay, so let me shift to Beth Anne. Beth Anne, I'm going to ask you to do something that is outside of the charts you gave, but I like these dispersion charts on slide 4 of 12. If you had to go out another couple of quarters, is it your prediction that dispersion across countries would widen or shrink? I got the impression you thought it could widen, because the conditions in countries are so vastly different and their reactions to those conditions are also vastly different.

MS. WILSON. Yes. It does widen, at least through 2022 and 2023. And, actually, the difference between Mexico and China, the two cases that I outlined, is that Mexico moves closer to the minimum. So these immediate responses and these structural factors in these countries are preventing them from performing better amplify over time, at least in our level forecast. Our growth rate forecast, I imagine, pulls in, because we just don't see the huge numbers. But in terms of levels, it continues to widen.

MS. DALY. Should that be a headwind on growth? You get a typical boost from the international sector. But then this is more of a mixed picture, so there's a little less of a tailwind, I guess?

MS. WILSON. I think, yes. I think of it—I'm getting something that says I have a connection issue, so let me know if you can't hear me.

MS. DALY. You're good so far.

MS. WILSON. Okay. I think of this as one additional manifestation of the fact that the COVID crisis is one that is really causing distributional consequences. We see this domestically across individuals and across firms and we see this internationally. And I think that this distributional consequence, both internally and externally, will have social and political implications that will, in addition to the economic ones, be a headwind. So, yes.

MS. DALY. Thank you, both. And excellent memos—I should have said that right at the beginning. All of the analysis has just been superb. I think we're up to four or five people who have said that, so I'll put my hat in. Thank you.

CHAIR POWELL. Thank you. President Mester, please.

MS. MESTER. Thank you, Chair Powell. And I'll throw my hat in as well. I really want to thank the staffs of all the Reserve Banks and the Board for all the work that they're doing. It's really helped me as I think about where the economy is going. I really appreciate it. And, of course, we added another variable in here with the new policy statement on our strategy, which the Board's staff had to incorporate into this Tealbook.

I have a question for Stacey about the new monetary policy rule. Could you expand a bit on the role that the intercept is playing there? You say you reduce it temporarily by quite a bit and then bring it back up. I think that's to get inflation to move back up. What would've happened if you hadn't done that with the forecast, and what disciplining device are you using for how that cap is going for the intercept? Is it tied to your estimates of short-term r^*, or is it tied more to the outcomes that you're trying to achieve? Thanks.

MS. TEVLIN. Actually, it's easy for me to answer the question of what it would've looked like if we hadn't done that intercept, because, in the first couple of iterations of the forecast this time, that's exactly what we did. We just did the zero weight on the positive output gap and the 2 percent threshold, because we thought that was all we would need.

And then we did the entire forecast, and inflation never got above 2 percent all the way out to 2027, which we didn't think was in keeping with what you all had said in your consensus statement. So we added an extra complication to the rule, and we lowered the intercept. We lowered it about 100 basis points. It had been at 0.5. We think of that as our long-run *r**. We lowered it 100 basis points.

We didn't specify what we were going to call that. You could imagine that a lower intercept could be consistent with a temporarily higher inflation target, a lower *r**, some additional term—which is an average inflation term, or something—we didn't specify. We were trying not to get out ahead of this Committee's discussion. So we just kind of lowered it 100 basis points because that's what we needed to get inflation up over 2 percent in the projection.

So it's kind of unsatisfying, because I'm not telling you why we did it, but it's because that's what we needed in our projection to get inflation up, as you all said you wanted it to be. Then, after that, it very gradually goes back to our regular long-run *r**, which we haven't changed this round, of 0.5.

MS. MESTER. So is the assumption, though, that you'll go back to that? If things evolve the way you think they will, what rule are you going to put into the Tealbook? Is it just going to be, you're going to have the *r** stay where it is?

MS. TEVLIN. I am hoping and I imagine that we will get more guidance from this Committee through your discussions over the next few months, and we will try to incorporate whatever you say publicly into our rule. That's how I imagine it will play out. If it didn't play out that way, if we were just going to roll this one forward and never change this rule again, that intercept would gradually go back to 0.5. That's what we have in the projection, but I would be surprised if we stay exactly on this rule for all that time.

MS. MESTER. All right. Thanks.

CHAIR POWELL. President Bullard, please.

MR. BULLARD. Thank you, Mr. Chair. And also, thanks to the staff for all the wonderful analysis. But that's kind of a standard around here.

I wanted to comment on second waves and possible shutdowns, so I'm going to go to page 31 of 53 in the package to "New COVID-19 Cases" for Asia and Europe. These are pictures that appear to show a second wave in cases. But I want to comment on this, because I think this may be somewhat misleading as to how we want to think about the pandemic.

If you look at the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, Seattle, they have a model. You have to have a model, I think, to do this. And they have something called "estimated cases," because at any point in time, the whole point of the pandemic is, you don't know who's infected. And there are a lot of people walking around who have not been identified. Those were high according to the IHME model in the United States in March and April. If I'm recalling it correctly, they're estimating 250,000 or something like that. And then they've come down since then, and they've gone up slightly since then, and, okay, you can argue about that.

But what I learned from that is that their model is not that sensitive to confirmed cases. So confirmed cases don't necessarily translate into a lot of difference in the estimated cases. And so the message you get from them is that, the pandemic was pretty bad in March and April in the United States, and then it got better because of better management of the disease. But it's not perfect, and you've still got cases running around. And that, I think, is maybe the right message for the United States.

Now, for these other countries, I'm not so sure. The reason I want to go with estimated cases is that the fatalities then will line up with the number of cases. So if you have a lot of cases out there, then you're probably going to get more fatalities. That's what happened in the United States. And then estimated cases came down, and fatalities came down.

So I think to get to a meaningful second wave that would drive a shutdown, which is what we'd be concerned about, you'd have to get the daily fatalities up to the same level that they were in March and April. That would certainly trigger rethinking of the health policy.

I'm not sure that these pictures are going to get at that, because they're confirmed cases. They're mixed up with testing, and they're mixed up with better identification of who's got the disease. I think the desire of people is just to go get tested because they want to know for their own purposes, and companies want to know for their own purposes whether they've got cases, and so they're identifying their own disease. So I'm pushing back against pictures like those as indicating that there's a second wave.

MS. WILSON. Fair enough, and I think that's—oh, go ahead, Stacey.

MS. TEVLIN. That's okay. I think it was a question for you, because it's on your chart, but I can't help but jump in. So I agree with that concern about looking at confirmed cases, and we did look at various models of estimated cases to get a sense of this ourselves. We didn't really like any of the estimation methods that a lot of these different places did.

Your point about using fatalities is important, although, as the virus has been affecting younger and healthier people, the fatalities data may not be perfectly clean as well. One thing we have been looking at is the hospitalizations, because that's something that isn't quite as sensitive to the age thing. It is still sensitive to the age thing, but not as much, I think, as the fatalities. But you can think of it being cleaner than the caseloads, which are sort of skewed by the amount of testing. So we looked at all of those in thinking about this. So, anyway, I mostly agree.

MR. BULLARD. But I would say, on the fatalities, if the disease wasn't killing people, we wouldn't be very concerned about it. It wouldn't have driven everything. So what's going to drive a second shutdown scenario would be that the fatalities start to really ramp up or we get really worried that they're going to ramp up. So to the extent that you've got these age distribution issues and more confirmed cases, but among younger people who are less susceptible to the disease, that's probably not as concerning as the fatalities themselves.

Also, I guess I have a question. I know Beth Anne's going to come in here, but—what about measurement across countries? I very much wonder about this. The United States and Europe look like they're hit harder, other countries maybe less so, although it's changing as we go forward. How good are the data abroad, really, on the measurement of both COVID-19 cases and the fatalities?

MS. WILSON. Let me take your first question and then come back to the measurement. I think your point about death rates and how we think about the second wave goes to the nuances that I think we've learned over this time period. So when I show these charts, they're to point out that fully containing the virus is hard. We have not fully contained the virus.

But both the health and economic effects of those second waves are different. There's less of a clear link, I think, between the rise in cases and rise in deaths and the draconian shutdowns that are needed because of the fact that, one, we're learning how to deal with these numbers, but also. two, because they're hitting a different part of the populaton. And, in part, those are endogenous.

We're protecting our old and more vulnerable people a little bit better, and the younger people, as they resocialize, are getting it more. And those cases typically are less acute, and they're putting less pressure on the health-care system. So, yes, it goes to what we mean by "second waves" and the distinction between the second waves of the virus, second waves of deaths, second waves of the economic effect.

On the measurement, of course, there are differences across country. There are differences across country because a number of countries just don't have access to testing the way that we do, because it's much more difficult to do in some places. And it's not an "advanced economy" or "emerging market" issue as we kind of think about it. In Asia, I imagine those data are pretty darn accurate, and they're doing a lot of testing.

In countries with high density of population that don't necessarily have the infrastructure or the money to do the kind of testing, the numbers, I would say, are indicative. And in those cases, death counts, if those are even accurately reported and caused correctly, might be a little bit better of a measure. These data are indicative, but I would hardly say they're precise.

MR. BULLARD. Thanks a lot, very nice.

CHAIR POWELL. Thank you. President Kaplan, please.

MR. KAPLAN. Thank you, Mr. Chair. And, again, I want to thank Stacey, Beth Anne, Felicia, and your teams for doing such a great job. Stacey, I'm probably going to go back to you, and this is a variant on the question that Loretta asked.

I was going to ask—and this is a hard thought experiment: If you could go back to January, which I wish some days we could—and it's hard to believe that the federal funds rate in January was something like 1½, 1¾ percent. In fact, I can't even believe that's the case. We were in the midst of the policy framework review then. If you could wipe away the fact that COVID happened, and if we had the actual situation in January, and then we'd finished our policy review, how would that change this new funds rate rule? For example, would your intercept still be the effective lower bound (ELB)? Again, with the situation in January when you had a federal funds rate at 1½, 1¾ percent, how would you imagine you would be writing this new funds rate rule in that circumstance?

MS. TEVLIN. I think if you'd come out with a consensus statement like the one you just put out—

MR. KAPLAN. Yes.

MS. TEVLIN. —we would've tried to absorb that in our rule. We would've put zero weight on the positive output gap. And maybe we would've also put the threshold at 2 percent. That might've been something we thought was consistent with what you were saying, although you didn't actually say that, but we would've gotten there much faster, right?

We had thought 2 percent was a much closer horizon, so we might not have needed to do as much. It's a little hard for me to do it in my head, but I think our overall goal would still have been to try to capture the salient features of the consensus statement in our rule. And we would've needed probably a couple of those three things we put in. I don't know if we would have needed all three.

MR. KAPLAN. So what I'm getting to is, the move, which is understandable, from where we were—1½ to 1¾ percent—to 0, and the fact that that's now embedded in the policy rule, that's a result heavily of COVID, obviously, because it set us back. Correct?

MS. TEVLIN. Right.

MR. KAPLAN. And so—

MS. TEVLIN. Yes. I mean, you lowered it, so that's where we start.

MR. KAPLAN. Okay. I think that answers my question. Thank you.

MS. TEVLIN. Okay. I'm glad it answers it. I'm not sure I understood the question.

MR. KAPLAN. Well, so I'm trying to disentangle things we're doing today on monetary policy and even forward guidance that have to do with COVID from things that have to do with the fact that we have a new monetary policy framework. And I'm trying to think through some of the disagreements and debates we might be having today if we could move all of this forward and pretend we had gotten the exact same consensus statement done, except in January. I'm trying to imagine how much of this is COVID and how much of this is the consensus statement and untangle those two things, which is hard to do, because they're both going on at the same time.

MS. TEVLIN. Right.

CHAIR POWELL. President Evans has a two-hander.

MR. EVANS. Thank you. I think Rob's question is interesting, and I think it's important. As I think back to January 2020 and to 2019, it's so tempting in public commentary to kind of go back and say, "Geez, we had strong fundamentals." We had good fundamentals for sure, but we were kind of struggling with the effect of the tariff uncertainty and the trade negotiations, and 2019 had been one of risk mitigation for that.

I guess I'm listening to this and thinking it gets caught up in that intercept term and whether you think it's *r** or inclination to overshoot more. And I totally agree, it's kind of imponderable at this moment until we all talk more and come to a better understanding. But those are sort of the issues that Rob's question made me go back and remember. And I think there's still that lingering uncertainty about what returning to January might really mean. I guess it's a question that's like, "Did that make any sense, Stacey?" Thank you.

MS. TEVLIN. That sounded good.

CHAIR POWELL. Okay. Any other questions?

MS. WILSON. Just to turn to President Evans's point: I think of two things that COVID has done in the advanced economies that matter that seem different to me. One is, I think that, at least before the statement, it's moved down inflation expectations some, and that's certainly been true. And a number of European countries are dealing with the fact that we're dealing with lower inflation expectations or at least inflation pressures that seem lower. And the other is, I think, there is the real possibility of an effect on productivity due to this sectoral rearranging. And that would also speak to, I think, the sort of starting point and *r** factors.

CHAIR POWELL. Okay. Thank you, Beth Anne. Thank you, everybody. We're going to take a lunch break now, and we'll come back in just about exactly an hour. The clock here will say a quarter of 2:00 p.m. It's now a quarter of 1:00 p.m., so 1:45 p.m. Thank you, everybody. Interesting discussion.

[Lunch recess]

CHAIR POWELL. Okay, good. It's 1:44 p.m. and change, so let's begin our economic go-round, and we'll begin with President Daly.

MS. DALY. Thank you, Mr. Chair. So I'm going to start a little bit with the wildfires. As you all know, wildfires are devastating communities all along the West Coast, compounding the economic loss and human tragedy that already existed as a result of the pandemic.

At this point, more than 10 percent of Oregon's population has been ordered to evacuate, and the entire state is under emergency declaration. Air quality in the West has deteriorated markedly and persistently—today is the best day we've had in 28 days—making it unhealthy for anyone to be outside. Now, there are numerous underlying causes for this, but the evidence points to climate change, especially the additional heat and drought, which have made traditionally wet areas too hot and never wet anymore, as well as inadequate forest management and weak building codes. We hope the devastation has been so vast and so abrupt that this will prompt strong action on all three of those fronts.

With the caveat that the fallout from these disasters and others brewing across the United States has yet to show up in our data, the regional and national pictures are more positive than when we last met—something we saw in both Stacey's and Beth Anne's briefings. Most of the economic data since the previous meeting have surprised to the upside. The labor market continues to improve, with employment, unemployment, and labor force participation all trending better.

Consumer spending has been especially solid, recovering much of the ground lost since the start of the pandemic. Of course, this is due in part to the robust home and car sales, which have been boosted by lower interest rates, but the gains in spending have been more broad based, suggesting that consumers are adjusting to the new world.

My business contacts report that they are also adjusting, making progress on adapting to the pandemic and a likely different future. Companies are shifting their models to limit the need for direct in-person contact and moving sales and overall customer experience online, many of them with the intent of making this permanent. This pattern is visible in a range of sectors, including retail, physical fitness, and restaurants, and importantly across businesses large and small.

Nearly all of my contacts point out, and often repeatedly, that monetary accommodation and fiscal relief, particularly PPP loans to small businesses, have helped them transition and survive. Still, as they say, uncertainties abound about the path of the pandemic and the strength of the ensuing recovery, and these are limiting plans for expansion in hiring and capital investment.

Now, despite the positive news—and I would say those pieces of information are unequivocally positive, more positive than I thought we would have—several things may act to restrain future growth. Today there are 12 million fewer jobs than we had pre-pandemic, and a rising share of the remaining pandemic layoffs are transitioning from temporary to permanent—a risk for making future progress on unemployment.

On the consumer side, the financial bridge built on expanded and extended unemployment benefits has run out, leaving many low- and moderate-income households scrambling to pay rent and other bills. In the absence of a significantly more robust jobs market that can absorb all of these people, these personal fiscal cliffs that people are facing will be binding, adding up to less aggregate spending in the U.S. economy.

States and localities are also strapped. Recent assessments by the Center on Budget and Policy Priorities, as well as my own staff's estimates, show that without additional federal aid, most states will need to raise taxes and cut spending to meet balanced budget requirements. All of this means that if the Congress fails to pass additional fiscal support, now or in the near future, the nascent recovery could be at risk.

Still, with all that said and balancing it out with the stronger incoming data and the hope still that the Congress will act, I've revised up my outlook for growth, the labor market, and inflation over the next 18 months. Now, that's the good news. But even with this rebound that we've seen, I see the full recovery of the economy—defined by employment shortfalls being eliminated and inflation averaging 2 percent—to be a long and protracted process.

I want to conclude my remarks with just a few words on how I've come to this view, that it will be long and take some time to dig out of the large hole we find ourselves in. So let me start with employment. In the Tealbook forecast, the labor market recovery follows very closely that of the recession in the early 1980s when *V*-shaped recoveries were common. Still, even with that rapid bounceback, unemployment does not get back to pre-pandemic levels until 2023—so three years from now.

My own forecast is quite similar to this. But there are good reasons to think that this outlook could turn out to be far too optimistic. Since the early 1990s, labor market recoveries have significantly lagged the response of output. Real GDP growth has recovered much more rapidly than the labor market—indicative of what have been termed "jobless recoveries." And research points to several factors that have been at play in creating those jobless recoveries, including firms using recessions as opportunities to restructure, automate, or offshore.

And I think it's quite possible that firms could move past this current, rapid bounceback we've seen that's indicative of the 1980s and turn to the opportunistic restructuring that has dominated the past three recessions. We will have to continue to watch that to see which of those two play out. But in either case, achieving our goal to eliminate employment shortfalls will be predicated on ongoing support from both monetary and fiscal policy.

I'll turn now to the other goal—inflation. Here recent positive readings have been encouraging, and we saw some of that in the Tealbook. The question is, how much signal should we take from that? The San Francisco Fed's staff looked for an answer by examining where the increase in inflation has been coming from. Specifically, is it due to a pickup in demand or the influence of supply constraints? The analysis classified each of the various core PCE inflation components as either "COVID sensitive" or "COVID insensitive" based on whether they experienced relatively large movements in prices or quantities during March and April.

The COVID-sensitive sectors were then further delineated and put into buckets by whether the movements were primarily related to demand or to supply factors. Demand-sensitive sectors were those that experienced declines in both price and quantity, a common demand shock response, while supply-sensitive sectors were those that experienced an increase in price and a decline in quantity, a supply-side shock.

Using this taxonomy, the analysis shows that the pickup in inflation since April is largely due to price increases in sectors that had initially seen a large decline in demand. So as the economy has started to recover, these prices have started to rise, pushing inflation up. By contrast, the contribution made by sectors sensitive to supply disruptions has been relatively small and constant over time. This suggests that inflation is on track to return to pre-pandemic levels as the economy heals rather than being boosted more temporarily by transitory supply-side disruptions.

That said—or, of course, I guess I could say, returning inflation to pre-pandemic levels is not enough. As I will describe further tomorrow, inflation has long fallen short of our goal, and we will need to continue to support the economy to ensure we hit our goal of average inflation of 2 percent over time.

Now let me conclude with just a few words about Thomas. Thomas gave us so many reasons to love and admire him: his work, his collegiality, his understated but very endearing wit. But the thing I remember most today, as we have our discussions, is that Thomas was the ultimate public servant. He was curious, he was confident, and he was humble. He always had a North Star for doing his best for the people we serve. He always made us proud, and I hope he will be proud of us. Thank you, Mr. Chair.

CHAIR POWELL. Thank you, Mary. Governor Clarida, please.

MR. CLARIDA. Thank you, Chair Powell. And before I begin, I was glad Mary cited that research of her staff, as I also found that very interesting. So give my regards. It was a very compelling analysis of that sectoral inflation breakdown. And I'll begin in much the same way that Mary did. The flow of the hard macrodata received since our July meeting has been surprisingly strong. And, importantly, as I'll note, the strength has been broad based across consumption, housing, investment, employment, and the inflation data released since then.

This is especially noteworthy when set in relief against the surge in new COVID cases reported in the summer and the coincident flatlining of the high-frequency indicators that we follow to track the effect of the virus on the economy. With the customary proviso that I am not an epidemiologist, it would seem that my conjecture at our June meeting that a "Second Waves" scenario could benefit from adding a scenario in which infections are geographically concentrated but do not shut down the entire economy is, to some extent, borne out in the staff's Tealbook projections for this meeting.

At the risk of oversimplification, one could subtitle the September Tealbook projections as "How the Economy Learned to Live with COVID without Suffering a Severe Second Sudden Stop." The revisions to the outlook since July are significant, substantial, and, to me, sensible, and my SEP forecasts are close to but, if anything, a bit more optimistic than the staff's projections.

They point to a much more robust rebound in activity and a much sharper fall in unemployment in the second half of this year, an earlier return to the previous peak level of GDP recorded in 2019, and a much faster return to the staff's estimate of full employment—a year earlier—than in July. Moreover—and this is important—the staff no longer assumes that the more pessimistic "Second Waves" scenario is just as likely as the baseline.

So now the staff baseline is not just a baseline, but it is also a modal projection. Of course, there is always downside risk, and I think a material downside risk to the September baseline is that a new $1 trillion fiscal package that they pencil in may well not pass, at least this fall.

On the other side, I think the staff perhaps may underestimate the potential boost to aggregate demand that would—and, I think, will—result when households, at least in the aggregate, start to spend down their trillion-plus dollars of accumulated saving and the savings rate returns to its pre-COVID level of around 7 percent of disposable income, about half of what it's running now.

As I mentioned at the outset, the positive data surprises and the staff forecast revisions to demand have been broad based across consumption, housing, and business equipment investment. What do these three sectors have in common? They are interest- and credit-sensitive sectors that are powering the economy forward, at least in the projection.

I remind you—and those reading the transcripts in five years—that many voices outside the Fed in March questioned what good our rate cuts, guidance, asset purchases, and lending programs could do for an economy in which people in the coronavirus economy don't venture out to buy cars or build houses and companies hunker down with last year's capital stock. Well, in the data and in the staff projections, it turns out that with low rates, credit available, and income supported by fiscal policy, the answer is that they do. And on that note, Chair Powell, I will conclude with more to say tomorrow during the policy go-round. Thank you.

CHAIR POWELL. Thank you. President Bostic.

MR. BOSTIC. Thank you, Mr. Chair, and good afternoon. I'll start my remarks by offering some insight into the economic effect of last month's Hurricane Laura, which made landfall in southwestern Louisiana and resulted in more than 20 deaths. The storm caused devastating housing damage, resulting in a mass relocation of residents that is likely to last for months as crews work to restore power and rebuild homes. The effect of the storm on the important energy sector was mixed. On the positive side, almost all of the region's liquefied natural gas plants are back online. By contrast, most offshore oil and gas drilling platforms remain offline, as are most refinery and chemical plants. Contacts report that production is expected to return to normal within five weeks, so the effect to this sector should be temporary, thankfully. However, the communities that took a direct hit from Hurricane Laura will likely take years to recover fully. And I would add that there is an additional immediate potential to slow the recovery from Laura, with slow-moving Hurricane Sally hitting eastern Louisiana as we speak.

For the general economy, what has become increasingly clear in the past few months is that the dispersion of experiences that characterize the onset of the pandemic has crystalized and, in some respects, widened. Evidence suggests that the gap between successful and struggling parts of our economy is growing and that this reality is occurring in a very broad manner, touching households, businesses, industries, business sectors, and geographies.

At our board of directors meeting, the effort to describe this dynamic eschewed the tendency to use a letter, such as a "*K*," and instead settled upon the "less than" symbol. So let me take some time to detail our less-than economy. Starting with consumers, as noted by President Daly and Governor Clarida, we continue to see a fairly robust pace of overall consumer spending and growth in household savings. But this masks an underlying divergence between the experience of low-income and high-income households.

By and large, the recession has been less disruptive for middle- and higher-skilled workers, allowing them to continue spending at close to pre-pandemic levels. By contrast, lower-income households have been harder hit. And while their spending was initially bolstered by the substantial federal assistance programs in the CARES Act, the expiration of these programs is starting to reveal the true precariousness of their situation.

For example, an eviction tracker tool that the Atlanta Fed has developed, in conjunction with the Atlanta Regional Commission and Georgia Tech, is showing a steady increase in eviction filings in Atlanta's five biggest counties over the weeks since federal unemployment insurance benefits expired, with weekly filings now exceeding the levels seen a year ago.

Now, the CDC's eviction moratorium order might delay some of these evictions in the near term, but they do not negate the reality that the burdens that these low-income households face are unlikely to be eased anytime soon. As another example, a recent NBER working paper by a team of economists using real-time data estimates that household spending could fall upward of 40 percent in the absence of some kind of government support.

On the business side, the responses to our latest Survey of Business Uncertainty reveal the growing dispersion of economic experiences. While 40 percent of August respondents expect COVID-related uncertainty to be resolved by the first quarter of 2021, more than 10 percent do not expect resolution until 2022 or beyond. In April, by contrast, the majority of firms anticipated the pandemic would have largely subsided by now, and just a handful of firms anticipated COVID-related uncertainty lasting beyond 2021.

Moreover, the distribution of firms' year-ahead sales growth expectations has widened significantly—an indication that dispersion is likely to remain with us. On net, firms' sales growth and employment expectations indicate a tepid and largely incomplete recovery through the third quarter of next year. And these data and other survey results point to a sluggish and rather drawn-out recovery.

Over the past several meetings, Committee members have pretty much uniformly acknowledged the less-than pattern for this recession across business sectors. In this context, I would add that this also translates into a less-than pattern for geographies. Sixth District contacts in cities that rely on conventions, conferences, and entertainment events, such as New Orleans and Orlando, were markedly more pessimistic about recovery prospects in the near and medium terms.

At the same time, businesses in drive-to tourist destinations that don't require large gatherings of people, such as Savannah and the Florida Panhandle, are reporting record-breaking sales. This dispersion also holds for communities of various ethnic backgrounds and income levels. Harder-hit minority and lower-income communities are faring much worse, and survey results show a pessimism about the pace of recovery that is similar to those in what you might call the "entertainment cities."

As one might expect, this dispersion for businesses has translated into dispersion in labor markets as well. While the number of workers on temporary layoff has plummeted in recent months, which is good news, the number of people reporting that they have been laid off permanently is rising sharply. This suggests that we are now witnessing an acceleration of structural changes in the economy.

During this crisis, a consistent theme we have heard from contacts is that the pandemic is forcing businesses to rethink their business models and face questions of structural and sectoral change sooner than they might have otherwise. Hospitals are reporting a 10-fold increase in the use of telehealth. Restaurant contacts are predicting a 20 to 25 percent contraction in capacity. A university leader told us he expects up to 20 percent of private colleges to shutter. These changes and many others will have profound implications for labor markets and the ability of families, businesses, and geographies to recover.

Now, this growing dispersion in complexity makes assessing the outlook for the overall economy extremely difficult. Consistent with Tealbook projection adjustments, I have increased my 2020 real GDP growth estimate more than 1 percentage point and lowered my projection for the unemployment rate at year-end more than 2 percentage points. But I am just as apprehensive about the path forward for the economy as I was in June, if not more so. This is due to the tremendous amount of uncertainty that still exists in the economy. The increased dispersion in experiences that I've highlighted today and what that means for the trajectory of economic performance is one source. I find it difficult to attach meaning to aggregates that mask two increasingly disparate economies. But other sources of uncertainty make forecasting difficult, including the trajectory of the virus and, as Lorie noted in her report, the prospect for additional emergency support for firms, workers, and families from the federal government and the impending elections.

Importantly, dispersion extends beyond real-side metrics. Indeed, dispersion is a major feature of other metrics and is driving uncertainty. This, in turn, is informing my thinking on how we should be approaching policy in the current context. For example, price changes for the components that comprise inflation measures have been extremely noisy, making it harder to tease out a true signal for our price-stability objective. But before I go too deeply into this now, lest I go on for another 10 minutes, let me stop here in this discussion and leave that for tomorrow.

I'd like to close with a comment on Thomas, and I would just echo the many reflections about him that have been offered today. He was a wonderful man, a superb scholar, and I will miss him greatly. Thank you, Mr. Chair.

CHAIR POWELL. Thank you, Raphael. President Rosengren, please.

MR. ROSENGREN. Thank you, Mr. Chair. My own comments are going to follow those of President Bostic in terms of emphasizing headwinds, structural changes, and dispersed outcomes a lot more than what I think occurs in the Tealbook baseline.

While the economic data since the July meeting have surprised me on the upside, I don't take as much positive response from that outcome. While I anticipated that the hastily designed reopenings by states would be problematic for public health, I underestimated the tolerance for substantial community spread of the virus and the consequent rising death counts. The apparent willingness of many, including politicians and public health officials, to place economic welfare before public health helps explain the upside surprise in the data relative to my expectations. However, I still anticipate that the second half of this year will be weaker than the baseline forecast in the Tealbook. The reasons for my less optimistic outlook are that, unlike the Tealbook, I believe that the economy will face significant headwinds this fall.

In particular, I anticipate no additional expansionary fiscal policy this year and that the pandemic will involve a significant second wave, resulting in firm bankruptcies, problems in commercial real estate markets, and poor prospects for employees in COVID-affected industries. These more pessimistic assumptions lead to a much slower recovery than the one projected in the Tealbook.

I still believe the most important assumption concerns whether a significant second wave of the pandemic will occur. Most prominent epidemiological models I have seen and most discussions I have had with medical professionals in Boston are consistent with a sizable increase in infections later this year. Already students returning to classes have generated significant pockets of infection outbreaks. As some states continue to relax social-distancing restrictions and more activities are moved inside, I expect that infections will increase.

What is less clear is the public health response. In the Northeast, my discussion with state officials suggests that more restrictive policies will result if cases of the virus rise noticeably. It remains to be seen whether similar restrictions would occur in other parts of the country or if instead a higher tolerance for increases in mortality, in order to sustain economic activity, will prevail. Even without a public health response, I expect that many people will voluntarily restrict their activities under these conditions, resulting in continued stress for restaurants, hotels, and retail stores that employ a significant number of workers.

I had hoped that fiscal policy would moderate my concerns about the economic outlook for this fall and winter. Unfortunately, additional fiscal stimulus in the near term does not seem very likely at this point. However, my forecast does include additional fiscal support by early next year as a result of the renewed public health emergency, although I recognize the high degree of uncertainty associated with this assumption, given the upcoming elections.

If the pandemic does worsen this fall, I also expect financial losses will mount. There's been surprisingly little discussion of financial amplification over the course of the discussion so far today. I met with a large number of commercial real estate executives over the past two weeks. They provided a rather somber assessment of the outlook for commercial real estate. Many of them were advocating for an expansion of the Main Street Lending Program to include an asset-based financing program, one including commercial real estate. Particularly hard hit, according to these executives, are hotel and retail properties. Even conservatively underwritten properties will face challenges if consumers are afraid to shop in stores and travel to hotels through the fall and winter.

These fears have already manifested themselves in the data coming from CMBS markets. Those data show that more than 25 percent of hotel properties are delinquent, and close to 20 percent of retail properties are in arrears. The CMBS market data may actually be underestimating the problems for these types of properties, as it disproportionally accounts for larger properties. Smaller hotels and strip malls, which are much more likely to be financed by small and medium-sized banks, are likely to be more severely affected, although we'll see data on delinquencies through the summer only with a lag.

In contrast, office and multifamily commercial real estate loans currently have low delinquencies. However, an important issue for both of these sectors is rollover risk. Given that most multifamily properties have one-year leases, the costs arising from a wave of nonrenewing tenants become clearer only at lease renewal times. An inability to fill the resulting vacancies could lead to an increase in delinquencies for these properties.

Data provided by CoStar, which calculates the daily vacancy and rental prices on apartments in major cities, show rapidly rising vacancy rates and fairly sharp declines in rents in several major cities. Particularly challenged are expensive cities like Boston, San Francisco, and Los Angeles. The decline in rents is more abrupt than we would normally see in an economic downturn and may be indicative of more substantial problems on the horizon.

Similarly, office properties have longer-term leases, so the stress on that market will only be apparent over time. However, even in the Boston Federal Reserve Building, we have had requests to reduce rental "footprints," as firms see a more general movement to having more of their workforce working at home even after the pandemic is over.

The reason to focus so much attention on commercial real estate is because real estate prices were inflated by reach-for-yield behavior as low rates persisted during the recovery from the Great Recession. A structural shock like the pandemic can result in a significant increase in the number of nonperforming loans, damaging the ability of banks and insurance firms to continue to make credit available to borrowers. Hence, I am particularly worried about a "second shoe" dropping that will particularly affect small and medium-sized banks, which provide a large share of the commercial real estate loans and small business loans. Such a curtailment of credit has caused serious headwinds to recoveries in the past and may be a serious problem in this recovery.

I have also raised my estimate of the natural rate of unemployment somewhat to reflect structural changes to the economy that I believe will persist for some time despite being relatively contained so far. Indeed, bankruptcies and business closures are just starting. The Massachusetts Restaurant Association estimated that 3,600 of the 16,000 restaurants that existed as of March 1 of this year have not reopened as of September, with a concentration of closures in downtown Boston and near sporting venues.

With a second wave of infections, along with the approach of colder weather, I fear that many will never reopen and many more will have to close. Workers at these restaurants will need to find new jobs, likely in different industries. With Massachusetts having the highest unemployment rate in the country at 16.1 percent, finding work will be challenging. Obviously, similar challenges remain for retail stores and hotels for both the business owners and their employees.

In summary, I am worried that the pandemic will be significantly worse than the baseline assumption in the Tealbook and will generate worse scarring of labor markets and the economy. I expect that we will have slack in the labor market and will be below our 2 percent inflation target throughout the three-year forecast horizon. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Bullard, please.

MR. BULLARD. Thank you, Mr. Chair. Let me begin by echoing the previous comments on Thomas Laubach, a sensational economist and a sensational friend. He will be sorely missed by all of us. I am very sorry to see his passing.

Let me begin with some general comments about our situation. First of all, it perhaps goes without saying here, but we're still in the middle of a crisis of the first order, and macroeconomic uncertainty remains exceptionally high. I certainly recognize that many downside risks threaten the incipient recovery that we're observing. Nevertheless, many aspects of the current situation are very unlike any ordinary recession. This gives me some confidence that my baseline case of more optimistic outcomes for real output growth and labor markets over the forecast horizon may be realized.

Generally speaking, I think that fiscal and monetary responses to this crisis have been very good so far and have put the economy in a good position to continue to build on very rapid Q3 economic growth. On the monetary side, I believe that the Fed lending programs have averted a financial crisis that might have otherwise occurred on top of the pandemic and led to disaster. At least so far, this scenario has been averted. As evidence of that, I would point to the St. Louis Fed Financial Stress Index, or you can substitute your favorite financial stress index. The St. Louis one was at or near Global Financial Crisis levels in March and April of 2020 but has since returned to normal pre-pandemic levels.

On the fiscal side, the response was also large and appropriate in March and April, as legislation authorizing borrowing and spending of 10 to 14 percent of GDP was approved to combat the crisis. As it now stands, it looks like this fiscal response was calibrated to an even larger macroeconomic shock than what has actually materialized.

So far, the Tealbook is suggesting national income will be down about 3.2 percent in 2020, not 10 to 14 percent. This suggests to me that enough resources may already be available nationally this year to continue to provide insurance to those most disrupted by the pandemic. I recognize that this process is uneven and frustrating, but in terms of size, I think the fiscal authorities have put the right amount in play.

This gives me some hope that the economy will continue to grow rapidly during the rest of this year and that personal income and spending will continue to hold up relatively well, given the crisis. In this regard, I would say that most business contacts—other than those in certain especially hard-hit industries—tended to be cautiously optimistic or very optimistic during the intermeeting period. Their comments seem consistent with what one would expect to hear about in an economy experiencing very rapid growth at a pace unprecedented in the postwar era. They spoke, for instance, of shortages, bottlenecks, and inability to hire workers for a variety of reasons.

I'll come to unemployment in just a minute. The macroeconomic data have continued to surprise to the upside far beyond any ordinary experience. The Citi Economic Surprise Index is showing extraordinary variation to the upside for the United States, as the economy has responded very strongly following the March and April partial lockdown and the associated investment in national health.

Accordingly, with some of the Q3 data already in hand, it appears that Q3 real GDP may grow at a 30 percent annual rate. I am less inclined to take some of that robust growth from Q4 as the Tealbook did. Instead, I would interpret the Q3 experience as suggesting that the disease is somewhat easier to cope with than previously believed and, therefore, that the economy can adapt more rapidly than previously anticipated. I'm also less inclined to mark down the first half of 2021 as sharply as the Tealbook did. They had it at, I believe, about 2.2 percent growth. I think that's too slow for the first half of 2021.

Hand in hand with real GDP growth, I see unemployment continuing to fall to 6.5 percent by December 2020. Approximately 45 percent of the currently unemployed still say they are on temporary layoff, far exceeding any percentage in recent history. If these workers do indeed get recalled in the months ahead, the unemployment rate could drop dramatically from the 8.4 percent in the most recent employment report. I stress that workers on temporary layoff as a percentage of the unemployed would normally be only 10 to 15 percent of the unemployed. Even at the peak of the Global Financial Crisis, which in the United States was in October 2009, it was only 10 to 15 percent.

This is a scenario in which the current shock is very different from previous shocks, and it makes sense, given that we have asked workers to stay at home temporarily to invest in national health and not all businesses have attempted to produce at their previous levels so far. However, I expect a lot of this to occur in the second half of this year.

On the pandemic itself, I would give the one-sentence summary as "The pandemic has proven to be less severe but more persistent than originally feared." Firms and households are learning to live with the disease but still produce and consume. They're adapting their production and consumption technologies to the new situation.

Fortunately for them, it's not that complicated. Fairly simple health measures can keep the disease under control in most situations. Health policy itself is becoming more granular as health authorities learn more about the disease each day. Health policy is becoming more targeted to exactly the situations in which transmission risk is highest, and we're getting rid of the blanket-type policies in which businesses are shut down even if the risk of transmission is not high.

I now see somewhat less probability of a "Second Waves" scenario, and I would describe a second wave as being one in which U.S. fatalities are higher on a daily basis than in the March and April time frame. I do not put a high probability on that at this point. I think you would need something on that order to see a return to a nationwide lockdown, which would be the most damaging situation for the U.S. economy.

I now have a somewhat higher probability put on a vaccine being developed somewhat sooner. I think we have a lot of people working on this around the world. A lot of those trains of analysis seem to be bearing fruit. So it's possible that we'll get something like a vaccine or a good therapeutic very soon.

People often say, "Well, it has to be available widely to be effective." However, I would say that I'm not so sure about that. What you really want to do is protect those who are most susceptible to dying of the disease. That would be a much smaller group, and it seems like you could get that done more quickly. I think if a vaccine really comes—and you're seeing it on Wall Street today—you will see an investment boom as people see light at the end of the tunnel, and that will feed into the recovery that we're already seeing.

I'm also more optimistic on vaccines because so many different labs are working on this on different tracks, and so we're diversifying our risk in some broad sense on vaccine failure. I've also become more optimistic on widespread, inexpensive testing, which I've said for months would be critical to keeping this situation under control. I think inexpensive testing will foster the production of certain types of goods and services that would otherwise be hard to produce. It would be nice if you could get tested quickly before you get on an airplane, for instance, or before you went into an intimate restaurant. Those kinds of things are possible. We have tests developed at the University of Illinois and also at Washington University based on saliva that can be done quickly and easily. I think that will become ubiquitous in the months ahead and solve a lot of bottlenecks and problems caused by the disease.

My own judgment is that nearly all goods and services can be produced safely in this environment. However, they will be somewhat different products than they were previously, and they will have somewhat different prices than they had previously. Households will look at those new products and services and substitute away from those that are relatively expensive and toward those that are relatively cheap. You've already seen that in the data as households have gone toward goods and away from services in the first months of the pandemic here. I think that may continue.

So my bottom line is that I have a faster recovery as a baseline, and I'm hopeful that we can continue to execute on the path that we are on. And I'm going to stop there. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Mester, please.

MS. MESTER. Thank you, Mr. Chair. Though overall economic activity in the Fourth District continued to expand over the intermeeting period, the Cleveland Fed's staff diffusion index of business conditions was 22 in September, about its level in July. More than one-half of our business contacts reported increases in activity. About one-fourth reported declines, and that was an improvement compared with May, when the restrictions on economic activity were just starting to lift in my region.

Directors at our meeting last week reported that activity and hiring were better than expected, but they did express concern that that could change without further fiscal policy support. Bankers reported that both commercial and consumer customers are in relatively good financial shape and that they have seen far less deterioration in their portfolios to this point than they had anticipated. In fact, a director who works at a large bank noted that consumer delinquency rates at her institution are lower than ever before, but they are watching conditions closely for any change.

Contacts reported that, on average, revenues are at about 85 percent of their pre-pandemic levels. But, as President Bostic and others have mentioned, there is variation across industries. Companies in contact-intensive industries continue to struggle, while those in interest-rate-sensitive sectors, including residential housing and autos, are recovering more robustly. Manufacturers tied to the auto industry, such as steel producers, or to homebuilding reported an increase in activity, but those dependent on energy, aviation, and nonresidential real estate reported weak activity.

Labor market conditions in the Districts have improved over the past three months. Nonetheless, as of July, District payroll employment remains almost 9 percent below its level in February, and the unemployment rate is about 9.5 percent. These data suggest that there is a large pool of available workers. But most contacts report that they continue to find it difficult to recruit workers for lower-paying jobs, even after the $600 a week extended unemployment benefits expired at the end of July.

One director who runs a nonprofit workforce development agency said that demand for his services has been less than expected throughout the pandemic, and it hasn’t picked up since the unemployment benefits expired. Some of our contacts attributed their difficulty in hiring to those benefits. But the challenge posed by childcare was also cited as a constraint on labor supply, and it was noted that this was disproportionately affecting women, who have taken on a larger share of the childcare responsibilities.

Results of the Cleveland Fed’s daily “Consumers and COVID-19” survey of more than 5,000 respondents nationwide point to the potential for disruption to childcare and schooling to constrain labor supply and productivity going forward. Eighteen percent of the survey respondents indicated that, since March 1, they or another family member have voluntarily stopped working or reduced their work hours in order to care for children.

Inflation pressures in the District remain contained. For the first time since February, a greater share of contacts reported increasing input costs than decreasing costs, with lumber and metal prices rising and scattered supply chain disruptions leading to higher costs for some other inputs. In terms of prices received, those sectors reporting higher demand, including motor vehicles and cargo transport, were able to charge higher prices.

Regarding the national economy, after the deep decline in activity and employment in the second quarter, the third quarter has seen stronger-than-expected increases in activity and hiring, once again demonstrating that the U.S. economy is resilient. Durable and nondurable goods consumption, housing activity, and business investment have improved notably this quarter. There have been strong gains in employment and declines in the unemployment rate.

In light of economic developments, I've revised up my forecast since the June SEP submission. Nonetheless, I continue to view the recovery as somewhat fragile, proceeding in fits and starts, with certain sectors recovering sooner and more completely than other sectors. In terms of the level of output and employment, we are still considerably down from where we were in February. In fact, we've lost about six years of output and job growth. The recovery's path remains highly dependent on the path of the virus and public health considerations, including progress on vaccine development and deployment. So I see the level of uncertainty surrounding the outlook remaining very high.

In my SEP submission, I assume that voluntary and mandated restrictions on activity are further relaxed over the course of this year and next year. While there will be periodic regional upswings in virus cases, I assume the health-care system will be able to handle these fluctuations in new cases. And I also assume that progress is made on treatments and vaccines, with a vaccine becoming widely available in the third quarter of next year.

Now, under this pandemic scenario, I expect the second quarter of this year will be the trough in activity, a sharp rebound in output growth in the third quarter, and the recovery continuing over the rest of the forecast horizon, with growth above trend, declines in the unemployment rate, and gradually rising inflation. But by the end of this year, I see the level of output down 4 percent from where it was at the end of last year, the unemployment rate at 7.5 percent, and inflation still well below our 2 percent goal. It will take monetary policy and fiscal policy support and some time to move to a more broad-based sustainable recovery over the forecast horizon.

Changes in consumer behavior, including shopping and dining preferences, household living preferences, firms' demand for office space, and the reestablishment of more robust supply chains, could all necessitate structural changes to the economy. Some workers will need to retool for jobs in different sectors. All of this will take time to work itself through.

In my forecast, by the fourth quarter of 2023, the economy is still growing at an above-trend rate; inflation has risen to 2 percent, and it's on track to rise further; and labor market conditions have reached levels consistent with maximum employment, with the unemployment rate at 4.25 percent. Under these conditions, consistent with our new monetary policy strategy, it is appropriate for monetary policy to remain very accommodative, but for the funds rate to have moved off the effective lower bound.

I'm assuming financial stability risks are not realized over the extended period at the ELB, but the policy rate path could need to be adjusted if significant risks emerge. In my forecast, I assume that we will continue to purchase assets to support the recovery, and that further fiscal action is in place next year. Now, there are both downside and upside risks to my forecast. I see the risks tilted to the downside, in particular because there is the potential for a more adverse pandemic scenario than in my baseline. But I do put less weight on this scenario than I did in June, because we did see the rise in virus cases in June and July could be contained through appropriate behavior of individuals and targeted government and public health policies.

Now, even conditional on the pandemic scenario that I have assumed in my baseline, there are upside and downside risks to the forecast. I assume in my forecast that further fiscal action is in place next year, but now this is questionable. In its absence, there could be deteriorating credit quality and higher levels of defaults and business failures than in the baseline forecast, leading to higher unemployment and a slower recovery.

The absence of further fiscal support would have the largest adverse effects on low- and moderate-income workers in communities, small businesses, and the services provided by state and local governments, including education. Stresses in the real estate market are expected to rise, which could put stress on the wider financial system, as President Rosengren spoke about. The recent volatility in equity markets, which mainly originated in the tech sector, could have spillovers to the broader market and undermine business, consumer, and investor confidence. And the prospect of a very accommodating monetary policy could generate investor search for yield behavior, driving further volatility.

But the unexpected strength in the incoming economic data suggests there are upside risks to my forecast as well. It also reminds us that we need to continue to be humble about what we know and don’t know about current economic forces as we make and communicate monetary policy. Of course, this is true even in the best of times, let alone in the unprecedented times we’ve all been going through this year. I view the changes we made in our new monetary policy strategy statement with respect to our maximum-employment goal as an appropriate acknowledgement of the uncertainty associated with assessments of the level of maximum employment. And I look forward to further research and Committee discussions about how best to determine in real time whether this goal has been met.

With respect to our inflation goal, the new strategy "leans" heavily on the relationship between inflation expectations, inflation, and the ability of monetary policy to influence both. But there's still much to learn about inflation dynamics and inflation expectations. Recent research done at the Cleveland Fed Center for Inflation Research—authored by Ed Knotek and Raphael Schoenle from the Cleveland Fed; Olivier Coibion from the University of Texas, Austin; and Yuriy Gorodnichenko from the University of California, Berkeley—suggests we have more work to do to ensure that our new strategy has the intended effect on inflation expectations. The researchers used the Cleveland Fed's daily national survey of consumers to examine the effect of Chair Powell's announcement of our new strategy on household expectations of inflation. While the work is still preliminary, the results indicate that, while there was a surge in news coverage about monetary policy around the time of the Chair's speech, there was only a small increase in the number of respondents who reported having heard news about monetary policy. Most people did not recall anything.

There was considerable confusion about our goals. When presented with a list of options, more respondents said that the Fed sets monetary policy with an aim to maintain a strong dollar or to keep interest rates low to reduce the government's costs of borrowing than said that we set policy to promote maximum employment and price stability. Among a small group who had heard news about monetary policy around the time of the Chair's speech, there was a sense that something had changed, but there was little recognition of what had changed in the approach to monetary policy. And when some individuals were selected at random and given information about average inflation targeting, their expectations about future inflation over the next five years were no different from those individuals who were instead given information about traditional inflation targeting.

Now, lest we get too disheartened, it's important to remember that some of the gains associated with the new strategy can be expected to come from the expectations and actions of sophisticated financial market participants and thereby transmit throughout the economy. It's also true that the survey was taken over only a short period following the announcement. And, as anyone who has ever taught or been a student knows, it takes time to master new material.

Still, the results do raise some questions for further research about whether households will understand the policy strategy and incorporate it into their expectations and actions, what forms of policy communication can increase the public's understanding of our policy setting, and what measures of inflation expectations are the most relevant in terms of forecasts, inflation, and setting monetary policy. I look forward to further Committee discussions on these issues.

I, too, would like to end by saying that I greatly respected Thomas Laubach. Thomas was an innovative scholar, a leader who inspired the best from everyone, a dedicated public servant, and a very nice person who approached his work with a sense of purpose and a sense of humor. And perhaps the highest praise I can give him: He approached all problems in a very sensible way. I will miss Thomas very much. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Kaplan, please.

MR. KAPLAN. Thank you, Mr. Chair. Let me first talk a little bit about energy. Global oil consumption in July and August ran at approximately 90 percent of pre-pandemic levels. At the Dallas Fed, we think global oil demand will recover to about 94 percent of normal by the end of this year, and it should slowly ratchet up to about 95 percent by the end of 2021. At that point, that will be sufficient demand growth for excess inventories accrued from the first half of 2020 to be worked off. This demand improvement assumes that virus hotspots, such as the

United States and India, continue to run at only 90 percent of pre-pandemic levels, and we assume that China runs at 100 percent of pre-pandemic consumption levels.

Based on all this, we think U.S. crude production will end 2020 at about 10.7 million barrels a day, which is a decline of 2.1 million barrels a day from December 2019. We think, on balance, that 2021 production in the United States will be flat. And all this is reflective of dramatic declines in rig count, capital expenditures, and a dramatic uptick in layoffs, restructurings, and bankruptcies in the oil sector.

Regarding the region generally, let me just comment: Texas has been a so-called hotspot in the United States over the past several months, and I would comment that new coronavirus cases have dropped almost 70 percent in Texas from the July high. Hospitalizations have similarly fallen about 70 percent since their height in July. And, correspondingly, mobility and engagement in this region have improved to substantial levels and risen off their low levels in mid-July. The mobility and engagement situation in Texas is still worse than it is for the United States, although the gap has narrowed. There are pockets of deep distress in this state and in the region, mounting small business closures in the leisure-hospitality industry, and, according to contacts, more layoffs to come in energy, airlines, and hotels.

We have seen much of the same divergence that President Bostic and others have talked about: a sharp divergence in the experience of those with a college education in the workforce and those with a high school education or less. The pain here is disproportionately being felt by those with low incomes, lower levels of educational attainment, and particularly among Blacks and Hispanics.

The last comment I would make relates to the fiscal situation for most states. I must say, I’ve been here five years, and I have seen a striking pickup in the past three months in migration of people and firms to this state, particularly from higher tax states. And it tells me that it is going to be harder for some of these higher tax states who need to generate more revenue as a result of COVID. It's going to be harder for them to raise taxes and generate more revenue and keep some of these businesses and high net worth individuals. But I've been struck by the inquiry from both coasts and from other parts of the country. It's at a higher level than I've seen it since I've been here, and it's been at a high level for five years. But this is striking. So it may not bode well for the ability of states to do what they need to do.

Regarding the national economy, we, like others, have upgraded our baseline economy forecast. We now think that GDP for the year 2020 will have contracted 2.8 percent, and we think GDP growth will be 3.4 percent in 2021. In addition, we've revised down our unemployment rate forecast to 7.4 percent for the end of this year and 5.7 percent in December 2021. And in our forecast we do have the unemployment rate getting down to 3½ percent during 2023.

Over the past few pre-pandemic years, I've been discussing, and we've been discussing, how the trend of technology and technology-enabled disruption has been accelerating and having the effect of limiting the pricing power of businesses. To address this trend, many businesses have invested heavily in technology over the past several years in order to replace people, lower their costs, and more effectively compete. And I've commented frequently on the fact that many of these disrupters are large-scale technology platform companies and emerging companies who've benefited substantially from a very low cost of capital. Once at scale, these platform companies were able to add customers and revenues with very limited need for additions to their cost structure. As we all know, since the pandemic, contacts widely report that this trend has materially accelerated and increased the market power of these disruptors. The desire to work and engage remotely has put a premium on technology and allowed disruptors to dramatically improve their market positions.

Contacts report to us that technology and scale have never been more important. They also comment that, to the extent they have wage pressure in the future, they believe that it will just as likely result in margin erosion as to be passed on to customers in the form of higher prices. It's not that these companies don't want to raise prices. They simply believe they won't be able to in order to compete.

What is the effect of these trends on inflation? I've been spending a lot of time with my team discussing that, and we're trying to come to grips with: How do these structural trend drivers interact with and react with monetary policy? How will inflation dynamics change in a post-COVID world? How will the structure of the U.S. economy be different in a post-COVID world? And may lowering the cost of capital actually accelerate these trends and further increase the ability of disruptors to limit pricing power of their competitors?

I don't have the answers to these questions, but I believe much more research needs to be done regarding these issues to understand these structural dynamics. As much as our views have changed over the past few years regarding full employment and inflation, I believe it is possible, or even likely, that our theories regarding how inflation responds to monetary policy may well be understood differently in the future than they are today, particularly post-COVID.

Let me make one last comment regarding financial conditions. Unless you are a small or midsized company that is working in a person-to-person contact industry, it is clear that financial conditions are highly accommodative. Market contacts are increasingly expressing concern to me about excessive risk-taking. They also comment that traditional asset allocation models will need to be revisited in particular. They fear that bonds may no longer provide a real hedge to an equity portfolio. This is having significant implications for insurance companies, pension funds, and other market participants who are responsible for meeting future obligations. For individuals, the conventional wisdom is that equity allocation should be lowered as one ages. Contacts are now observing that older citizens are realizing they may need to take more equity risks than before in order to earn an acceptable return. In general, contacts are increasingly concerned that market participants generally are overrisking. This is benign when markets are going up, but can lead to substantial forced selling and market dislocations in the event of a material market decline.

Many of our contacts see part of this in what happened in March. Yes, it was related to COVID, but they also think what happened in March was indicative of overrisked market participants who had to sell in a severe market downturn, thus causing markets to seize up, which necessitated extraordinary action by the Federal Reserve to restore market function.

Market contacts we speak with are using adjectives like "bubble," "distorted," "artificial," and "manipulated" more frequently in our conversations to describe market conditions for certain segments. They are actively worrying about the implications of increased market instability and unintended consequences and fragility of risk-taking dramatically increasing. And there is a little bit of an assumption by some out there that the Fed will be there in the future to act as a market backstop in the event of a market breakdown.

Let me say a few closing words on a different topic about Thomas Laubach. For me, these meetings will always echo with his presence. I've been here five years, and for me, Thomas was a great teacher, brilliant, had a calm temperament and demeanor, a sense of humor, and, moreover, reinforced our culture of debating issues in a constructive and collegial way. He will be sorely missed. Thank you, Mr. Chairman.

CHAIR POWELL. Thank you. President Evans, please.

MR. EVANS. Thank you, Chair Powell. We still have a long way to go before activity is back to normal, and we face many downside risks. That said, the performance of the economy in the midst of viral flare-ups and deaths topping a horrific 190,000 has been stronger than I and many of my business contacts had expected. And I have been surprised by the contrast between better-than-expected economic activity and the wrenchingly awful public health outcome.

Large portions of the business sector appear to have adapted to operating in the current environment. And in response to outbreaks, we've seen increases in mask use and continued social distancing as individuals learn to cope with the situation as well. But the gains are not uniform. Some households and firms have the advantage of working arrangements and business models that can be adapted to allow for remote work, social distancing, and safe production.

Others, however, are not able or can't afford to take the actions required to operate safely and successfully in the current health situation. These businesses and individuals face real disadvantages. As a result, we see the pandemic intensifying some of the long-standing disparities in our society and weighing on the inclusive nature of our employment mandate. And many of you have already mentioned this.

These themes clearly showed through in my discussions with my directors and business contacts. Let me start with some of the advantaged sectors. Autos are doing well. Higher-income households have continued to purchase new cars, and the demand for used vehicles has been boosted by fiscal stimulus payments and the desire to avoid public transportation. In addition, the industry has successfully turned to e-commerce and socially-distanced dealer operations and used car auction platforms.

A number of other manufacturers have successfully adapted production processes. Some also reported stronger than anticipated demand. For example, one of my directors who runs a large global manufacturing conglomerate said their business had well exceeded their internal projections made three months ago, and that the surprises were worldwide. Another advantaged segment is represented by a director whose workforce apparel lines have experienced blazingly successful sales in recent years. Demand for her products continues to be robust, boosted by strength in the construction sector as well as a successful pivot to more e-commerce activity.

Other businesses have benefited from pandemic-induced changes in consumer spending patterns. For example, recreational vehicle sales have risen as more families turn to them for vacations. And spending on home employment items has been strong as time spent at home has increased.

These success stories have not come cheaply. Businesses have invested a lot to operate safely. To take one example, the operations of a major producer of industrial equipment requires social distancing, masks, extensive screening and testing, and following strict medical protocols. When workers test positive and safety has been compromised, they shut down facilities for sanitation and then allow only nonexposed employees with negative tests to return to the reopening. This CEO notes that these quick responses are viewed favorably by employees and have been important for building confidence and morale in their workforce. But these measures are not cheap.

A number of my contacts reported increased absenteeism, in large part because of virus exposures and childcare issues, as President Mester was talking about earlier. Several noted they were overstaffing daily in order to keep full shifts running, often using temporary workers when available. One contact referred to these extra workers as a critical reserve army. And when the business case allows, many are implementing more flexible work schedules or giving additional paid leave for childcare and elder care to help employees manage these adverse conditions.

Now let me turn to the businesses and households who face a steeper climb back. Sectors that have been hit hardest by the virus have not recovered as much. These include travel, leisure, hospitality, and close in-person services like hair salons. An executive at a major airline reported that passenger traffic during the traditionally busy Labor Day weekend was down about 60 percent from last year. The airline is projecting this level may be the high watermark for travel in the next six months. Importantly, there's no indication that lucrative business travel is returning anytime soon.

Education clearly is a sector that has seen significant disruptions. Students and parents face many difficulties, and families and institutions have taken costly measures to adapt. One of my directors is the provost of a large public university. As she put it, in-person and remote-only education are both costly, and the hybrid model that many universities and K–12 institutions are using is the most expensive of them all.

And, of course, brick-and-mortar retailers are struggling, particularly smaller ones. Either their business model is not amenable to e-commerce and social distancing or the enterprise doesn't have the financial resources and scale to make the necessary operational changes.

Looking ahead, my contacts remain concerned about both the near- and long-term downside risks. They are discouraged by the lack of progress on additional fiscal support. Without further relief soon, additional damage coming from evictions, layoffs, business closures, and bankruptcies will be on their way. And in the absence of additional federal aid, many states and municipalities will have to cut much-needed services and employment. If we repeat the post-2011 debt ceiling austerity, lower aggregate demand being contributed by state and local governments would lead to notable headwinds for 2021 and beyond.

Indeed, now that the reopening surge is behind us, the challenge is to determine the strength of underlying aggregate demand in a highly uncertain environment. And I think President Rosengren's pessimism is sobering in this case. Perhaps, in the language of the Tealbook, it is a question of how strong the recessionary dynamics are relative to the benefits arising from additional easing of containment measures and further adaptation to the virus.

Of course, these are linked. Many of my contacts questioned how long consumers and businesses can sustain activity in the absence of breakthroughs in controlling the virus. And many are bracing for the current virus-related restrictions to last well into next year. Numerous firms are planning additional cost-saving measures. Many of my contacts expect a wave of permanent layoffs in the near future, some by large firms. Every business is focused on the bottom line, and these pressures will continue for some time. President Daly discussed some challenging related adjustments.

For me, it seems hard to imagine that the consumer will remain the engine of growth in such an environment. An additional concern is how many factors are magnifying the inequalities among these segments of society. Some of these factors are disparities in health and economic outcomes across income, racial, and ethnic groups, and small and large firms. These are great challenges for the inclusive spirit of our maximum employment mandate. And poor progress along this dimension will not be in the social or economic interest of the nation.

The report given by the provost of a major public university was again sobering. The good news was that, after much effort, enrollments were better than expected. The bad news was that they had seen a significant decline in the diversity of incoming students. This is despite the fact that they have a well-funded, established program to increase the diversity of their student body. And she expects this situation to persist for some time. Sobering, too, were the recent distressing events in our District in Kenosha, Wisconsin. The awful shooting of Jacob Blake and the protests and unrest that followed are yet another illustration of the need for all to combat the long-standing injustices and inequities in our country.

Briefly turning to the national outlook, as I mentioned at the start, like many around the table, I've been surprised at the economy's ability to power through the virus outbreaks in recent months. Like the Tealbook, our forecast has considerably less damage in 2020 than in our previous SEP. We have revised our forecast up, to a 3½ percent decline in real GDP for this year—half the drop we had in our June submission. By the way, I am number 16 in the SEP.

Going forward, the general contours of our GDP forecast are similar to the Tealbook. However, given the extent of the sectoral shocks we experienced, we do see frictions in the labor market being elevated longer than the Tealbook and so see the unemployment rate running somewhat higher. Our assumptions about fiscal and public health developments are similar to those underlying the Tealbook's baseline scenario, although I have to confess that I'm feeling more and more pessimistic about fiscal policy with each passing day.

We assume monetary policy liftoff occurs around the same time as in the Tealbook but subsequently follows a somewhat steeper path. We also see inflation reaching target in 2023 and beginning to overshoot in 2024, a year earlier than the Tealbook. These paths reflect a somewhat more positive view than the Tealbook about the ability of monetary policy communications to lift inflation expectations and the underlying trend in inflation. This successful communication is a key assumption for my projection, and I will discuss tomorrow how I see the policy alternatives on the table as fitting into this assessment.

Let me also add, I will always remember Thomas Laubach as an extraordinary colleague. As Monetary Affairs director, his monetary experience was fully deployed for the FOMC's benefit. He made heroic efforts to address all participants' viewpoints. And he was an extraordinarily kind person. I know we'll all miss him greatly. Thank you, Chair Powell.

CHAIR POWELL. Thank you. So it's 3:00 p.m. Let's take a short break if we can—get up, walk around, stay awake. And we'll come back together at 3:15 p.m., if we could, please. We still have a ways to go today, so see you in 15 minutes. Thank you.

[Coffee break]

CHAIR POWELL. Okay.

MR. LUECKE. We're good to go.

CHAIR POWELL. Let's go to President Harker then.

MR. HARKER. Thank you, Mr. Chair. I place a significant probability on the staff's view that near-term growth is liable to be stronger than I anticipated at our July meeting, as others have said. Trends in new COVID-19 cases are declining, and the economy has proven more resilient than I projected at our July meeting.

That said, I do not quite see the recovery unfolding as strongly as the Tealbook baseline. I share the view that significant reallocation of economic resources is necessary, and the pandemic has accelerated that need. Therefore, my own projection is for output to recover at a bit slower pace, growing at negative 4 percent this year before attaining positive growth rates of 3.8 percent in 2021, 3.0 percent in 2022, and 2.6 percent in 2023. With respect to unemployment, difficulties in reallocating labor and other COVID-induced frictions will limit the decline in the unemployment rate, in my view, to 8 percent at the end of 2020 before gradually declining to 4.5 percent at the end of the forecast horizon. My inflation forecast is only slightly more muted than the staff's, and the differences are not worth delving into at this point. However, given the fairly broad-based good economic news, I am not discounting the possibility that we may still see a *V*-shaped recovery.

Importantly, though, most of the risks seem markedly to the downside, and the uncertainty surrounding any projection is elevated. Downside risks, as others have noted, include labor market impediments associated with virtual schooling and childcare, a winter outbreak of COVID-19 and the flu, potential delays in the creation of an effective vaccine and treatments and their widespread distribution, ongoing inability to provide effective fiscal support, and falling inflation expectations. That is a long and incomplete list of downside potentialities, and each has a significant chance of occurring.

Now, the information on our region and the messages we are receiving from contacts are also pointing to a stronger recovery than I anticipated just a couple of months ago. However, sentiments remain cautious, and maintaining liquidity remains of paramount importance to businesses we talk to.

In the region, approximately 45 percent of jobs lost in the early stages of the pandemic have been restored as of July. The Third District experienced a relatively early and more severe lockdown than most of the nation, and, as a result, the recovery of the region has been a bit faster than what is occurring nationally. We are seeing a strong rebound in residential construction, and house prices are steadily rising. As well, our regular economic surveys are indicating steady improvement since the spring trough in activity, and they have remained in positive territory for the past three months. The employment subindexes, however, remain negative, and respondents indicate that this is largely due to the effects of COVID-19. Contacts appear more optimistic in our manufacturing sectors than they do in services, but everyone is a bit more optimistic than they were three or four months ago. Additionally, new claims for unemployment insurance have fallen from a peak of 600,000 in April to 100,000 at the end of August.

Now, digging a bit deeper into our regional surveys, the effects of COVID-19 have resulted in 47 percent of firms in the region seeing their new orders for the last week of August decline more than expected. The average size of the declines has been substantially reduced relative to those seen in March and April, indicating that the economic effects of the virus do seem to be waning.

Additionally, the share of firms who laid off or furloughed workers decreased to 11 percent in August, continuing the improvement in labor market conditions on what we were seeing in the spring. However, most firms that were attempting to add payroll reported that they are experiencing some significant impediments. Those impediments are related to expanded unemployment insurance benefits, lack of childcare, and a fear of being infected should the employee return to work. It appears conditions related to the virus are having a negative effect on the ability to reallocate workers.

On a more optimistic note, the financial position of most firms does appear relatively healthy. Roughly two-thirds of firms expressed no concerns over incurring excessive debt, maintaining solvency, or securing adequate financing over the next 30 days. The financial security that many firms are feeling no doubt has contributed to the increased sentiment reflected in the surveys, particularly among manufacturers.

Now, even with the steady overall improvement, there are some glaring weaknesses in the regional economy. Commercial construction remains depressed, and state and local governments have posted the largest-ever decline in employment, with 75 percent of job losses, as was mentioned earlier, affecting women. We are also witnessing a spike in delinquent mortgages. But, due to the CARES Act, foreclosures are at the lowest level since the onset of the Great Recession.

A contact who has a diversified manufacturing firm reports steady but unspectacular growth. He said it's looking better for people who make stuff, but the only sign of a *V*-shaped recovery is occurring in Asia. In Europe, improvement has been more gradual. Some parts of his business have noticeably improved, including anything to do with 5G technology, enterprise hardware, and health-care equipment, as elective surgeries are once again being performed. Organic dog food continues to have spectacular growth; we continue to love our pets. However, most of my contact's customers remain cautious, and cash flow is the number one concern. Customers are not placing future orders but just buying as needs arise. With the exception of high tech, no one is gearing up production capacity, in his opinion. Additionally, he is not concerned about not being able to raise prices, but he is concerned how much future scaling up will occur. He needs volume to improve and to make it all work.

In summary, with few exceptions, the regional economy continues to improve, but it's still substantially below pre-pandemic levels. Respondents remain guardedly optimistic, and the available high-frequency data lead me to project continued but somewhat slower growth going forward.

Lastly, let me add my appreciation for Thomas. As others have stated, his public service and his scholarly contributions have made substantial and long-lasting impacts on the Fed and, really, throughout the whole global community. But what stood out to me was his humanity, his wit, his love for what he did, and, I think most importantly, his respect and interest in everyone he met and tutored, including me. I, and I think all of us, will miss him, and my prayers are with his family. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Barkin.

MR. BARKIN. Thank you, Mr. Chair. I want to echo all the tributes to Thomas Laubach—a great thinker, a better man. Life is way too short. His many friends in Richmond miss him greatly, and our thoughts are with his family at this tragic time.

On the economy, as I reflect on the past six weeks, I feel relieved. The infection rate was escalating at our July meeting. Now it's down, albeit still elevated. Fiscal stimulus wasn't renewed, but the economy hasn't yet cratered. Rather, it's continued to recover.

The jobs report was strong. Residential, retail, and auto sales are healthy. Inflation, while still subdued, has rebounded from the depths of the shutdown. The virus still has two-sided uncertainty, but perhaps like President Bullard, I see the vaccine upside as getting ever more proximate. And I would think the effect on the first half of '21 spending could be greater than forecast, as newly vaccinated people start to spend their savings. I acknowledge the downside scenarios in the Tealbook, although I believe they're mitigated by what we've learned about how to operate successfully, controlling the virus. Other uncertainties beside the virus remain elevated. The Congress doesn't seem in any hurry to extend fiscal support, and uncertainty about the social climate, Brexit, and post-election tax and regulatory policy continues.

I'm watching three topics closely. First is the labor market. As President Daly suggested, I think the recovery in employment will lag the recovery in spending. I would note that we face this strange juxtaposition of high unemployment with firms struggling to find workers. Almost every one of my contacts has taken the opportunity in this downturn to streamline and rightsize. Yet, at the same time, as Presidents Mester, Evans, and Harker noted, I hear many employers, particularly in manufacturing, technology, and health care, struggling with absenteeism and unfilled jobs despite 8 percent unemployment. Many still blamed the enhanced unemployment benefits, even though they've lapsed.

I'll say I believe health and health fears are keeping some out of the workforce, and with the school year under way, employers now acutely feel the productivity challenges parents face without everyday access to teachers and childcare. At the same time, many employees laid off from low-wage, contact-intensive jobs aren't yet good fits for the jobs available.

Second, as President Clarida said, I'm watching closely how excess savings are deployed. The savings rate was 26 percent in the second quarter—18 percent in July. Some of that has surely supported those with lower income through the ending of fiscal support. But when and how will it be spent? Slowly, over a lengthy horizon, or suddenly, say, in a surge of confidence that comes after the virus recedes? I note the Tealbook savings rate forecast never goes below pre-crisis levels, implying such a surge isn't meaningful in those forecasts.

Third, I'm hearing a lot about supply chain challenges. Some are due to labor availability, as mentioned. Others are due to COVID-driven sourcing outages, especially from Mexico. I also hear of lack of space in Amazon and Walmart distribution centers, inhibiting the flow of goods to market. At the same time, businesses are making their stocking decisions for the next few quarters in a time of both demand and supply uncertainty. I sense they're being cautious, and that reading is consistent with the retail trade data, meaning we're more likely to see stock-outs than excess supply. If a demand surge were to happen coincident with supply shortages, next year's first-half pricing could be even stronger than we forecast, and I've built some of that into my SEP. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President George, please.

MS. GEORGE. Thank you, Mr. Chairman. The rebound in economic activity has been more rapid than I had anticipated earlier this year. I've revised up my SEP forecasts, which now show a smaller overall contraction in growth this year and an unemployment rate below 8 percent by year-end. A number of my District contacts also have been surprised by the strength of the recovery. One large tech firm in my District expressed regret for pulling back on investment and hiring in March, given the continued strength of demand for their products.

This faster pickup in activity points, in part, to better mechanisms for responding to the virus as broadly implemented lockdowns have shifted to more targeted closures in addition to the public's willingness to resume activities. The path of the virus, however, remains a significant barrier to a robust and sustainable recovery.

The progress we've seen in economic activity also reflects the central role of fiscal policy, with transfers allowing personal income to grow at the fastest rate in U.S. history even as employee compensation has fallen faster than ever recorded. An overwhelming majority of contacts in our District surveys indicated they benefited from recent fiscal policy, while nearly half reported that the outlook for their business would be dependent on additional fiscal support.

In view of the important role that fiscal transfers have played—in particular in the areas of consumer spending, state and local government assistance, and small business support—the delay in another round of fiscal support is an immediate and significant downside risk to my outlook for the economy. I'm especially concerned that small businesses may suffer disproportionately without additional support, resulting in adverse effects for economic activity and employment as well as longer-run structural effects.

As highlighted at this year's Jackson Hole symposium, research shows that declining business formation is linked to slower productivity growth, rising markups, and slower reallocation of workers. Among the hardest hit businesses in my region is the energy sector, which has suffered from the declines in oil prices this year. Tenth District firms accounted for nearly 70 percent of the total debt of oil and gas exploration and production (E&P) companies who have filed for bankruptcy so far this year. We continue to receive reports of likely additional layoffs in this sector and the possibility of more mergers.

Farm financial conditions in the District also have remained subdued even as some crop prices experienced an uptick since the previous meeting, due in part to a sharp increase in sales to China. However, sustaining these price increases could be difficult against the backdrop of what looks to be a very strong harvest.

Although I've revised up my outlook for growth, I continue to see a slow recovery in labor markets. The level of unemployment remains high, especially for jobs that are more directly linked to virus exposure, although job losses also have spilled over into jobs that can be done remotely. Analysis by my staff has shown that although non-telework jobs have picked up with the easing of restrictions, there has been essentially no recovery in lost telework jobs. Because the majority of job losses have occurred in occupations that require direct contact, the path of the virus and an effective vaccine will ultimately influence the path to a full recovery in labor markets.

Regarding inflation, District contacts have highlighted supply constraints, higher input prices, and strong demand pushing up prices for some goods over the past three months. The lumber industry has been particularly affected. One contact reported that when the economy began to shut down, lumber companies expected demand to fall off sharply and halted production for about 60 days. Instead, sales by big box stores surged as households embarked on a remodeling frenzy.

Likewise, a District contact reported that after several months of strong sales, used car inventories have been depleted and will likely lead to lower sales going forward while also contributing to a sharp increase in their prices. This tug of war between demand and supply also appears to be playing out in the inflation data. In recent months, aggregate prices have, on net, risen more than I had expected. In part, this rebound in inflation reflects an unwinding of sharp price declines that we saw in previous months.

The pace of the rebound in inflation amid elevated rates of unemployment, however, also suggests that other factors are at play. While demand evaporated in some sectors, it has shifted to others, fueled in part by fiscal policy against a backdrop of pandemic-induced supply shortages.

The path of inflation is unusually uncertain, in my view, as these competing forces of demand and supply push in opposite directions. While I don't anticipate that inflation will breach our 2 percent objective for some time, a substantial increase in market-based measures of inflation compensation since July have moved in that direction. Five-year, five-year-forward inflation swaps are now above their pre-pandemic levels, and this measure jumped discretely following the announcement of the new policy framework. With inflation expectations shifting and economic conditions improving, my projections show inflation rising to 2 percent by 2023, the end of the forecast horizon. Although this inflation path likely implies an inflation overshoot in 2024, the current structure of the SEP precludes making this important forecast threshold visible to the public. This is a topic I'll return to tomorrow as we talk about how to align our policy and communication with the revised consensus statement.

Finally, I want to join others in expressing the deep loss I feel with the passing of Thomas Laubach. Thomas began his Fed career in Kansas City, where he brought a passion for policy-related research that is rare among newly minted Ph.D.'s. It was a time when central banks were adopting flexible inflation targeting, and Thomas had literally just written the book on the subject with his coauthors, as Governor Clarida noted. During his time at our Bank, his policy insights and related research helped inform our views on the importance of transparency and accountability that a numerical inflation target can engender. I will miss the expertise and the insights Thomas contributed to the deliberations of this Committee, and mostly I will miss his kind disposition, his wit, and his humanity. I extend my sincere condolences to his family, his colleagues, and friends. Thank you, Mr. Chairman.

CHAIR POWELL. Thank you. Governor Brainard, please.

MS. BRAINARD. Thank you, Mr. Chair. I, too, find myself missing Thomas Laubach at this meeting and in our daily interactions. His intellectual contributions to macroeconomic research, to a seminal period of monetary policy formulation at the FOMC, and to my own deliberations over monetary policy were indispensable. But what I really miss is his kind humanity, his intellectual curiosity and openness, his strong commitment to his colleagues, especially in Monetary Affairs, and the evident pride and joy that he had for his wife and three children.

Regarding the economy, the risk of a macro lockdown associated with a broad second wave has receded, as targeted micro interventions, widespread adoption of masks, social distancing, and greater use of testing have proven effective at containing the spread of the virus while allowing activity to recover. As a result, activity is recovering faster than we expected in July. As Stacey Tevlin noted, a broad range of spending indicators have come in much stronger than expected. Consumer goods spending posted robust gains in June and July, supported by earlier fiscal support, and is now well above pre-crisis levels. As a result, despite very depressed spending on services, total consumer expenditures have recovered about three-fourths of their earlier decline. Interest-sensitive sectors are rebounding strongly, an important reminder that monetary policy matters, especially when coupled with necessary fiscal support.

Home sales and residential construction have surprised to the upside and are now back to pre-pandemic levels, and auto sales have also been strong. Business investment, including shipments of capital goods for June and July, have also surprised to the upside and point to a solid increase in equipment and investment spending in the third quarter, although investment on nonresidential structures remains depressed.

All told, the staff has increased their projection of real GDP growth by about 5 percentage points above their projection in July. Payroll employment increased at an average pace of 1½ million jobs per month in the past two months. The published unemployment rate fell 2¾ percentage points, and the labor force participation rate inched up. Other margins of labor utilization, including involuntary part-time employment and the average workweek, also improved. The economy has now recovered nearly one-half of jobs lost in March and April, and the large majority of those gains have been workers on temporary layoff returning to their employers.

But the path ahead may be more complicated. Job losses classified as permanent are on the rise and sit at nearly 3½ million in August, accounting for about one-fourth of the total unemployed. Despite sharp declines, initial jobless claims are still running about four times higher than pre-pandemic levels. Payrolls remain 11½ million lower than pre-pandemic levels, and unemployment is 5 percentage points above its pre-pandemic level. Unemployment is 13 percent for Black workers and is coming down more slowly than unemployment for other categories of workers.

Readings on price inflation have also surprised to the upside. Core PCE prices moved up appreciably in June and July, and core CPI prices posted a solid gain in August. That acceleration in prices has been widespread, but the recent strong increases in durable goods prices appear to reflect strong demand in that sector. There's also a glimmer of good news on expectations. Market-based measures of inflation compensation rose notably in the intermeeting period to levels close to those prevailing before the pandemic, although they remain at the lower end of their typical ranges in recent years. Even so, price inflation remains below pre-crisis levels and is projected to take several years to move close to target and several years beyond that to meet the average inflation goals set out in the Committee's new framework.

Regarding foreign economies, as Beth Anne Wilson detailed, the latest data have been stronger than expected and point to a solid rebound in the current quarter. China is about one quarter ahead of North America and Europe, so it's notable that China's GDP expanded at a moderate pace in the third quarter following a full return to pre-COVID levels in the previous quarter. In the euro area, recent indicators through August suggest a partial rebound of nearly 40 percent at an annual rate in the current quarter, much stronger than we had expected earlier. However, as was noted earlier, virus flare-ups in France and Spain pose some risks. A few emerging markets face significant headwinds, and, of course, in the United Kingdom, the likelihood of a no-trade-deal outcome has again risen.

Regarding financial markets, conditions remain broadly supportive, as Lorie Logan noted, despite the recent selloff in equities. Market sentiment has improved since we last met because of positive surprises in domestic data and corporate earnings, a moderation in COVID cases, and reported progress in vaccine development. The yield curve steepened, on net, with 2-year yields on Treasury securities little changed, but with 10- and 30-year yields up moderately. And, of course, the broad value of the dollar has declined modestly and is now close to its pre-pandemic level.

Even so, my market contacts describe this as a somewhat fragile equilibrium, premised in no small part on expectations that the Federal Reserve will maintain the strong backstop of our facilities and will follow through on our new framework with forward guidance and asset purchases. And it's also vulnerable to shifts in sentiment associated with the virus, the prospects for fiscal support, and an inconclusive election. Overall financing conditions are accommodative, but we can see important differences across asset classes and sectors, and I think this has been noted earlier. For large businesses, capital market conditions are very supportive, and their debt issuance has been very strong. But bank lending to businesses remains relatively tight, and C&I loan growth has been negative since July.

Although the credit quality of large businesses has been showing signs of stabilization, that's not the case for small businesses. In that area, we're seeing further deterioration. And although conditions in CRE markets overall have continued to recover, stresses remain very prominent in the hotel and retail sectors. And the SLOOS bank lending standards index in late July indicated restrictiveness not seen since the acute phases of the Global Financial Crisis.

Finally, let me just briefly talk about risks. Of course, the most important source of uncertainty remains the future path of the pandemic—the time at which effective therapeutics and a vaccine will become widely available. And here, there are, of course, upside risks as well as the obvious downside risks. An early and effective vaccine that's widely available could present an upside risk, coupled as it might be with a globally synchronized recovery.

But fiscal policy presents a significant downside risk. The fiscal measures enacted in the early stages of the crisis provide a critical support and are a crucial factor behind the strong rebound in activity we have seen in recent months. In fact, I think, if I'm correct, the $3 trillion in enacted support shows up as about a 3.6 percentage point addition to GDP growth on a Q4-over-Q4 basis. In looking ahead, the prospects for the enactment of additional fiscal support look to be very dim. And, in the Tealbook baseline, if the $1 trillion in additional stimulus doesn't materialize, it would lower that Q4-over Q4-growth by 1.4 percentage points.

For the household sector, while it's possible that the very elevated savings rate might provide some cushion to support consumption spending in coming months, I have to say, I'm skeptical. All in all, the majority of the excess savings is likely held by high-income consumers who have reduced their spending on in-person services. And it's not at all clear to me that this is likely to result in a burst of spending in the future.

Research suggests that cash-constrained consumers make up a significant fraction of the population. And many of those consumers are unlikely to sustain recent levels of consumption without additional fiscal support, as well as moratoriums on evictions, as Raphael Bostic noted earlier. Many small businesses, which employ a large fraction of the workforce, continue to experience substantially reduced revenues and will also likely necessitate additional support. In the absence of that support, I remain concerned that the ongoing recovery could lose momentum, with recessionary dynamics then becoming more entrenched.

So, just summarizing, the greater-than-expected resilience of the economy, along with the moderation in COVID spread and buoyant financial markets, point to greater momentum in economic activity than we had previously expected. But the easy part of the recovery may be behind us, and I would caution against extrapolating the same pace through the fall and winter.

There is a substantial risk that fiscal policymakers take the wrong message from the strength of the recovery so far and withhold critical support that would put at risk the cash–

flow–constrained households whose jobs are most at risk; small businesses, especially in the services sector that are important employers; and state and local governments that likely will have to undertake layoffs if federal support is not forthcoming.

The road ahead is long before the labor market regains its full strength, and the even-longer road to achieve the Committee's average inflation goal suggests monetary policy will need to commit to provide substantial accommodation over that sustained period to achieve our goals. I look forward to discussing that tomorrow. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Governor Bowman, please.

MS. BOWMAN. Thank you, Chair Powell. I'd like to join others in expressing my deep sense of sorrow and loss following the passing of Thomas Laubach. Thomas had a unique gift for translating even the most complex of issues into something that a non-economist could understand. I greatly appreciated Thomas's patient approach and his insights, and his presence will be missed by all of us. My thoughts and prayers are with his family and his colleagues during this difficult time.

Regarding my economic remarks, since our July meeting, the incoming data have been encouraging, and they suggest that our national economy has been recovering at a rapid pace. Most importantly, the labor market has continued to normalize. The large increases in both household and payroll employment measures since April indicate that many workers that were laid off during the lockdowns in March and April have resumed working. The labor force participation rate has continued to recover from its April low but remains far below the pre-pandemic levels. I expect we will see further improvement in labor force participation through the end of the year.

The widespread move to virtual instruction at most K–12 schools this fall, however, will likely make it more challenging for families whose school-age children are participating in web-based or virtual education programs to maintain their pre-pandemic work schedules, as others have noted, including President Mester and President Evans. The staff's Tealbook forecast assumes that schools moving online will depress the participation rate about ¼ percentage point through the end of this year. My own expectation is that the effects could be larger and will evolve as parents reassess their work responsibilities and the needs of their children.

Moreover, as we saw in the latest Survey of Household Economics and Decisionmaking (SHED) , the effects of childcare responsibilities, as has been noted by others already today, are being felt most heavily by women. In the July survey, 27 percent of working mothers and 17 percent of working fathers said they anticipate either working less or stopping work altogether if schools do not have in-person classes this fall, which translates into 7 percent of the workforce.

Looking across different areas of the country, I continue to see that labor market effects of the pandemic are mixed. Although joblessness is clearly prevalent in many areas, in my individual conversations with more than 100 state member community bank CEOs and other business leaders since mid-June, several have remarked that nearly all of the normal day-to-day activities in their communities have resumed. Others have noted that job openings exist, but, as President Harker noted, there are few candidates to fill them in some areas, and it's challenging to fill those roles.

These differences are also evident in Board staff analysis of recent labor market patterns for metropolitan areas versus nonmetro areas. When disaggregated in this way, nonmetro areas seem to be experiencing a stronger recovery. Temporary layoffs drove much of the initial rise in national unemployment, but permanent layoffs have been rising since then, but only in metro areas. In contrast, permanent layoffs in nonmetro areas have been essentially flat since March. Additionally, BLS data show that leisure and hospitality employment are coming back much faster in nonmetro areas than in metro areas. Nonmetro employment now appears close to pre-pandemic levels despite the fact that both areas saw similar initial declines in employment. Of course, some sectors like air travel, restaurants, tourism, conventions, and large events are continuing to face effects of pandemic-related social distancing and forced closures regardless of where they're located.

Because of this, the overall potential for business failures and bankruptcies is still a major risk to the ongoing recovery. The consistent answer to where bankers see credit challenges emerging within the next six months to a year is that we'll know better when the stimulus effects wear off and we can see more clearly what the actual borrower conditions are. Despite the fact that these banks have ample resources to fund commercial lending, they report that many commercial borrowers are reluctant to take on additional debt because of the uncertain business climate.

Regarding consumer spending, the incoming information in this area has also been quite positive. We observed a pronounced and very welcome bounceback in national retail spending through July, and housing demand also recovered strongly over the early summer months, with both new and existing home sales exceeding their pre-pandemic levels. Further, banks with mortgage origination businesses reported record numbers of real estate refinances over the same period because of the record low interest rates, as Governor Brainard noted. The bankers I have spoken with recently say the strength in consumer demand has been quite noticeable in their own communities. Several bankers reported seeing unusually robust sales of vacation and second homes. Similarly, some noted that businesses selling high-end recreational goods, such as RVs and boats—President Evans specifically noted RVs earlier—and even some car dealerships, as others have noted, have either completely sold out of their inventory or it's been dramatically reduced and they are unable to obtain more inventory.

The vast majority of bankers I have spoken with reported seeing record low delinquencies on their consumer loan portfolios and a near-absence of overdraft activity. These reports are similar to data in the SHED supplemental survey conducted in late July, which showed that financial security had improved noticeably, especially among low-income and middle-income families. For instance, for the widely discussed question about how families would handle an unexpected expense of $400, 70 percent of adults said that they would pay emergency expenses using cash or its equivalent, which is up from 63 percent last fall. Notably, the rebound in financial well-being could be traced directly to the substantial financial assistance measures that were in place at the time of the survey. Nearly one-fourth of adults in the survey said that their family had received unemployment insurance, SNAP benefits, or free groceries or meals since the start of the pandemic. Among those receiving unemployment insurance benefits, 40 percent said that their benefits were higher than their pre-layoff wages, compared with 36 percent who said their benefits were lower.

In the business sector, we saw spending on capital goods turn up sharply in the third quarter. The rebound was much stronger than the staff had expected earlier in the summer. On the other hand, notable points of ongoing weakness include the energy sector, as President George noted, which continues to be hurt by the worldwide slump in demand. Aviation has also been particularly hard hit by the downturn and by the uncertainty over the recovery in air travel. Agricultural businesses continue to face challenges, but they are faring somewhat better than many other sectors of the economy, and exports of agricultural commodities have expanded so far this year as the drag on China's economy due to the pandemic recedes and the boost to demand coming from China in the Phase One trade deal begins to show through. Overall farm income is expected to increase this year but only because of the substantial federal aid payments provided, again, in 2020.

With respect to the broader macroeconomy, given the rapid changes in both supply and demand conditions, I am not sure that we can draw much useful information from the recent price and wage data. On the whole, however, it appears that inflation is firming, in line with the ongoing recovery in economic activity. Therefore, it makes sense to maintain our focus on doing the best we can to support maximum employment.

In looking ahead, our economic performance will continue to be highly dependent on the effects of efforts to contain the pandemic. Though we have seen an increase in cases in some areas, overall cases have been declining, and it appears unlikely that we will see a return to the broad-based lockdowns that we saw earlier in the year. Therefore, in my view, the staff's second-wave economic effect and other worst-case scenarios appear much less likely to occur, and the data on positive tests, caseloads, and hospitalizations are now a less reliable indicator of the effect on economic activity, from my perspective. There are many reasons for this, but undoubtedly progress toward a vaccine and effective treatments play some part. What I draw from this is that the future course of the economy will not be as closely tied to the course of the pandemic but will likely continue to be dependent upon the decisions of state and local officials in permitting economic activity.

In all, despite the risks to the outlook, I am optimistic that the economic recovery will continue. Our progress toward pre-pandemic trends may be uneven, but the extent of improvement in the recent data indicates to me that we are headed in a positive direction. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Governor Quarles, please.

MR. QUARLES. Thank you, Mr. Chair. As most of you have noted, many households and businesses continue to struggle with the ramifications of the decline in economic activity that we experienced in the spring. Unemployment is still too high, and, of course, the brunt of that unemployment is falling even more than usual on low-income households that are least able to bear it.

The data over the intermeeting period, however, paint a picture of an economy that is in the midst of a solid—even a strong—recovery. Third-quarter growth is on track to be about 30 percent. The unemployment rate dropped by an unexpectedly large amount in August to 8.4 percent even as the labor force participation rate increased. And, encouragingly, the weekly ADP data that the Board staff analyzed show notable increases in payrolls over the last two weeks of August.

Regarding the inflation side of the mandate, prices have also bounced back in recent months more quickly than expected, with both total and core CPI rising 0.4 percent in August. As Lorie noted, most states and localities continue to take more targeted measures to contain the spread of the coronavirus than were used earlier this year, and even though the containment measures are less and less draconian, cases nationally have declined about 40 percent from the midsummer peak. And, moreover, recent trends in cases and deaths suggest that the U.S. case fatality rates continue to fall. This likely reflects further advances in treatment and focus on limiting the spread of infections to the subset of the population that data on the virus have shown is most vulnerable.

The recovery in household spending has been particularly strong. As Stacy noted, most broad categories of retail sales exceeded consensus expectations again in July. The previous month was revised even higher than originally reported. In looking ahead, the high-frequency indicators that bear on retail spending continue to run ahead of last year's pace through August despite the expiration of CARES Act unemployment provisions on July 31.

And while the fiscal package certainly boosted spending considerably earlier in the year, a large credit card issuer with whom I spoke at the end of August reported that overall credit card spending had not changed much in their data since the enhanced unemployment package expired, although lower-income households who had lost benefits had cut back significantly. Further, much of the strength in household spending has been driven by big-ticket items. New and existing home sales are running way above last year's pace, and home improvement, appliance, and furniture sales are also robust, as many of you have noted.

These categories are obviously credit sensitive, and the robust growth in these categories—and that includes the pace of motor vehicle sales—is particularly reassuring, because it indicates that loans are available for creditworthy borrowers. Moreover, it suggests that our monetary policy actions to lower interest rates and 13(3) actions, taken in part to improve functioning of the MBS and ABS markets, are translating into stronger consumer demand as we hoped they would.

In addition, households' willingness to take on those debts may suggest more underlying confidence in the economy than is showing through to the still-depressed measures of consumer confidence. People who are worried about losing their jobs generally don't buy houses and cars. On top of that, the very high savings rates of the late spring and summer have created a large stock of accumulated household savings, which is another tailwind. My working assumption is that the portion of these savings that materialized due to the shutdown of retail entertainment options and the unexpectedly large transfer payments in the spring is much larger than the portion attributable to households' durable long-term desire for significantly larger rainy day funds. In my forecast, I assume a very high propensity to spend out of those savings, representing a significant source of pent-up demand that'll provide a substantial boost to spending as they unwind over the next several quarters.

Business spending and sentiment are also bouncing back. Industrial production and manufacturing has recovered about half of its drop in April. Capital goods shipments are much stronger than previously expected. Indexes of new orders and business sentiment have turned positive in recent months.

Net issuance of corporate bonds has been robust in recent months, even for speculative-grade firms, which has allowed many large firms to raise cash needed to survive the stress. And although surveys of credit availability show tightening of credit conditions, the banks that we contacted about the Main Street Lending Program say that they have plenty of capacity to lend to creditworthy borrowers.

Nevertheless, many businesses are, as a number of you have noted, under significant strain, although the pace of corporate rating downgrades has decreased significantly in recent months. The six-month trailing default rate on speculative-grade bonds rose to over 12½ percent in July and August. Likewise, delinquency rates on business loans have risen noticeably despite banks' forbearance programs and despite banks' willingness to work with affected borrowers. It can be hard to measure how severe those business strains are, because most businesses that fail do so without filing for bankruptcy. And anecdotal evidence suggests that business closures are also elevated.

As Governor Bowman and others have noted, small businesses remain particularly vulnerable. According to a Goldman Sachs survey, a large majority of small businesses report that they have exhausted their PPP funding, and one-third of them said that they would run out of cash by the end of the year. So the possibility of a further wave of bankruptcies and closures in coming months represents a strong headwind against the recovery. And that concern extends internationally, where it was a prominent feature of a recent financial stability roundtable that John Williams and I attended—potentially large enough to overwhelm some of those countries' bankruptcy systems, given the limitations of bankruptcy law, especially in Europe.

Pulling all of that together, my SEP forecast is much stronger than it was in June on the real side and has modestly higher inflation. That forecast is predicated on four key assumptions: agreement on a fiscal stimulus package of roughly $1 trillion sometime in the fourth quarter of 2020; continued reductions in social distancing that support employment and spending growth; consumer spending gets a further boost from the accumulated stock of savings and a decline in the still-elevated savings rate; and, on the con side, supply-side frictions linger and hinder productivity through the projection horizon—maybe for some of you this isn't a con—putting upward pressure on inflation.

So, as a result, I see robust growth in the fourth quarter and then 4.6 percent growth in 2021. As the recovery turns into the expansion phase over the next 2 years, growth should decline gradually but remain above potential. I see this robust growth pushing the unemployment rate down steadily to an average of 4½ percent by the end of 2021, and it drops below my estimate of the long-run rate early in 2022.

With strong consumer demand driving higher growth and a lower unemployment rate—but somewhat more concern about lasting supply-side frictions—my inflation forecast is a couple of ticks higher than it was last time: It reaches 1.9 percent by the end of 2021, is over 2 percent in 2022, and matches the 2 percent target in 2023.

I still see a high level of uncertainty, and the risk to growth and unemployment is weighted to the downside, but not as much as I did in June. Consumer spending did not drop substantially during the spikes in coronavirus cases that we saw over the summer, even in hard-hit areas, so I see even less likelihood of a second deep recession or prolonged slump than I did when we previously met.

In the same conversation with the large credit card issuer that I mentioned earlier, they noted that their credit card accounts showed high sensitivity only to large spikes in active cases of the virus in an area, and even then the changes were nothing like what we saw in the spring.

The current stalemate over another stimulus package is somewhat of a two-sided risk. A significant delay or a smaller-than-expected package would slow the recovery, obviously, but the Congress could ultimately break the stalemate by agreeing on a larger relief package. For instance, the median expected stimulus in the Blue Chip survey is for $1.4 trillion.

The other key feature of my forecast is that I'm not assuming a successful vaccine or some breakthrough treatment, which creates a material upside risk, especially if it were to come sooner rather than later.

Summing up, the economy is recovering and doing so faster than many expected, even me with my irrepressible optimism. However, both employment and inflation are well short of meeting our congressionally mandated objectives. Risks are still weighted to the downside. Therefore, the case for further monetary policy accommodation is strong, and I look forward to tomorrow's discussion. Transparency being good for the soul, I am SEP participant number 14.

I would like to end by joining in the sentiments that all of you have already expressed on the loss of Thomas Laubach. You have all mentioned his important, deep, and sustained contributions to the work of the Federal Reserve and to the thinking of the economic profession. You've also all mentioned his personal warmth and his optimism and his goodwill—expressed, in my case, with his surprising patience with my own eccentricity in these discussions. It's rare—it is unfortunately too rare—that someone with that level of horsepower is at the same time so balanced and so collegial and so generous and so graceful, with all that that word means to someone of Thomas's faith. Like all of you, I will very much miss his counsel and his friendship. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Kashkari, please.

MR. KASHKARI. Thank you, Mr. Chair. I'm going to start with the local economy—there has been modest growth in economic activity in the Ninth District since our July meeting. Most of the growth has been in consumer spending, manufacturing, residential real estate, and construction. Our weakness is in services, energy, commercial real estate, and construction. Not surprisingly, businesses report being highly uncertain on the economic outlook. Many firms report a hiring "chill," where they're replacing some vacancies but not adding to head count. As others have noted, many firms are transitioning from temporary to permanent layoffs, especially hotels and restaurants. I continue to be surprised at how many blue chip, successful restaurants in the Twin Cities are closing their doors permanently. I thought that they would have the wherewithal to endure, but they just can't. Outdoor leisure in our District is booming over the summer. People are getting out of the Twin Cities and taking car trips somewhere and staying in a little resort. Those areas are doing well. In many reports, families are cutting their spending and saving more where they can.

Regarding the national economy, growth, as others have said, is stronger than I had expected. Growth has been aided by accommodative monetary policy and massive fiscal support in a combination that's fueled very strong consumption growth. But the recent data are mixed. I would characterize the economic momentum as being highly uncertain. As others have noted, there's a big risk in pullback of fiscal support. I think the Congress should just be applauded for the fact that, much to my surprise, both parties came together to take dramatic action to support people who lost their jobs. And I think that was terrific. I hope they can come together to provide more support, because it's needed.

On the inflation front, inflation remains below 2 percent; we had core PCE inflation running at around 1.3 percent. Wage growth appears to have slowed.

On the point about savings, I guess I'm where Governor Brainard is. This is a point that I've been debating with my economists for months, because one of my first observations when we all went home is, I noticed I was saving more money. I'm guessing we're all saving more money because we're not going out to restaurants, we're not traveling, and we're not going to the movies. It's people like us who are saving a lot more money, and I think that's the same reason that people have lost their income—the people that worked in those restaurants and those movie theaters are the exact same, dollar for dollar—while we're all saving more money.

When this pandemic is finally behind us, I would expect us to go back to normal. If you ate out twice a week before COVID, I would expect, when this is over, you're going to go back to twice a week. You're not going to go to seven days a week to make up for lost eating-out opportunities. So I'm not anticipating some big paydown of this accumulated savings. I'm anticipating a glide path back to the historic savings rate, which would be better, but that means we have to get past the pandemic so we can all feel safe to go out to the movies and go to restaurants and things like that.

I'm going to spend most of my time talking about the virus, as I did at at our July meeting, because, as we all said, the virus is really going to determine the economy. At our last meeting, we were running at about 60,000 cases a day nationally. Today it's about 35,000 cases a day. At our last meeting, there were about 1,000 deaths a day. It's now about 700 deaths per day nationally. So that's clearly progress.

If you look in the southern states—Florida, Arizona, Texas—the case count has dropped dramatically, which is obviously very positive. It's spiking out in the Midwest, however, and we're trying to figure out why these things are happening. I hope it's because, as some of you have suggested, these modest changes in behavior are leading to very different outcomes from the virus.

But I remember, of all the health people that we've consulted with over the past six months, one of my first conversations with the noted epidemiologist, Mike Osterholm, back in March or April, was that he said, "If you watch these pandemics, you're going to look for patterns in regions in which there are flare-ups. Is it because of this policy change that it flared up over here, and then it didn't flare up in this other state, and then it turned around?" And he said, "You're not going to find a pattern, because there are too many things moving at the same time." Is it government policy? Is it us and how our own behavior changes in the face of the news? Is it the weather? It's hard to know.

So if you look at Minnesota, in the spring, our case count was climbing quite linearly when the governor ended our stay-at-home order. And then, miraculously, it turned around and dropped. Now, one theory is that we all went outside because the weather got nice, and then that led to lower spread. But then, over the summer, it started climbing again dramatically. Then the governor imposed a mask mandate, and it kept climbing.

If you look at Florida and Arizona, if you look at their Google mobility data, it's basically flat. The idea that Florida and Arizona have turned around because they made these minor tweaks, and now, all of a sudden, they've gotten control of the virus and they're smarter about how to control it—I hope that's true, but it might not be true. It might be that these things have lives of their own.

For my base-case scenario on the virus, I too think less that we're going to have a second wave that just overwhelms everything. It seems more likely that we're going to just have a grinding recovery with flare-ups and ups and downs. Especially as college kids are going back to campus, we're seeing the flare-ups in college campuses around the country. It's going to get cold again—by the way, last week my heater was already on in Minnesota, so the cold weather's coming—we're all going to be indoors. That's a recipe for flaring back up again. So, a lot of uncertainty, but I'm just cautious that we're finding ways to control this. We might be getting lucky in some of these areas.

I think New York is the only place so far where the health experts have said they had a very terrible beginning, but they've done a really good job since in keeping the case load down. They've been very gradual in their opening, and they're testing a lot, and they're tracing a lot. I think that's the recipe that the health experts have the most confidence in.

I want to spend a little more time just on vaccines and testing, because these are really important. These are going to be the endpoint for this. As others have said, there continues to be a lot of progress on the vaccine front. You all saw the news about the Oxford vaccine, which was put on hold because one patient had an adverse event. It's sad that that person had the adverse event, but the good news is that the experts say they don't think it was tied to the vaccine, so the trial is back on. The health experts that I consult with think it's very hard to predict one vaccine is going to work, but they think with so many in the pipeline, it's likely that some combination of these is going to be effective. But, again, they think the most likely timing is the end of next year before something would be widely available. And you've already seen the news reports. A lot of Americans are skeptical—they think that this is going to get rushed, and then they're not going to take it. And so there does not seem to be an easy way to accelerate this. It seems like late next year is the mostly likely scenario. So I think the Board staff are being prudent on that.

I want to just spend a couple minutes on testing, because this is getting a lot of public attention—the idea of some breakthrough in testing that could be another way of arresting this virus. The health experts in the spring told us there are going to be all these bottlenecks on testing, on reagents, on supply chains, and on equipment. They've been 100 percent right. So at our July meeting, there were 700,000 tests a day. At this meeting, there are 700,000 tests a day. So using the traditional technology of polymerase chain reaction (PCR), we've made no progress in the past six weeks.

The hope is in these alternative—you may have heard of these—antigen tests or these paper strip tests. The idea is, it's like a pregnancy test. You get a result in 10 minutes or 15 minutes, super cheap. Abbott had an announcement a few weeks ago that they got emergency authorization for a paper strip test—very cheap, high volume. Interestingly, that emergency authorization was only for symptomatic cases. It has not been tested on asymptomatic people, so they don't know yet if it works on asymptomatic people. But that's the public health Holy Grail, that you could screen a lot of asymptomatic people with this test. So it's a positive step, but it's an incomplete step so far.

The second thing you may have heard about, and I learned about this fairly recently—something called RADx, the rapid acceleration of diagnostics. The CARES Act funded the NIH to run a venture capital program to invest in innovative breakthrough testing technologies around the country. And last week we talked to the people at NIH who are running this program. They put out a request for proposal (RFP), and they got 700 proposals for innovative testing approaches, and they are really optimistic that some of these are going to have breakthroughs that could really be game-changers.

When we push them, there are still tons of manufacturing hurdles to overcome and tons of logistics hurdles to overcome. They said, "our goal is, we would love it if, at the end of the year, we had six million tests a day." Now, that would be an order of magnitude better than we're doing now, and that could be a real help. It's not enough to say that we're going to arrest the virus just with testing, but it would be a breakthrough. But they say there are a lot of hurdles left to overcome.

Last comment on testing. I'm spending a lot of time on this because this could be a game-changer, so I'm trying to understand if it's real or not. We spoke to a Fortune 100 manufacturer that is part of this RADx program. It's a global company—you all know it, I promised them I wouldn't use their name—and they are partnered with one of the top universities in America to commercialize the university's testing technology. Some professors have come up with a very sophisticated chemistry, and this global Fortune 100 company is going to take this and mass-produce it at very low cost and very high volume. We asked the CEO and technology officer of this Fortune 100 company, "Is this real?" And they said, "Yes, this is real, this technology works. We have confidence that we can bring it to market. There are still breakthroughs that are needed." And so we said, "All right, we're not going to hold you to this, but if everything goes well, when could you have these to market at massive volume?" They said, "Don't hold us to it, but we could do it in a year to 18 months."

So it continues to be, there are upside possibilities of a vaccine or widespread testing, but those are upside scenarios. The base-case scenario for all of us should be, I would hope, that we are preparing for another year to 18 months of a very rocky recovery until we can get to some form of resolution, because we're a very, very long way off from herd immunity. And if we keep going on the pace that we're going, we're not going to be anywhere near herd immunity one year or 18 months from now. So we're going to need a vaccine or a testing breakthrough.

My summary is continued high uncertainty. Summer growth was strong. It's unclear if the momentum's going to be sustained. The outlook's even more uncertain—uncertain in the path of the virus as well as high policy and political uncertainty. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Vice Chair Williams, please.

VICE CHAIR WILLIAMS. Thank you, Mr. Chair. Incoming data on the U.S. economy have been overwhelmingly positive, as many people have mentioned. The labor markets are recovering much faster than anticipated, consumer spending has remained resilient—even after the surge in COVID cases and the recent sharp reduction in unemployment insurance payments—and the housing market has rebounded strongly.

Inflation data have been encouraging as well, suggesting that inflation has bottomed out. Much like the Tealbook, I've significantly increased my forecast of real GDP growth in the second half of this year. I now see GDP growth for the year as a whole, Q4 over Q4, coming in around negative 3½ percent. In light of the robust household survey numbers and a stronger

GDP forecast, I’ve lowered my forecast of the unemployment rate to 7½ percent in the fourth quarter of this year.

Based on the recent inflation readings and the more favorable outlook, I’ve raised my forecast of core inflation to nearly 1½ percent for this year. Now, my baseline outlook for the next few years foresees a solid-paced recovery, supported by a highly accommodative stance of monetary policy, including the target range for the federal funds rate remaining at its current level throughout the forecast horizon.

I projected that in 2023 the unemployment rate will reach levels consistent with my assessment of maximum employment. And then the inflation rate will attain and, in fact, modestly exceed our 2 percent longer-run goal. Thinking further ahead, I would see inflation moderately above that 2 percent goal in the years after 2023. For those so inclined, you can learn more about my outlook in my SEP submission. I’m participant number 12. I assure you, it’s scintillating reading for this evening.

This relatively favorable outlook, at least in the context of the enormous shock we’ve experienced, is predicated on a number of assumptions. Like many of you, I’ll list them. It’s the course of the pandemic, fiscal policy, and financial conditions. As we’ve all said a number of times, the path of the economy is tied to that of the virus. Although we’ve learned a lot about the pandemic and its economic effects, a great deal of uncertainty remains about how things will unfold, as President Kashkari’s remarks just a moment ago highlighted.

On the positive side of the ledger, we’re seeing signs that the economy is better able to cope with the surge of cases that we saw in the past few months, and the number of new cases is on a clear downward trend. As a result of these developments, and consistent with the Tealbook, I view some of the extreme negative tail risks to the outlook due to the pandemic as having receded somewhat. However, as I've emphasized before, there are still a very high number of active cases, and that brings with it the risk of further outbreaks and additional waves of infections, especially in the context of students going back to school and people spending more time indoors as the weather turns colder. In addition, though news about the vaccines under development has been encouraging, we still don't know when or if highly effective vaccines will be available and in widespread use.

With respect to fiscal policy, my hopes for a sizable and, to my mind, much-needed federal package have dimmed in recent weeks. It's very hard to predict how these negotiations will play out. Given this uncertainty, I have little conviction about any assumptions one could make about fiscal policy. That said, it's the SEP round, so I needed to write something down, and I decided to pencil in a fiscal package of $500 billion of additional spending. That's half as large as assumed in the Tealbook and in my previous SEP submission. Fiscal policy has played an important role in sustaining the economy so far, and, without additional support, the recovery will take longer and the risk of longer term damage to the economy increases.

My staff looked at the role of fiscal support and consumer expectations in two special modules of our Survey of Consumer Expectations that we fielded back in June and August. They found that under all but the most positive scenarios for the virus, large shares of the population expect to require public assistance. In particular, both non-white and low-income respondents put the probability of applying for an assistance program in the next six months at over 25 percent.

My staff also found that expectations of new expansions of various assistance programs are positively associated with 12-month-ahead spending and income growth expectations and significantly reduced the perceived risk of being delinquent on a debt payment over the next

3 months. They also looked at the marginal propensity to consume out of the various rounds of fiscal support. In considering the first round of measures that were passed in the CARES Act, they found, on average, households spent about 30 cents out of every additional dollar of support. That's very much in line with the previous estimates of the marginal propensity to consume out of various tax relief actions.

The expected spending response of a hypothetical second round of fiscal support is similar, around 25 cents on the dollar. This analysis highlights the important role that fiscal support has played in supporting households' ability and willingness to spend through this episode.

Finally, this means the recovery hinges on financial conditions remaining supportive of growth. There's no question that we've seen a dramatic reversal in financial markets since the dark days of March, when we were staring into the abyss. A big part of that turnaround is due to the rapid and aggressive monetary policy response and other actions by the Federal Reserve and other central banks—a topic that I'll come back to tomorrow. The current favorable state of financial markets cannot be taken for granted, however, and may prove fragile in the response to bad news, whether about the pandemic, the prospect for vaccines, fiscal policies, or geopolitical developments, such as a no-deal Brexit.

To summarize, while my modal forecast has improved significantly and I see some negative tail risks having abated, I still feel the magnitude of uncertainty regarding the outlook to be elevated relative to historical norms and the risks to the outlook for economic activity and inflation skewed to the downside. Thank you.

CHAIR POWELL. Thank you. And thanks to everyone for your comments. The recovery is now well under way, and the recession of 2020 looks like it may go into the books as the shortest but deepest in living memory. As many of you have already pointed out, consumer spending has retraced 75 percent of its pandemic-related decline. Goods spending is now actually above pre-pandemic levels. Outlays for services have been slower to recover, particularly for services such as air travel, hotels, and eating out, that put people in close contact. Home sales are back to pre-pandemic levels, as is groundbreaking for new homes. Investment in equipment and intangibles looks like it's turning the corner. Employment is about halfway back to its pre-pandemic levels, and the unemployment rate is down to 8.4 percent, some part of that is to do with interest-rate-sensitive sectors reacting to highly accommodative financial conditions.

The snapback in economic activity so far has been resilient to the expiration of CARES Act supplemental unemployment benefits and to the ongoing spread of the virus, including the sharp wave of infections this summer in many southern and western states. Cases at the national level are moving back down. These regional outbreaks seem highly likely to continue. They cost lives, and they cost treasure, and they are unnecessary, in the sense that we could avoid them to some extent with better social distancing—at least I believe so—at no loss of economic activity. Nonetheless, we seem to be learning to get through these outbreaks with less economic damage.

Despite all of the better economic news, the economy remains fragile, as President Mester said, and remains in a deep hole, and significant risks remain. Even if third-quarter real GDP growth is 30 percent, as broadly expected, GDP will still be about 4 percent below pre-pandemic levels. There are still 11½ million people who remain unemployed because of the pandemic.

Unemployment is far too high. And, of course, the U-3 numbers understate the problem by about 3 percentage points because of a mistake in characterizations of employment status and the sudden drop in labor force participation, which, to me, is better thought of in part as akin to more underemployment. The burdens of job losses are still being felt most by those least able to weather the storm. Uncertainty remains extraordinarily elevated.

The pandemic has also left a significant imprint on inflation. For some goods, including food, supply constraints have led to notably higher prices, adding to the burden for those struggling with lost income. More broadly, however, weaker demand, especially in sectors that have been most affected by the pandemic, has held down consumer prices, and overall inflation is running well below our 2 percent objective. Despite a few idiosyncratic factors, including now the increase in prices for used cars, I see by far the likeliest outcome is that inflation will remain below target for some time in context of high unemployment.

While the risk of a depression appears to have substantially abated, downside risks remain. One of those is the possibility of a wave of infections in the fall as people move indoors, schools restart, and flu season arrives. While I do not see another broad shutdown as likely, a fall wave could undermine this young recovery just when it should be gathering momentum.

It is also a bit surprising that the expiration of the CARES Act unemployment benefits have yet to show up in a material weakening in spending. That may still happen as time passes, particularly if, as I expect, there will be no further stimulus legislation until late in the first quarter at the outset of the new Congress. For that reason, I have moved some growth from Q4 to the first half of next year. Now, I would say also, there is—and I think one other person mentioned this—an upside risk on the size of that package. In certain potential outcomes, you could see a very substantial fiscal package, but I don’t think you will see one until close to the end of the first quarter. I think in any outcome, there will be a fiscal package after the first of the year.

Many COVID-related layoffs have been in low-paying service sector jobs. These workers will not have much in the way of savings. Their spending has been supported by direct payments and enhanced unemployment insurance. Without employment, or more support, they will eventually burn through what little savings they have and will need to cut spending. They could default on their mortgages. They could be evicted and have to move in with relatives or others, which is bad from a health-care standpoint.

All of this amounts to significant risks to the expansion. Even if those risks don't materialize, it seems likely that the rebound came first where it was easiest. The recovery will probably get harder from here. Many temporary job losers are already back on the job, but permanent job losers—at 3.4 million and rising—will face more difficulty. Sectors that require close contact will struggle to return to normalcy.

A full recovery is unlikely to occur until people are confident that it is safe to reengage in a broad range of activities. That may not happen until there is widespread availability of rapid testing, therapeutics, and vaccines. And I would agree, we shouldn't count on that. It could be the end of next year, or it could be farther than that. We hope for sooner. While recent developments on these issues have been better than expected, availability and timing remain highly uncertain.

In my base case, the expansion does continue, but perhaps a little bit shy of the pace in the Tealbook baseline. In particular, I have unemployment declining a bit more slowly, getting close to 4 percent by the end of next year. I see an inflation overshoot in this base case as being plausible in 2024, again, amid high uncertainty. We have all had a lot of practice in considering downside risks and scenarios, and those remain all too plausible, as we have all pointed out. Particularly, I also think it's worth recalling that there are upside possibilities here, too, particularly in testing therapeutics and vaccines. Again, I am not assuming much help from those, but I think there is upside in that.

It is also worth recalling that there were, in my view, no dangerous imbalances, bubbles, or other fractures in the economy when the pandemic arrived, and that underlying strength may be showing through. This is not like other recoveries. So far, the economy's been strong enough to overcome obstacles to growth. And, of course, we haven't seen much evidence of the typical recession dynamics—lost income, risk aversion, and interruptions in credit flow—as they have been substantially offset by the strong policy response.

Okay. Let's turn briefly to tomorrow's policy discussion. Since March, we have said that we would use our tools to do three things: first, to provide some relief and stability during the acute phase of the pandemic; second, to support the expansion when it came; and, third, to do what we could to avoid longer-run damage to the productive capacity of the economy.

On the first objective, our actions since early in the pandemic, beginning heavily six months ago today on March 15—that Sunday meeting that we had—have kept financial markets working and financial conditions accommodative. The health crisis caused a short but severe downturn but not a financial crisis, which was far from assured when the pandemic arrived in full force. Perhaps most important, households, state and local governments, and companies have been able to handle routine and nonroutine borrowing needs. Our aggressive early actions give us some of the credit for the state of affairs—and perhaps a bit of that most precious currency of all, credibility.

After keeping our policy stance on hold for six months, I believe it is time now to turn our focus to the second and third objectives. With the expansion well under way, now is the time to focus our policies and communications on supporting the economy as it travels the long road to a full recovery. I see no need to wait further. In particular, I would not wait until financial markets start to doubt our commitment to a highly accommodative policy path. I am glad that we stood pat for six months. I think we were wise to do that. But we are a very long way from our goals, and further delays would risk undermining the credibility that we've built.

Our new consensus statement puts us in a good position to guide households, businesses, and markets to a new set of expectations that will serve the economy and the nation well. I see us as having two main chances to do that—maybe the only two. The first chance is right now as the world gets its first look at how we will follow through on flexible average inflation targeting. The second chance, if it does come, will come some years down the road when we get back to low unemployment and inflation above 2 percent.

If we disappoint or fail to follow through persuasively in the near term, it could be a long wait and a difficult job to restore credibility, so I do believe it's time to follow through on our proposed framework with strong forward guidance. The proposed language does that, and I think that the tying of the guidance to our goal variables will allow the effects of that guidance to react to changes in the economy as it evolves and as financial conditions advance, a very positive feature.

Of course, our forward guidance is not an unconditional promise to stay at the effective lower bound come hell or high water. We will be prepared to adjust the stance of policy, as appropriate, if risks emerge that could impede the attainment of the Committee's goals. So I am very much looking forward to tomorrow's policy discussion.

And now, as we move to policy, before breaking for the evening, I am pleased to welcome Trevor Reeve into his new role as director of Monetary Affairs. As you know, the Board appointed Trevor to this position just yesterday. Before his appointment, Trevor served as a deputy director of the division. As director, Trevor will advise us—the Board of Governors and the Federal Open Market Committee—on the conduct of monetary policy, including open market operations and the discount window, and will lead the division's more than 170 staff members in their efforts to support that work. In recent years, he has, of course, played a central role in supporting our monetary policy process.

Trevor brings to the role of director a wealth of experience in policy analysis and in facilitating the monetary policymaking process. His keen insights and advice have been indispensable to all of us. Trevor first joined the Board in 1998 as an economist in the Division of International Finance and was appointed to the Board's official staff in 2006. He served in progressively more senior roles in the Division of International Finance, overseeing sections that monitor foreign economies, trade issues, and foreign financial issues. In 2012, he spent a year as senior adviser to the U.S. Executive Director of the International Monetary Fund. In 2014, Trevor became a special adviser to then-Chair Janet Yellen and was appointed deputy director of the Division of Monetary Affairs in 2017. Trevor earned a B.S. in International Studies from the University of Utah and received his M.A. in Economics and a Ph.D. in Economics, both from Harvard University. We all know Trevor well. He has my full confidence, and I know he has all of our full confidence. So, Trevor, welcome, and over to you. Thanks.

MR. REEVE.[5] Thank you very much, Chair Powell. I appreciate that. I will be referring to the exhibit on page 42 of your briefing materials packet.

Before I begin, I just want to say, on behalf of my colleagues in Monetary Affairs and myself, we deeply appreciate your kind words about Thomas and your expressions of support. As you all know, he was an exceptional friend and leader, and, like many of you, we miss him dearly.

As Lorie noted in her briefing, two key developments have been in focus since your meeting in July: better-than-expected economic data, as you all have noted, and your new Statement on Longer-Run Goals and Monetary Policy Strategy. These

[5] The materials used by Mr. Reeve are appended to this transcript (appendix 5).

developments also bear on your decisions at this meeting regarding your monetary policy stance and communications.

The red line in the upper-left panel of the exhibit shows the Citigroup Economic Surprise Index for the United States, one metric for gauging how the incoming data have compared with consensus expectations. After falling to record lows in the spring, this index surged to record highs over the past couple of months as economic data have consistently surpassed expectations. Of note, this index has remained elevated even amid the resurgence in COVID-19 cases, the blue line.

As a result, many forecasters, like the staff, have revised up their economic projections. The upper-middle panel shows box-and-whisker plots that summarize how the projections by the nearly 50 individual forecasts in the Blue Chip panel have changed since June. The first blue bar indicates that forecasters have substantially revised up overall real GDP growth for 2020, with many revisions on the order of 1 to 2 percentage points. The revisions to growth next year are smaller and centered on zero. Similarly, the projections for the unemployment rate, in yellow, have been revised significantly lower, particularly for this year. The green bars show the revisions to the inflation projections, which have been almost entirely in the positive direction.

The surprising data and significant forecast revisions underscore the exceptional uncertainty about the economic outlook. Even so, market- and survey-based expectations for the path of the federal funds rate have remained fairly steady through this period. The lines in the upper-right panel plot the expected year-end levels of the federal funds rate implied by OIS quotes for 2022, 2023, and 2024. The black dots show the corresponding modal values in the Desk's surveys for the end of 2022, and the single blue dot shows end-2023, which was first reported in the latest survey.

One reason these measures of policy expectations may have not moved very much over these time horizons is that, despite the recent improvements to the outlook, the economy remains far away from maximum employment and 2 percent inflation. Of course, this relative stability also likely owes to the public having a reasonable understanding of your policy intentions. The forward guidance you have provided since March, along with other Federal Reserve communications, have helped reinforce beliefs that the federal funds rate will likely remain at the effective lower bound for several years. In addition, the release of your new consensus statement may have contributed to the stability of policy expectations by signaling a more patient approach to removing accommodation.

In recent meetings, many of you have noted that it would be desirable to further clarify your policy intentions by communicating a more explicit form of forward guidance for the path of the federal funds rate. Having released your new consensus statement, you may see this meeting as an opportune time to do so. And in light of the highly uncertain path of the recovery, you may prefer a form of outcome-based guidance to provide greater clarity about the economic conditions you judge to be consistent with an adjustment to your policy rate.

The next two panels of the exhibit, which you've seen before, summarize responses to a question in the Desk's surveys that asked about the economic conditions that respondents expect to prevail at the time you first raise the target range for the federal funds rate. The distribution of respondents' expected unemployment rate is depicted in the lower-left, and the distribution of respondents' expected inflation rate is shown to the right. Since July, these distributions have shifted toward lower unemployment rates and higher inflation rates, as shown by comparing the black dotted lines and the red bars. These shifts appear to be consistent with your new consensus statement's focus on eliminating shortfalls from maximum employment and achieving inflation that averages 2 percent over time. At the time of the first increase in the federal funds rate, the median respondent to the September surveys expects the unemployment rate to be 4 percent, down from 4½ percent in July, and inflation to be 2¼ percent, up from 2.1 percent in July. Of note, there is still a fair degree of dispersion across respondents' expected economic conditions, which could potentially be reduced by making your forward guidance more explicit.

As summarized in the final panel, all three alternative policy statements prepared for this meeting incorporate elements of your new consensus statement. After noting that the Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run, the alternatives state that, with inflation running persistently below this longer-run level, the Committee will aim to achieve inflation moderately above 2 percent for some time so that inflation averages 2 percent over time and longer-term inflation expectations remain well anchored at 2 percent.

The alternatives differ with regard to the guidance they provide for the federal funds rate. Alternatives A and B offer more explicit outcome-based guidance than alternative C, which maintains the guidance used in previous policy statements. Alternative B would convey your expectation to keep the federal funds rate at the effective lower bound until labor market conditions have reached levels consistent with the Committee's assessments of maximum employment and inflation has risen to 2 percent and is on track to moderately exceed 2 percent for some time. Alternative A provides a more stringent condition by requiring inflation to moderately exceed 2 percent for some time before adjusting the target range, thus signaling a more accommodative stance than alternative B.

Forward guidance that is outcome based and focused on your goals, as in alternative B, is likely to be resilient to many possible paths the recovery may take. Moreover, alternative B conveys this guidance as an expectation, not a promise. To reinforce this point, alternative B also states, consistent with your new consensus statement, that the Committee would be prepared to adjust the stance of monetary policy, as appropriate, if risks emerge that could impede the attainment of your goals.

Finally, all three alternatives update and streamline the language on asset purchases, now noting that these purchases help foster accommodative financial conditions in addition to sustaining smooth market functioning. This change is consistent with previous Federal Reserve communications and is also consistent with the expectations of many respondents to the Desk's surveys.

Thank you, Chair Powell. That concludes my prepared remarks. Pages 44 to 52 of the briefing materials present the July statement and the draft alternatives and the draft implementation note. I will be happy to take any questions.

CHAIR POWELL. Thank you, Trevor. So we have an opportunity for questions for Trevor. I don't see anybody on Skype. [No response] Hearing nothing, let's wrap it up then. Thanks for an excellent round of briefings and discussions, as always. Sorry we won't be in the elegant West Court Café, but one day soon we will meet again there. Have a great night, and I look forward to seeing everybody again, virtually, at 9:00 a.m. tomorrow. Thanks very much.

[Meeting recessed]

September 16 Session

CHAIR POWELL. Okay. Good morning, everyone. I think everyone's on. It's just a little before 9:00 a.m. And why don't we begin with an update on this morning's retail sales data from Stacey, please.

MS. TEVLIN. Sure. Good morning. Retail sales increased again in August but at a slower pace than in recent months. Sales in the Census retail sales group, which is what we tend to pay the most attention to, rose 0.6 percent, which was somewhat more than we expected, but they revised down in July. So, overall, the data came in pretty close to our expectations.

Based on this early read, we would still write down a Q3 increase in real PCE of roughly 37 percent, which is down from about 37½ percent before these data. And when I looked at the details, it looked like spending was continuing to normalize somewhat, with gains in the categories that have been hard hit by social distancing, like food services and apparel. But there were moderating gains or even small declines at places that had been doing well in the pandemic, like online retailers and grocery stores. So, I would say, overall, not a lot of news in this morning's report.

CHAIR POWELL. Thank you. Any questions for Stacey? [No response] Okay. If not, let's go ahead and begin the policy go-round with Governor Clarida, please.

MR. CLARIDA. Thank you, Chair Powell. I support alternative B as written. A vote for this action is consequential not only in terms of the forward guidance it provides, but also because it is our first effort to translate the ambitious goals and aspirations of our newly ratified consensus statement into concrete policy action. I believe alternative B accomplishes both of these objectives well.

With regard to goals, the first two sentences of paragraph 4 come directly from our new consensus statement and will remind readers that our policy actions are always in service to these longer-run goals.

With regard to the policy actions to achieve these goals, alternative B provides threshold guidance that the Committee expects will be appropriate to maintain the current target range for the funds rate until labor market conditions have returned to levels consistent with our assessment of maximum employment and until PCE inflation has returned to 2 percent and is also on track to moderately exceed 2 percent for some time. And, again, this language also draws on the consensus statement.

The new language in paragraph 4 spells out our expectation for appropriate policy in terms of thresholds for employment and inflation that we expect will be met before liftoff is considered. To me, these conditions strike a good balance that provides some information about our expected reaction function over the forecast horizon and beyond but without making a time-inconsistent promise that we would or will ignore unforeseen developments that would put at risk the attainment of our longer-run goals, as we make clear in paragraph 5.

I also support refining the language in alt-B that describes our rationale for continuing to purchase Treasury and mortgage-backed securities. I view this as a modest step that acknowledges the reality that while these purchases have achieved their original market-functioning goals, they should and will continue at least at the current pace, to support the flow of credit to households and firms.

I anticipate that, in some future meetings, we will likely want to step back and assess our LSAP programs so that they are best calibrated to help us achieve our objectives as we transition from recession to recovery and later expansion. But that discussion is not for today. Thank you, Chair Powell.

CHAIR POWELL. Thank you. President Bullard, please.

MR. BULLARD. Thank you, Chair Powell. I'm supportive of option B as written. I think monetary policy is in good shape whether one thinks more pessimistically or optimistically about the outlook. We have the policy rate at the effective lower bound, and it is expected to remain low far into the future. Fed lending through 13(3) programs is keeping the financial crisis at bay so far. There's tremendous uncertainty, which we all understand, but "so far, so good" on the monetary policy aspects of this crisis.

The task for today, as I see it, is to follow through on the framework review, which I think turned out to be more extensive and more elaborate, perhaps, than many of us and many markets were expecting. I think it's important to get the framework review ideas into the statement in an appropriate way at this meeting. So I'm supporting option B for these reasons.

I just wanted to go through some of the elements of the statement here. I like the "average inflation targeting" sentence, which is the second sentence at the beginning of paragraph 4 that says "The Committee will aim to achieve inflation moderately above 2 percent for some time." I think that's the main idea and could be quite effective. And it will be the one-sentence summary that people will use to illustrate how Federal Reserve policy has changed from what it might have been in previous iterations of this Committee.

I also like the "threshold" sentence. I like the state-contingent policy. Whether we should be date based or state contingent is something that the Committee has argued about for years. Being state contingent has come through here, and I think that's great—that's something I've certainly argued for and many others around the table have argued for.

I do think that Committee members and markets and other observers are adjusting, and going to continue to be adjusting, to the “shortfalls” language and the asymmetry in the loss function. The whole idea that there would be no low side to unemployment—there’s no unemployment rate that is too low from the perspective of the Committee—is something that is counter to how the Committee has thought in the past and how financial markets have assessed FOMC policy in the past. And I think there’s going to be some continuing adjustment and learning going on around this idea, which I also think is quite consequential.

I like also the arguments that are presented in paragraph 5, sort of an off ramp, that says that we can cite, as Governor Clarida just noted, other factors if we wish. Presumably, those would be things like asset price bubbles. This Committee has argued for decades, ever since the “irrational exuberance” speech in 1996, about whether we should react to financial excesses. I do not interpret the Committee as actually having done that either in the internet bubble or in the housing bubble in the mid-2000s, but we certainly want optionality on that dimension, and it’s a live debate now, as it was 20 years ago. Also, I think, outside the Committee, even today there’ll be very aggressive arguments about whether the Committee should act based on that consideration as opposed to employment or inflation directly.

I think it’s a good meeting to make these adjustments. I think this reinforces the framework ideas. We’re following through. It is a fairly complicated set of changes, and it’s going to require sustained communication by this Committee over a long period of time, I would say, before everybody adjusts in global financial markets and in academic settings.

I do think it reinforces and clarifies, to some extent, existing monetary policy. Chair Powell has used the phrase that we’re “codifying what we’re already thinking and already doing.” So we’re clarifying relative to previous statements, but I don’t think that we’re all the way to having a super clear statement of what the new framework is about. And that's why it's going to require continuing communication.

I see adopting option B here as relatively low risk at this meeting. The "big tent" language in option B reflects the "big tent" language in the consensus statement. I think that's appropriate and not surprising. As I say, monetary policy is already in good shape at this meeting, and we're reinforcing what we're already doing.

Much remains for this crisis to unfold. The pandemic has proven less severe but more persistent than would have been expected at the outset. Beyond making these changes in the statements here, I think it's prudent to let the dust settle on the pandemic, let information roll in through the rest of this year, and see where we are as we get into 2021 and how far the recovery has come along at that point.

As far as the market reaction, I think this may help to get inflation expectations somewhat higher. Several participants noted that inflation expectations based on TIPS breakevens have been rising. I've taken that as a very heartening sign for this Committee about our commitment to the 2 percent inflation target and our ability to get there. This statement may help to push that process along. Those TIPS-based breakevens are still too low, in my view, and are not consistent with other time periods when we've been able to hit our 2 percent inflation target. And now we're actually shooting for above, so they should actually be higher.

This may be a point when inflation expectations may move up, and, in my view, that would be welcome. We have a period of heavy fiscal deficits here. As I said yesterday, I think that the CARES Act and related legislation may have been calibrated to a somewhat bigger shock even than the one that has occurred. We're talking about borrowing 10 to 14 percent of GDP ostensibly to keep people whole and small businesses whole during the pandemic. But it now looks like national income will only be down 3 to 4 percent—this year, anyway. So you could wonder if we're not going to get a little bit of upside boost from the fiscal side as we go forward. But, in any event, if there was ever an environment in which markets might get worried about inflation actually rising from the dead, this might be the environment—in which you have an aggressive Federal Reserve that really wants to do better on its inflation target, and you have the fiscal side very active.

And, finally, I do think there are some international considerations here that have not been mentioned. The United States is leading on flexible average inflation targeting. This is not always the way it has occurred in global central banking. Sometimes, other smaller central banks have. Certainly, with inflation targeting in the '90s, you had smaller central banks experimenting first, and then the bigger countries coming later. Here, the United States is leading. I think this may cause a bit of a scramble internationally because of exchange rate effects. The ECB, in particular, may have to move more quickly with its own framework review. And it's unclear to me where that will come out, so we may see some turbulence on that dimension. But I wouldn't consider that as a reason to not go ahead here. I think this is all very appropriate for today. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Rosengren, please.

MR. ROSENGREN. Thank you, Chair Powell. I support option C. Normally, I would not dissent against a recommendation when I approve of the funds rate action. As I said yesterday, I expect the federal funds rate to likely remain at the lower bound for at least the next three years, because I expect a worse health outcome and more severe recessionary dynamics than assumed in the Tealbook baseline.

However, I am concerned that the forward guidance is too open ended and will eventually position the economy to experience higher average unemployment rates over the longer run than it would without the guidance. When we provided forward guidance during the financial crisis, it was intended to lower borrowing rates. Specifically, we provided guidance on short-term rates and securities purchases with the intent to lower long-term rates. Currently, the 10-year Treasury rate is a little below 70 basis points, well below where it was during the financial crisis. I do not expect that the proposed forward guidance will materially lower the 10-year rate. The public already knows we have no intention of raising rates anytime soon. Hence, the guidance is already fully reflected in bond pricing.

What is the transmission mechanism of our forward guidance if it is intended to have little effect on long rates, as I assume? While it will have little effect on borrowing rates paid by individuals and businesses, it will have an effect on asset prices. The guidance will serve as an announcement to traders that a risk-on strategy has no interest rate risk, and that it is time to bid up risky asset values. Asset price inflation is a transmission mechanism for monetary policy, but primarily relying on this mechanism is not helping Main Street. It will only be artificially pumping up Wall Street. These asset pressures will build up over time and might set up the economy for a financial contraction down the road.

Some have argued that financial stability action should be used to address this concern. In the United Kingdom, there are tools, procedures, and governance in place to address financial stability risks that are not present in the United States. We took little action as commercial real estate prices and corporate leverage increased during the previous recovery, and this is one reason why I expect more severe economic consequences than if we did have more "muscular" financial stability tools. We have not sufficiently strengthened capital buffers, putting the banking system at risk in the event of a significant commercial real estate downturn and a wave of corporate bankruptcies. Bank dividends also remain high even though our delay in reducing them during the Great Recession and financial crisis had dire consequences.

My own view of forward guidance is that it should meet three conditions: It is an action we can and will do, it is clear and provides accountability, and the removal conditions are clear. Paragraph 4 in option B provides guidance that we will not raise rates from near zero until we have achieved full employment and inflation is running above 2 percent. With my forecast, this will not occur in the next three years and likely not until several years further into the future, beyond my term and that of many others around the table. Knowing that we cannot commit future Committees, the public will discount the guidance, making it less credible and, thus, less effective.

Paragraph 5 in option B does provide caveats regarding the forward guidance, but none of the caveats are spelled out. There is not a serious financial stability "knockout" clause in the statement, and, as written, it allows those wishing to focus on unconditional guidance to focus on paragraph 4, while those who want to emphasize conditionality will focus on paragraph 5. As a result, there is no accountability.

The reason paragraph 5 needs to be strengthened is that there are a variety of states of the world in which keeping rates at near zero would make little sense. One of the states is a world in which asset prices have gotten way too frothy. Most of our models do not sufficiently capture the role of financial markets in the economy, thus making financial problems difficult to perceive, which is why stronger conditionality on financial stability considerations is particularly important.

I want to make it clear that I support the goal of surpassing 2 percent inflation and reaching full employment. What I fear is the promise of maintaining the funds rate at the effective lower bound. Leaving rates near zero makes sense when we are far from where we want to be, as we are right now.

We should be accommodative but not necessarily by remaining at the effective lower bound as we approach our objectives, particularly if there are significant adverse side effects showing themselves in financial markets. If we want to more quickly achieve full employment, making the 13(3) facilities more attractive so individuals and firms face lower borrowing costs would likely be more effective, with fewer side effects.

Although there is a strong consensus shown in the SEP that we need to be at the lower bound for some time and there is a strong consensus that we should be accommodative until our goals are met, there is not a consensus on this forward guidance. I would much prefer option C until we can arrive at forward guidance that has more support of the whole Committee. Pushing option B at this time risks undermining the long-run objective statements we so recently approved unanimously. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Bostic, please.

MR. BOSTIC. Thank you, Mr. Chair. I support alternative C. Like President Rosengren, I agree with the proposed action. However, I am not convinced that there is an immediate need for enhanced forward guidance, nor do I think we have done complete "due diligence" on several issues that are relevant for how we deploy our existing tools to meet the Committee's objectives. Because alternative C, as I read it, effectively defers details on the tactics that we intend to deploy toward achieving our goals, I think that it is the best option at this time.

Let me explain my thinking. Our framework review, which was methodical in the very best sense of the term, focused on two questions. First, how does the Committee interpret the dual mandate? And, second, what tools does the Committee intend to deploy in pursuing the mandate, and how does it intend to deploy them in practice?

The consensus statement clearly answers the first question. That answer—flexible average inflation targeting with respect to our price-stability mandate and an asymmetric approach to the employment mandate—was crafted through an iterative and fairly intense process engineered by the Chair and Vice Chair. That process was excellent and brought us together on a clear and coherent message.

I don't think we have yet taken the same care with respect to the second question. Instead of issuing forward guidance now, I think we should deliberate on how best to employ our entire suite of tools in this new framework. This should ideally happen in a more structured approach, akin to what we just did for the long-run statement.

I will highlight just a couple of issues that I think deserve more discussion. One of them is apparent in the different approaches represented in alternatives A and B. As we went through the process of constructing my SEP submission, my staff replaced our old strategy of using a "Yellen–Taylor" rule benchmark for the federal funds rate with two versions of what we are internally calling the "Powell rule." These new rules reflect both flexible average inflation targeting and asymmetric responses to unemployment rate deviations. One version of this rule is outcome based, or conditioned on actual overshoots of the 2 percent inflation target, akin to alternative A. The second version of this rule is based on forecasts of overshoot, akin to alternative B. The difference in the funds rate path across these two rules is material. Under the forecast in my SEP, liftoff from the lower bound would occur a full two years later under the outcome-based rule compared to the forecast-based rule. Furthermore, alternatives A and B imply commitments that I think have to be seen as relatively permanent. In the absence of an unforeseen exceptional circumstance, "walking back" from this commitment will undermine the mechanism through which forward guidance works.

Under any of the alternatives, it is clear that we are contemplating a funds rate near the zero bound for a very long time. However, when it comes to considering a commitment to stronger and more prolonged accommodation with new forward guidance, I have several open questions in my mind. How do we expect this additional accommodation to manifest itself in financial markets and the real economy? Given the unprecedented actions that we have already taken thus far, has our existing deployment of tools and facilities contributed to the apparent disconnect between financial markets and Main Street? How muscular can a financial stability escape clause be without compromising the public's belief that we are truly committed to our new framework?

Furthermore, we have not, in my view, come to a comprehensive view on the role of balance sheet policy moving forward. We have had little discussion of our asset purchase policy since it was rolled out earlier in the year despite the rapid growth of our base balance sheet from \$4 trillion to \$7 trillion and, even more importantly, the resulting increase in reserves of over \$1 trillion. The purchase program initiated in March was a response to strains in liquidity and functioning in the market for Treasury securities. And, importantly, this action was combined with a relaxation of the supplementary leverage ratio. Judging by the Desk report, U.S. Treasury securities market functioning is back to pre-COVID levels.

So my first question is, is a continuation of purchases at the current pace necessary for continued market function? And, if so, then I heartily support continuing purchases and communicating this purpose. However, we have also begun to communicate the message that our purchase program is helping to foster accommodative financial conditions—that is, operating as monetary policy stimulus. I, for one, am not sure how to internalize the macroeconomic-stabilization aspects of our balance sheet policies with our interest rate policy and macroprudential tools. For example, can balance sheet policy reinforce, supplement, or replace forward guidance? Is it our intention to run an open-ended purchase program with the same conditionality that we have now built into our interest rate policy? Does that answer change if there are significant financial stability consequences of our purchases? How essential is the relaxation of macroprudential tools, like the supplemental leverage ratio, for the effectiveness of a long-run asset purchase program?

I think all of these questions and considerations need to be discussed by the Committee before we launch into making long-term commitments for our policy tools. Again, given that markets do not expect a shift in the funds rate path for a very long time, I think there is no urgency to push up forward guidance with respect to interest rates or asset purchases without first having this conversation.

Finally, I want to be clear that I share the Chair's concern about the critical importance of preserving our institutional credibility. But, to be honest, I don't think our credibility would be put at any risk if we delayed issuing forward guidance by several weeks while we work through some of these important implementation issues. As evidence in support of this view, I would point to exhibit 18 in yesterday's "Financial Developments and Open Market Operations" materials, which showed that market participant expectations for the timing of new forward guidance have not coalesced into an expectation of action today, but rather have become more dispersed and now extend over several months.

So until we have had some conversations to clarify and together resolve our positions on these details of policy implementations, I will feel very uncomfortable with the setting for our collective monetary policy tools and the forward guidance that we are about to communicate. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Harker, please.

MR. HARKER. Thank you, Mr. Chair. Although I'm somewhat sympathetic to the comments that Presidents Rosengren and Bostic just made, I will support the statement in alternative B—but with some reservations, and I just want to lay out what some of the reservations are.

I want to focus specifically on a couple of things. One is paragraph 4, sentence 4. That's the key sentence, in my mind, linking our dual mandate, and linking it with the conjunction "and." What do I mean by that? Well, if you think about what this sentence can be interpreted as—and when we were kicking this around with my team in Philly, some interpret this as really that—"and" is a strong connection really tying these two together. And what do I mean by that? That if inflation were to start to move significantly past our 2 percent target but our estimate of maximum employment had not been reached, we would take no action. That's one strict interpretation of what that sentence says. I don't think that's how the Committee would behave. I don't think that's how I would behave.

First of all, there's an endogeneity, in my mind, between inflation and that maximum level of employment. If I recall, back to several months ago, pre-crisis, when we were asking the question and people were commenting on whether we have reached the maximum level of employment, the question everybody pointed to was, is inflation moving? Clearly, those two are tied together in our minds and, I think, in our actions as well. So there's a concern that by saying "and," it ties our hands maybe more than we want it to. In this situation in which inflation is starting to move significantly past 2 percent, but whatever we said the maximum level of unemployment is has not been reached, we would not take action.

What do we do about that? Maybe there is more explicit language that we could put in. Maybe we could change "and" to an "or" just try to create some flexibility for the Committee in the future. That's one concern I have, that that sentence does seem to tie us in a way that I'm not sure we as a Committee would behave in that manner.

The second concern I have is to better define the word "moderately" in the statement. And what do I mean by that? I get this question a lot, and I'm sure you do too, when we're out in public. What is the exact number? Is it 2.5 percent? Is it 3 percent where we would take action? What does "moderately" above the 2 percent target mean?

Well, again, this is context dependent. If it's creeping up to 2 percent versus roaring past 2 percent, we would behave very differently, right? It's about the rate of change of inflation, not just the level of inflation itself, right? In that case, it's too complex to put what I just said in the statement, but I do think our public communication is going to have to explain this word "moderately" more precisely than we have because, I think we need the flexibility as a Committee to function. I think those are the two main reservations I have about the current statement.

Now, I may be asking too much for the statement to include all of that. I understand that. Maybe we can change the "and" to an "or." I would be supportive of that. As we go forward, it will be important for me to really emphasize through my public communications, what we really mean by this; it's not just on the shoulders of the Chair. And I do think that—going back to the comments that we just heard from Presidents Rosengren and Bostic—we have to have some consensus about what some of these things mean as a Committee before we go out and make these public statements. So I will support the statement, but I do have these reservations and hope we can think further about the communications strategy associated with this.

Venturing into some of the Board's territory, I do ask that, in the not-too-distant future, more guidance from the Board is forthcoming surrounding our plans regarding the evolution of 13(3) our facilities. I am often asked by the public, at least recently, about when and how long our 13(3) facilities will continue to exist and when they will come to an end. This guidance would actually help me better communicate to my audiences how an important part of our current policy will eventually be unwound. These topics are for another day, but I do want to put them on our agenda for some future meeting. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Daly, please.

MS. DALY. Thank you, Mr. Chair. So I support alternative B as written, but I will say that this wasn't something that I slam-dunk knew that I wanted or thought was the right thing to do. I share some of the concerns raised by President Rosengren and President Bostic and, just now, President Harker in thinking about what we are really needing to accomplish, what can we accomplish, and how best to accomplish it.

I have, though, through all of my deliberations and thoughts, come down on a very different view than I think Presidents Bostic and Rosengren articulated. I actually now strongly support what we're doing in alternative B. And I want to just go through my logic on this.

With the announcement of our revised long-run monetary policy strategy literally just behind us, I see this initial policy statement as the place where everyone's going to be looking to see what we mean by that. We got a lot accomplished by simply announcing our long-run framework, but we need to really be specific about what that looks like so that people can recognize it's not just a change in a decorative way but is a change in a very specific way. So I see this as the next critical step to building credibility among market participants, businesses, and households and showing them that we are fully committed to achieving the goals we just six weeks ago, or four weeks ago—I've lost track of time—laid out.

In this context, if you think about the past few months, the improvement in the economy has surprised to the upside. But despite the positive news, as we heard yesterday, we remain in a very deep hole. And it will take some time and ongoing policy support to return us to our pre-pandemic levels of employment and output.

And why am I mentioning this now? Well, it's really important to distinguish, I think, for the public the difference between levels and growth rates. It's going to be very tempting in coming quarters for the public, broadly defined, to conflate robust growth rates in key outcome measures, like real GDP and jobs, with completely returning the economy to full employment and price stability. And so we're going to need to communicate, I think vigilantly, the difference in the latest data, as good as it is, and our knowledge that extensive dislocation due to the pandemic has left a mark, as we heard repeatedly yesterday. And I see this case of the whole and the level versus the rate as pretty simple to make.

Nonfarm payroll employment is still down more than 7 percent, about 12 million jobs, from its pre-recession peak. And to put that in perspective—and I really find this perspective helpful—this is a deeper ditch than at any time during the Great Recession, which we all thought was the worst thing we were going to see in our lifetimes. So this pattern is similar for overall output, not just employment, which remains well below its pre-pandemic level.

I think we're also going to need to communicate and emphasize that the aggressive monetary policy action and the fiscal policy actions that were taken earlier this year have offset some of the initial downside risk to the pandemic. We have really done a lot to support the economy. Governor Clarida mentioned this yesterday. The evidence is there. The strong rebound in interest rate–sensitive sectors is really direct counterevidence to those who questioned and even doubted the effectiveness of our rate cut at the start of the pandemic.

So communication about the work ahead of us and the demonstrated strength of our tools—it's what we want to do in terms of getting the level back up and also how strong our tools are—to my mind will further solidify the public's confidence in two things: the recovery and that we can do this, and our ability to deliver on our stated goals, which we just made clear in our long-run framework.

So here I want to highlight another part of the discussion that we had yesterday. Since we end early in Pacific time, I went home and reviewed, just a bit, the public comments that all of us have made over the past several months. And I would say, almost every one of us has spoken openly and thoroughly about the disparate toll that the pandemic has taken on the population and the economy.

In the Chair's words—you said them right out of the gate—this is putting the most weight on those least able to bear it. And we've all acknowledged this. And this acknowledgement is critical. We have to keep reminding ourselves and the public about that. But I would argue that even more critical at this juncture is that we communicate how our policy can help mitigate the long-term damage of this, make it less lasting, and build on an economy that includes everyone.

One of the most meaningful lessons I learned, and I think many of us learned, during the past expansion was that the labor market is far more flexible than we think. So many people who had been written off by researchers, policymakers, and sometimes myself as structurally unemployed, who are out of the labor force because they didn't have the right skills, were able to come back in and participate in the economy as we achieved sustained economic growth, above-trend growth. And I think this lesson must be front and center as we navigate the stimulative part of our work to really assure people that we are committed to them.

So, in this context, with those arguments that I've just made, I see alternative B as being exactly what is needed. It states and restates our commitments and makes explicit the policy actions we project will be necessary—and I underline "project"—project will be necessary to deliver on our objectives.

The statement first reaffirms our goals of maximum employment and 2 percent inflation over the longer run. It also states that, given where inflation has been, we will aim to achieve moderately above-target inflation for some time in order to meet that target, on average, and thus keep longer-run inflation expectations well anchored. I see this as important table-setting for our policy actions, and it obeys the guidance of great communicators to say it once and then say it again and then say it again.

Second, alternative B provides new outcome-based funds rate forward guidance consistent with the expectations set by our long-run framework. And I see this guidance as essential to push inflation up to 2 percent, on average, in some reasonable time frame. This guidance is what my management consultants, my change management group, remind me is called a "signature move." It's one that follows an aspirational strategy with details that confirm our commitment.

Now, as Lorie and Trevor discussed yesterday, we've already seen a positive response of market participants to the release of our long-run strategy. It's clear from the New York Fed Desk survey, which showed that after the consensus statement became public, the conditions for funds rate liftoff shifted. Participants now expect a lower unemployment rate and a higher inflation rate when rates first move off the lower bound, much more in line with the proposed outcome-based funds rate forward guidance we are considering today in alternative B.

I expect the release of our policy statement to further solidify these views and potentially do the next piece of the work ahead of us, which is to narrow the still sizable dispersion around the Desk survey respondents for the conditions of liftoff. In those pictures, we saw the conditions change, but there's still quite a bit of dispersion that this will hopefully reduce. Importantly, the outcome-based guidance we have in alternative B, in my mind, allows us the flexibility we need to respond to ever-changing conditions in this now highly uncertain world. If the economy improves faster than we expect, this statement works. If it takes longer than we expect, this statement works.

So, finally, let me conclude by saying just a few things about the balance sheet. I appreciate the addition of the text making it clear that our asset purchases are fostering accommodative financial conditions. I see this as an important "pivot" that allows us to maintain expectations about our purchase plans even as the financial market volatility subsides, as several have mentioned. And with long-term rates currently quite low and the Desk survey confirming that market participants expect us to continue the current pace of asset purchases through the end of this year, I see no immediate need to say more. As we've learned again and again, however, markets can be fickle. And given expectations that asset purchases will continue through 2023 and that asset purchases being an important part of what they see as our accommodative policy, albeit at a slower pace, I want to just put on the radar that our current language—namely, "over coming months"—will probably soon grow old.

So I would like to see, as others have mentioned, more analysis on the balance sheet and perhaps even some scenario planning discussions regarding the size, timing, and maturity range of future asset purchases. I would like to have these conversations in advance of needing them so that we can ensure we are all in the best place to use our tools proactively and with great consensus. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Mester, please.

MS. MESTER. Thank you, Mr. Chair. I support maintaining our target range for the federal funds rate at 0 to ¼ percent and continuing our Treasury security and agency MBS asset purchases at the current pace. After the unprecedented decline in economic activity in the second quarter, the third quarter has seen stronger-than-expected increases in activity in hiring. But as the Chair said yesterday, the rebound we've seen is where it's been easiest as a result of the reopening. In terms of the level of output and employment, the economy is still far from where it was in February before the pandemic arrived, and this is going to be the harder part of the recovery.

I believe it will take some time to move from a fragile, disparate recovery to a sustainable, broad recovery. Uncertainty regarding the outlook remains high, of course. The recovery's path is still highly dependent on the path of the virus and public health considerations, and we've not yet seen how the economy will fare without fiscal policy support. I've conditioned my forecast of continued recovery throughout the forecast horizon on having fiscal policy support in place next year, but it's far from certain that such support will be forthcoming. My forecast is also conditioned on monetary policy being highly accommodative throughout the forecast horizon to support the recovery and return to our goals of maximum employment and price stability.

Now, regarding the statement language, with great respect for the arguments the Chair made yesterday, I would have preferred to change our forward guidance paragraph in two steps. I fully support bringing in language at this meeting from our new monetary policy strategy statement to underscore our commitment to the new strategy. This includes indicating, as in our strategy statement, that "the Committee seeks over time to mitigate shortfalls of employment from the Committee's assessment of its maximum level and deviations of inflation from its long-run goal" of 2 percent and also indicating in our postmeeting statement that with inflation running persistently below 2 percent, the Committee will "aim to achieve inflation moderately above 2 percent for some time" to ensure that longer-term inflation expectations remain well anchored and that inflation averages 2 percent over time.

But with respect to the conditions of liftoff, instead of the alternative B language, I would have preferred at this meeting to retain flexibility and say that we anticipate that monetary policy will need to remain highly accommodative, and that the current range of the federal funds rate will remain appropriate until the economy is on track to achieve the Committee's goals.

I view alternative B's changes to the liftoff criteria as being very significant ones, and I would have preferred to wait to make such a change until the Committee had had the opportunity to fully discuss the implications of this commitment. A commitment to very accommodative monetary policy until inflation is moderately above 2 percent for some time is consistent with the new strategy statement. But it's not the same as alternative B's commitment to keeping the funds rate at the ELB until inflation is at 2 percent and is on track for that moderate overshoot. I think it's worth discussing as a Committee the differences in these two approaches, as well as how we will be assessing whether we have met the maximum-employment and inflation criteria we have committed to, even if it's a quasi-commitment.

Like President Rosengren, I would have liked a discussion of appropriate knockout clauses for financial stability, which is consistent with our new strategy document and other scenarios that might entail our deciding it is appropriate to abandon the forward guidance before the set criteria have been met. Paragraph 5 mentions that the Committee would be prepared to adjust the stance of monetary policy if risks emerged that could impede the achievement of our goals, but it does not mention what these risks could be. I think that we should understand what the potential risks are and better understand how we will react to them.

But are there any costs of delaying to make a change in the liftoff guidance until November or December? I don't think it would look like we are tepid on the new strategy so long as we change the document language today to align it with our new strategy statement. I don't think refraining from changing the liftoff guidance today will be sending the public the wrong signal about our policy intentions. The general public and market participants understand from the Committee's current guidance that interest rates will remain at the effective lower bound for some time. Moreover, with the new SEPs coming out today, I don't see much risk that the market's policy expectations will tighten if we do not indicate strong forward guidance at this meeting. Indeed, the Desk surveys suggest that slightly more of the surveyed market participants expect the change in guidance to come later this year.

So I think waiting for the Committee's full discussion of appropriate changes to the forward guidance will not cause problems. There may even be an additional benefit of waiting, because it preserves this tool for when it could have a larger effect. I can easily imagine that later this year, in the face of positive numbers on growth and employment, market participants' expected policy rate path could tighten and become less aligned with our own anticipated policy rate path. I, too, am concerned that growth rates obscure the problems in the economy that the levels are more reflective of. Having the ability to strengthen our forward guidance at that point could be an effective response and provide a larger benefit under those conditions than changing the guidance today under current conditions.

Now, I realize that in our models, they would suggest that having the forward guidance in place already would actually help prevent such a misalignment of policy rate expectations in the first place. But as we've seen, expectations do not always move in the way our models would suggest. There seems to be an element of "What have you done for me lately?" in the real world. So I can imagine scenarios in which using this tool later this year would be more effective in keeping policy expectations aligned and keeping monetary policy very accommodative. This would also then preserve the tool of increasing asset purchases to be used later if and when it might be needed in the future. As it is, if we use up the forward guidance tool at this meeting, I think markets and commentators will quickly turn the discussion to the question of when the FOMC will be increasing its asset purchases to support the recovery, similar to discussions that arose after we moved to the ELB about whether and when the Fed will go to negative interest rates.

On the substance of the conditions in alt-B's forward guidance—that is, whether to wait until inflation is at 2 percent and headed higher to move off the ELB—I would have had some preference to move a bit before that. I think we may be underestimating the cost and overestimating the benefits of the proposed liftoff criteria. As our new strategy document indicates, monetary policy actions tend to influence economic activity, employment, and prices with a lag. The Committee moved the funds rate to the ELB in reaction to the extraordinary circumstances of the pandemic. Keeping the funds rate at the ELB until the goals are met would seem to belie the need for policy to be forward looking, and a move from the ELB would still maintain a very accommodative policy stance consistent with our new strategy. In my view, there are potential financial stability issues with keeping rates at the ELB for as long as it might take to meet the proposed criteria. Although hard to measure, there is evidence that "search for yield" behavior and promises to provide an extended period of monetary accommodation could create distortions in financial markets that may threaten the sustainable achievement of maximum employment and price stability.

In terms of the potential benefits of the proposed forward guidance, as I discussed yesterday, we have limited understanding of what drives inflation expectations or changes in inflation dynamics. So it's not clear that the commitment will have the effect we're hoping for in anchoring inflation expectations and moving inflation higher.

That said, I recognize that my views differ from those of others on the Committee. So although I would have preferred to handle this differently at this meeting, with a statement similar to alternative C, I'll support the Chair and vote for alternative B and the associated language. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Evans, please.

MR. EVANS. Thank you, Mr. Chair. I really appreciate everybody's thoughtful comments this morning. They've really made me think about some things.

I think today's economic environment is an appropriate time to be implementing output-based forward guidance. Though many uncertainties and risks remain, the economic outlook is clearer than it has been at our past several meetings. And with employment and inflation well below target, forward guidance about the rate path linked to these outcomes can provide useful additional monetary policy accommodation during these difficult times. In addition, aligning the forward guidance in the postmeeting statement more closely with our revised consensus strategy statement is an important milestone in the rollout of our new long-run monetary policy framework.

In assessing the alternatives, I found alternative B highly complex. I think this will challenge our ability to communicate clearly and simply about our future policy decision points, thus impeding the effectiveness of its forward guidance. The guidance in alternative A is much simpler. The policy laid out in alt-A also has a higher likelihood of achieving 2 percent inflation over time and eliminating employment shortfalls than does the policy described in alternative-B.

Why do I say that alt-B is complex and might not work? Essentially, the forward guidance in alt-B attempts to describe a multipronged monetary policy reaction function, including ad hoc responses to the emergence of unnamed and opaque risks. First, alt-B says we will maintain the current 0 to ¼ percent target range until we've reached our employment mandate, inflation has perhaps only touched 2 percent, and we have inflation forecasts that moderately exceed 2 percent for some time. Down the road, Committee participants will likely have quite different assessments of whether these conditions have been met. And my personal concern is that effective-lower-bound fatigue will be rising and the follow-through on our long-run strategy will be incomplete.

While the second condition in the multipronged forward guidance is meant to address this concern, the FOMC will be maintaining accommodative monetary conditions even as policy rates begin to rise. I agree this is true when we write it up on the chalkboard; however, the success of this strategy relies on the very strong assumption that everyone understands this feature of a rising rate environment. Historically, communicating to the public that our upward march is still accommodative is often met with substantial skepticism and disbelief. Indeed, the public will remember our recent campaign from December 2016 through 2018. Over this time, the Committee raised rates by 200 basis points and did not ultimately deliver sustainable 2 percent inflation. Even with the new long-run framework, this history leaves us with a lot of explaining to do.

Next in alt-B comes paragraph 5, with new language on adjusting the stance of monetary policy if other risks emerge to impede the attainment of the Committee's goals. I read this paragraph to indicate that other risks may require raising rates early, thus withdrawing accommodation before employment shortfalls are eliminated or inflation overshoots 2 percent sustainably. I don't have a good idea about how we will explain raising rates to counter unnamed risks or policy goals—again, before employment shortfalls have been eliminated or inflation overshoots 2 percent for some time, because our forward guidance says it's okay to raise rates if those conditions have been met. Paragraph 5 appears to refer to Committee goals or economic mechanisms, but these are left undescribed. These require substantial public commentary, and I worry that such public discussions will be difficult and likely unproductive. They'll probably be noisy.

I find alternative A much simpler. It only tries to characterize the conditions for funds rate liftoff. Those conditions are well described and closely align with our mandated goals. Given alt-A's stronger forward guidance regarding shortfalls of employment and 12-month inflation above 2 percent for some time, additional language about monetary policy being accommodative as we raise rates is unnecessary. Also, alt-A does not explicitly raise any problematic risk "escape" clauses. That's my opinion.

Alt-A also has a much higher probability of delivering inflation that averages 2 percent over time. Before raising rates, we should be pretty sure we're on track to achieve persistent moderate overshooting of inflation. Given our subpar inflation track record, our maintained null hypothesis should be that inflation will continue to underperform relative to expectations. The burden of proof for rejecting that null and thus justifying liftoff ought to be very high. And this is an attractive feature of alternative A, as it delays liftoff until an overshoot is actually in the data and not just another hopeful forecast.

In today's global low interest rate environment compounded by scarring produced by the pandemic, there's a high risk that we could fail to average 2 percent inflation over time. If we tighten prematurely and then inflation falters, we will have failed to live up to our new strategy statement at its very first test. Such a credibility hit would go against the very thing our new strategy is trying so hard to achieve: the mitigation of ELB risks. We would instead have reinforced the substantial probability of inflation expectations settling below 2 and another bout of near-zero policy rates before too long.

Waiting for liftoff also seems like appropriate risk management. If inflation moves up to 2½ percent for a while, that just has us averaging 2 percent in a shorter amount of time. If we have to raise rates somewhat more quickly in this higher-inflation environment, it will be occurring at a time when the economy will be stronger and able to absorb a steeper path of rates.

There's another reason I prefer alt-A to alt-B. Alt-A refers to eliminating shortfalls of employment from the Committee's assessment of its maximum level, while alt-B refers to achieving labor market conditions consistent with maximum employment. The failure to include shortfalls in alt-B could suggest a less than full-throated endorsement of the view of our employment mandate articulated in the consensus statement that we so recently announced. I see this as a problem.

In sum, I find alternative A to be the most attractive policy option. But I'm not a voter today. Although I agree that alternative B can be in line with our revised policy strategy, I just think its communications challenges are substantial, and we will debate many features of its forward guidance, perhaps loudly and in public. I fear this will damp our accommodative intentions.

Alternative B would be more palatable to me if the "target range guidance" sentence referred to employment shortfalls and inflation that has risen sustainably to 2 percent and is confidently on track to moderately exceed 2 percent for some time. I could agree with including the sentence on the accommodative stance of monetary policy, although I think its low current relevance isn't worth the communications complications that it presents. As I intended to indicate earlier, I don't disagree that a 1 percent federal funds rate can be accommodative. I just think it's hard to convince the public of that when inflation is only 2 percent and overshooting is just a forecast of the future, as opposed to when inflation is actually 2¼ percent or higher.

Also, I'm not a fan of the alt-B risk language, though if I were a voting member, I would probably agree to its inclusion. Of course, the biggest unstated risk is financial instability. But if you're worried that our 0 to ¼ percent target range is creating such risks, I really doubt that a 1 percent funds rate will mitigate them, or even 2 percent. And, of course, inappropriately tighter monetary policy would slow the economy, which could create financial instability risks on its own.

Were we to clearly face financial instability risks that threatened appropriate monetary policy, I would hope strong regulatory actions would be well in train, and I would strongly advocate relying on those. I could not imagine the situation in which raising the target policy rate would be appropriate if employment shortfalls are still notable or inflation is not consistent with our average 2 percent objective. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Barkin, please.

MR. BARKIN. Thank you, Mr. Chair. I recognize that clarifying the language today supports our new framework. But with economic indicators surprising on the upside, limited policy space, and continued uncertainty, I'd prefer to wait to unveil new language for a time when we get more bang for the buck—say, if the yield curve steepens, the recovery has a setback, or the path of the virus comes into sharper focus. As a result, on balance, I would have preferred alternative C. I always think there's value to keeping an arrow in the quiver, and we have time, given that our current forward guidance isn't inconsistent with our new framework. Alternative B's guidance may well be with us for years. I'd prefer to take more time and, frankly, be informed by a full give-and-take around this table.

President Evans's "complexity" point is compelling. I'd hope more time might lead to more consensus and enable a simpler message. I specifically struggle with alternative B's forward-guidance language. I know it's an attempt to reinforce our new framework and, arguably, would have led us to a different path in the last upturn. But I always remind myself that the past is not the future. Inflation could spike without maximum employment. The unobservability of maximum employment makes it hard to use as a trigger. As President Harker said, the more conditions we place on liftoff, the less likely we are to do so.

Now, all of that said, the "new risks" sentence in paragraph 5 is strong enough to address the scenarios I described, so I can live with that, though strong guidance with a broad escape clause makes me a bit uncomfortable, too. The biggest concern that I have is the question of when we lift off versus when we normalize. I'm completely comfortable not normalizing until we have the overshoot we've discussed. That's what I thought we agreed to in our consensus statement. But the proposed language likely will keep us at the lower bound for a very long time, and zero isn't costless. It creates "reach for yield" behaviors, and it encourages leverage.

Moreover, in a scenario of fast-escalating inflation, it risks leaving us "behind the curve." Imagine trying to move quickly from the ELB to, say, a 3½ percent federal funds rate in order to constrain inflation and the collateral damage that such a rapid increase could cause. For those reasons, the earlier liftoff in the Asymmetric Discounted Average Inflation-Targeting (ADAIT) 2019 policy rule—and I'd like to see even a 2020 version of that—resonated with me.

Finally—and not for today's statement—I do hope we can spend more time on the topic of financial stability. We've given it a more prominent role in our framework. I'd value a follow-up discussion on how we might operationalize it beyond the quarterly discussion we have. For me, the critical place to focus is leverage. Low rates create higher leverage—that's, indeed, in part how they stimulate the economy. That leverage happens in banks that we oversee, but it also happens in multiple places we don't. We also know leverage can become excessive, particularly when paired with maturity transformation. We saw that with mortgages in 2008. I could imagine that we might want to act on excess leverage by asking whether we should incent it somewhat less. But I'm sure there are other views on that. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Kaplan, please.

MR. KAPLAN. Thank you, Mr. Chair. I prefer alternative C today. It is my view that the current stance of monetary policy will be appropriate until the Committee is confident that the economy has weathered recent events and is on track to achieve its maximum-employment and price-stability goals, consistent with its new policy framework. However, I prefer that the Committee retain greater policy rate flexibility beyond that point.

I do expect it will be appropriate to be highly accommodative until we reach our dual-mandate goals. I also believe we should be far more patient in the future than we have in the past in removing accommodation. But I'm uncomfortable with a commitment or an expectation that we're going to keep rates at the lower bound until we achieve those objectives.

Forward guidance is a potentially powerful tool that comes with costs and benefits. On the positive side, committing to keep rates near zero may, in principle, help lower long-term yields and thus provide additional stimulus that would accelerate the economy's return to our longer-run goals. However, the benefits of such a policy don't seem to me to be particularly large at this point, particularly given the level of bond yields and interest rates generally.

At the same time, I'm concerned that as this recovery unfolds and we get greater visibility into a post-COVID-19 economy, we may change our views regarding the wisdom of this guidance. And, although there are escape clauses, my own view is that the bar is very high to activate them. I would guess that it would be very costly to activate such escape clauses in terms of damaging the credibility of the Federal Reserve and the effectiveness of forward guidance as a tool down the road.

In addition, I'm reluctant to restrict the ability of future Committees to use their best judgment to act in a way that achieves our dual-mandate objectives, particularly after we get beyond the pandemic. I believe the current statement does not allow sufficient flexibility for future Committees to take into account a change in views on inflation, the role of technology and technology-enabled disruption and how they affect the pricing power of businesses, changes in regulatory policy, changes in tax policy, changes in the role of the dollar as a global reserve currency, and other developments, some of which we just can't foresee or predict as we sit here today.

To me, one of the great strengths of the FOMC—and I think we're demonstrating it today in this discussion—is the gathering of an outstanding, diverse group of decisionmakers who are empowered to use their best judgment based on analysis of expected economic conditions. I don't want to lose that.

I believe there's an important difference between remaining accommodative, or even highly accommodative, and keeping rates near zero. While I believe we should be much more accommodative than in the past in order to create a tighter and more inclusive labor market and achieve our 2 percent average inflation target, I believe there are costs to keeping rates at near zero.

One comment I would make—and we alluded to this yesterday in our conversations—is that in my SEP submission for 2023, I have the unemployment rate getting down to 3½ percent and the inflation rate still below target at 1.9 percent. Coincidentally, this is similar to the state of economic conditions we faced in January 2020, at the beginning of this year, which is why I asked about it yesterday. At that time, the federal funds rate was 1½ to 1¾ percent. For me, in light of our new framework, I no longer believe that 1½ percent or 1¾ percent would be an appropriate federal funds rate. I think it's too high. It should be much lower than that. But, on the other hand, do I think it should be at the lower bound? I certainly am not willing to make a commitment today, if we get to those same economic conditions, that I would want to have a federal funds rate at near zero. And the way I read this current statement, we have to keep it at the lower bound. In other words, I have to currently expect that the lower bound would be appropriate, and I don't know that the lower bound would be appropriate, based on my sense of how we're going to assess the economy at that point.

I believe there are real costs to staying at the lower bound for a prolonged period. Keeping rates at near zero negatively affects savers. It encourages excessive risk-taking. It creates distortions in financial markets, which can create greater fragility, as well as excesses and imbalances, which could ultimately jeopardize the attainment of our objectives. These fragilities and tail risks are much easier to recognize in hindsight. That's the problem. They're very hard to recognize in real time. I worry that the episode we saw in March of widespread forced selling was an example of the fragilities that can be created by a prolonged period of excessive risk-taking.

I'll go back to where I started. It's my view that, again, I'm comfortable keeping the current stance of monetary policy at the effective lower bound until the Committee is confident that we've weathered recent events and we're on track to achieve our maximum-employment and price-stability goals, consistent with the framework. I would be comfortable if we made a commitment in our forward guidance today to be highly accommodative. If we made that commitment today for forward guidance, I would be comfortable with a somewhat less robust financial stability escape clause. I'm just not comfortable committing today or giving guidance today that we think it will be appropriate to keep rates at the lower bound beyond that point. Thank you, Mr. Chairman.

CHAIR POWELL. Thank you. President George, please.

MS. GEORGE. Thank you, Mr. Chairman. With the recent announcement of the Committee's policy framework, much of the public commentary seems to get it right—that rates are likely to stay low for some time and that the Committee is likely to avoid preemptively raising rates to head off inflation moving above 2 percent. Inflation expectations also appear to have moved up.

The policy choices for this meeting necessarily set in motion a path to achieve these longer-term goals. In my view, alternative B does a reasonable job of introducing outcome-based guidance at a time when the outlook is threatened by downside risk. It is clear about low-for-long policy, barely stopping short of a firm promise to remain at the ELB by allowing flexibility only to respond to risks that could interfere with reaching our mandated goals. The aim of this guidance will require clear communication if it is to bolster inflation expectations and foster a return to maximum employment in the process. But I worry that the communication, if not the policy stance itself, will prove challenging in several respects.

For one, the statement is explicit about keeping our policy rate at the ELB. In motivating the change toward flexible average inflation targeting, a key point of communication has been that the new framework would provide policy space and be better able to keep us away from the ELB. But the language in paragraph 4 could keep us at the ELB for some time. This apparent contradiction could cause confusion, presenting a communication challenge. If having policy space to cut rates is an important rationale, committing to hold rates at zero may be what the models tell us is optimal, but I don't anticipate this being a convincing argument. In this regard, I might have preferred we communicate our policy stance in terms of a commitment to maintain accommodation rather than explicit focus on holding rates at the ELB.

I also see two distinct and somewhat perpendicular risks as being associated with this relatively firm commitment to staying at the ELB. On one side, I worry that alternative B sets us up with a commitment to be stuck at the lower bound for some time. We could fall into a similar trap to what Japan is in and just to try to raise inflation by a few tenths. In this scenario, I could imagine the Committee's credibility being used as a rationale for further policy accommodation in pursuit of an elusive inflation goal and at the expense of other considerations, including financial imbalances and the expansion of the Fed's "footprint" in financial markets. Unfortunately, unlike some other advanced economies, the United States lacks a well-defined and reliable macroprudential framework to complement the goals of monetary policy.

I also see important upside risks to the inflation outlook. As I discussed yesterday and in previous meetings, the large disinflationary impulse coming from the COVID shock has largely been concentrated in a few hard-hit industries up to this point. In other sectors in which demand has surged and supply has sometimes been constrained, inflation has strengthened, sometimes noticeably. While inflation remains well in hand, I would be uncomfortable if inflation were to move firmly above 2½ percent and long-run inflation expectations climbed similarly.

Of course, I'm open to the possibility that things might just work out with the guidance in alternative B, and we can avoid either being perpetually mired at the ELB—fostering imbalances in the financial system—or having inflation move uncomfortably high and unhinge inflation expectations. Both of these unhappy scenarios would call into question the credibility of our inflation commitment. For now, I'm hopeful that clear communication will foster the public's understanding of this strategy and commitment by raising inflation expectations a bit, but not much more than a bit.

We'll need to keep in mind what we learned from last year's *Fed Listens* events, in terms of how the public understands inflation compared with central bankers. According to survey evidence presented by Yuriy Gorodnichenko, and in line with my own anecdotal observations, the public tends to associate higher inflation with bad economic outcomes. Thus, as the Committee expresses its desire to boost inflation, it will be important to tie higher inflation outcomes with better employment and economic outcomes.

One way to facilitate communicating our inflation objective to the public is enhancing information conveyed through the SEP. The SEP has challenged our communication in some instances, but it also has played an important role in shaping inflation expectations, historically. Recent research by my staff finds that inflation expectations became much better anchored after the FOMC began providing longer-run inflation expectations in the SEP—in fact, even more than the adoption of the 2 percent objective in the 2012 consensus statement. This research finds that augmenting the SEP with projections of longer-run inflation was instrumental in anchoring inflation expectations, though perhaps a bit lower than some would have preferred. From 2009 to 2011, the initial projections for longer-run inflation did not convey a symmetric 2 percent target. Instead, the projections ranged from 1½ to 2 percent and may well have helped anchor expectations somewhere below 2 percent.

A key "takeaway" coming from this research is the importance of aligning various communications with our objectives. Along these lines, as I filled in my SEP projections this round, the current structure did not offer a way to convey an inflation overshoot. In considering how much information might be incorporated into the SEP, we might ensure that its role as a communication device works for us rather than against us as we navigate what could be a tricky period of communication.

Finally, as I've said at the past couple of meetings, I think we need to clarify our strategy for asset purchases. As we transition our justification, from market functioning to the provision of accommodation, the words "at least" in paragraph 4 give me pause. When the concern was market functioning, the phrase "at least" signaled the commitment of a backstop, but I think it has a different connotation as we move our purchases toward providing accommodation. The words "at least" imply that there could be more to come, which I believe is premature guidance in the current circumstance. I would encourage a robust discussion of our balance sheet options and strategy at upcoming meetings. Thank you, Mr. Chairman.

CHAIR POWELL. Thank you. Governor Bowman, please.

MS. BOWMAN. Thank you, Chair Powell. Before turning to my monetary policy remarks, I'd first like to congratulate Trevor Reeve, who is extremely well suited, in my view, to lead the Board's Division of Monetary Affairs and to serve as this Committee's main monetary policy adviser. Congratulations, Trevor, and I look forward to continuing to work with you as you assume this important role.

Regarding monetary policy, the measures intended to address the pandemic continue to weigh heavily on our economy, affecting many households and businesses. With these economic effects in mind, I support reaffirming and clarifying our intent to provide monetary policy accommodation for an extended period. The improved economic performance that we've seen in recent months has been based in part on the expectations of businesses and households that monetary policy accommodation will continue, meaning that financial conditions will remain accommodative. And with our monetary policy framework review completed, now is a good time to clarify and expand on our forward guidance and to reassure the public about our intended path of policy.

But before discussing the specifics of today's policy statement, I'd like to touch on the broader issue of our communications with the public at large. Communication has always been an important part of monetary policymaking, but I believe it's become even more so following the release of our new Statement on Longer-Run Goals and Monetary Policy Strategy, or our consensus statement. One of the key insights flowing from our *Fed Listens* events was that the public generally has little understanding for why policymakers would be concerned about inflation running below the Federal Reserve's 2 percent objective. I'd note here that this point has become even more relevant now that the Committee will be actively seeking to raise inflation above the 2 percent objective. After all, for many in the public, the greater concern about inflation has been that their wages haven't kept up with prices and that the Federal Reserve's measures of inflation don't resonate with their personal experience with rising consumer prices.

So here I will echo a message that was delivered by many of our *Fed Listens* participants, which was that the Federal Reserve should tailor its communications appropriately to different audiences to strive to communicate more clearly and simply with the general public. Failure to communicate clearly with those outside the Fed-watching and financial market communities could potentially harm our legitimacy and credibility in the eyes of the general public, particularly in times of crisis and recovery. In fact, I'd like to see an additional communications approach that clearly explains to the public how we measure inflation, why we value the components that we include in our measure, and how our preferred inflation measures relate to and are relevant to the public's bottom-line expenses. And we should do so using plain language that the public can understand. If the public can't relate to or doesn't understand why we're aiming for higher inflation when they're already experiencing significant price increases, that could reduce the effectiveness of our monetary policy, including our ability to promote the maximum-employment goal of our dual mandate.

But let me come back to today's policy statement. I'm pleased with the opening sentence of paragraph 4 in alternative B, which now reaffirms that achieving an inflation rate of 2 percent over the longer run is how we interpret the price-stability goal of our dual mandate. Because this is the Committee's first policy statement following the release of our revised consensus statement, it's important that we don't inadvertently encourage the misperception that we've changed our inflation goal from achieving 2 percent over the longer run to achieving 2 percent, on average, especially since our consensus statement clearly notes that "the Committee reaffirms its judgment that inflation at the rate of 2 percent . . . is most consistent over the longer run with the Federal Reserve's statutory mandate."

Consistent with the language in our revised consensus statement, I view our newly adopted inflation averaging approach simply as a means or a tool to achieve the goal rather than as a goal in and of itself. I view inflation averaging merely as a way to help encourage longer-run inflation expectations at levels consistent with our 2 percent inflation goal, which, in theory, should help us achieve the 2 percent goal.

Regarding our funds rate decision, the economic conditions specified in the outcome-based forward guidance provided in alternative B are quite explicit: one, labor market conditions reaching levels consistent with the Committee's assessments of maximum employment; two, inflation rising to 2 percent; and, three, inflation being on track to moderately exceed 2 percent for some time. Given that these outcomes are not likely to all be achieved in the immediate future, I'd be concerned if our policy statement didn't provide us or future Committee members with some leeway to deviate from this new guidance should financial or economic conditions take an unprecedented turn. I hope the phrase "expects it will be appropriate" in paragraph 4 will help convey to the public that our funds rate guidance is not a commitment, but just our expectation based on currently available information. In addition, I read language in paragraph 5 as preserving optionality in that, despite our forward guidance, we reserve the right to adjust our policy stance down the road should new risks emerge that impede the attainment of our goals.

Regarding asset purchases, given our newly strengthened forward guidance as well as the stronger-than-expected data on employment and economic activity, I don't see a need at this point to signal a new round of large-scale asset purchases. As a result, I'm supportive of the language in alternative B, which discourages speculation that we're likely to increase our asset purchases in the near future. As President Kaplan said, asset purchases have both benefits and costs, and these should be weighed carefully, depending on underlying conditions. Under the current circumstances, I don't see the benefits outweighing the costs.

With all of that said, alternative B, my preferred option among the drafts before us today, focuses much more than I would like on inflation averaging, with the concept appearing three times in paragraph 4. So while I support alternative B today, I would have preferred a greater emphasis on our longer-run inflation goal of 2 percent over our tactics of inflation averaging. Thank you, Chair Powell.

CHAIR POWELL. Thank you. Governor Brainard, please.

MS. BRAINARD. Thank you, Chair Powell. I, too, appreciate the thoughtful considerations on both sides of this discussion. The greater-than-expected resilience of the economy, moderation in COVID spread, and buoyant financial markets all point to greater momentum in activity than was apparent in July. However, there's a substantial risk that fiscal policymakers take the wrong message from the strength of the recovery and withhold critical support. If that happens, the recovery will face headwinds due to income losses among cash-constrained households, layoffs associated with revenue losses of small businesses and states and localities, structural changes, and recessionary dynamics.

Even with the positive surprises of recent data, as President Daly noted, the levels of both employment and inflation are far short of our goals. And even in the staff's baseline forecast, which is more optimistic than mine on fiscal policy, the levels of employment and inflation will not reach our goals for years. With the recovery under way and our new framework now in place, it is time to "pivot" from stabilization to accommodation.

A central conclusion of our review was that, with the effective lower bound binding more frequently and with significantly less conventional policy space than in past recessions, the Committee must be prepared to make forward commitments on the policy rate in order to provide the requisite accommodation. In view of the current challenges faced by the economy in a low-inflation, low-neutral-rate world, outcome-based forward guidance is essential to expand policy space via the yield curve. This conclusion is overwhelmingly supported by the research.

With the unanimous adoption of the new framework, it is critical for the Committee's credibility that today's statement follow through with resolve. I agree with President Bullard, President Daly, and Governor Clarida on this point. As was clear from our discussions during the framework review, makeup strategies require commitment on the part of policymakers in order to be credible and effective. For this meeting, I believe that adopting forward guidance that is directly and clearly tied to the updated definition of our goals is essential. It's also important that we follow through on the practical effect of these new goals in our SEP projections.

We need to remind ourselves just how difficult it will be to return inflation to 2 percent on a sustained basis in a global macro environment characterized by a low neutral rate, inflation expectations below target, and a flat Phillips curve. This Committee tried mightily to do that over the past 10 years, with no success. I'm sympathetic to the unease with making forward commitments even though they are heavily conditioned. The alternatives, however, are far less attractive, in my view. We need not look far to see what happens when peer central banks lose the battle with inflation expectations and are compelled to undertake much more dramatic steps than we are contemplating here today and over a much longer time frame.

It is imperative that we commit to take forceful action if we want to have any real chance of changing inflation expectations. Today's statement is one of the few opportunities that we will have to shift expectations about our reaction function and about inflation outcomes in a meaningful way. We should be careful not to blow it. If the Committee comes across as equivocal, as wishing to retain optionality rather than following through, we risk undermining what we've achieved with the review and revised consensus statement.

The outcome-based forward guidance in alternative B accomplishes the goal of following through on our consensus statement and bolstering the Committee's credibility. It is not an unconditional commitment. The forward guidance is clearly conditioned on economic outcomes. If the economy returns to maximum employment and 2 percent inflation more quickly than we currently anticipate, then liftoff will automatically move earlier. Moreover, the language in paragraph 5 indicating "the Committee would be prepared to adjust the stance of monetary policy . . . if risks emerge that could impede the attainment of the Committee's goals" provides an important safeguard. That escape clause is a pragmatic recognition that the same macroeconomic forces that make monetary policy so challenging will also tend to increase cyclical volatility in asset prices and could lead financial imbalances to build. It implements the new framework's commitment that policy decisions will reflect its assessment of the balance of risks, including risks to the financial system.

It's important to emphasize that we're committed to using macroprudential and standard prudential tools as the first line of defense. As President Evans noted, these tools are generally viewed as much more effective with regard to financial stability risks than monetary policy, which is a blunt tool. In that regard, I would welcome President Barkin's suggestion to have an in-depth discussion of how we are dealing with financial stability risks.

Let me turn briefly from the statement to some observations on policy rules and asset purchases. Flexible average inflation targeting (FAIT) is a pragmatic way of implementing a makeup strategy. But it is a new strategy, and we are pioneering this new approach internationally, as noted by President Bullard. For this reason, as we gain experience with our new FAIT policy, it will be valuable to consult with various formulations of formal AIT rules as a benchmark. So I was pleased to see the Tealbook introducing a new baseline monetary policy rule that has some features that are targeted at our new framework.

In addition, a new rule in the Monetary Policy Strategies section, which the staff calls an asymmetric discounted average inflation-targeting rule, ADAIT, responds to negative gaps in the employment-to-population ratio and to a discounted average inflation gap, which discounts past inflation misses at gradually increasing rates. It also is calibrated to correspond roughly to an averaging period of five years but includes only a very short period for the initialization of the inflation measures. The staff was kind enough to run some additional variants of this AIT rule and an alternative AIT rule so I could get a sense of how the specific choice of makeup period and treatment of past inflation misses matter for policy and economic outcomes.

In a variant of this rule that I view as more relevant to current circumstances, which initializes the process of inflation misses starting in 2012 rather than in 2019 but retains that five-year look-back, the policy rate remains at the lower bound until 2025—which is similar to the new baseline Tealbook rule, which arrives at that outcome by instead reducing the r^* intercept, as Stacey discussed yesterday. Discounting past inflation misses in a manner that roughly corresponds to an averaging period of 10 years would lead to a later departure, in 2026. Another variation, which uses a fixed 10-year rolling window instead of gradually discounting past misses at increasing rates, would delay liftoff by an additional year to 2027. Importantly, inflation only gets to 2.25 percent by 2026 or 2027 with variants that allow for that longer period of past performance and stays relatively flat thereafter.

These simulations make clear that the specifics of the implementation of a flexible average inflation-targeting approach matter, including how many years you look back, when the inflation approach is initialized, and whether you let the importance of past deviations decay over time, which has some attractive properties, or use a simple average. They also make clear that with any of these variants, achieving our mandated goals will require accommodation for an extended period.

Finally, like President Bostic, I want to touch on asset purchases, which are an essential part not only of our market stabilization response to the crisis, but also of the necessary accommodation to support the recovery. For this meeting, the first order of business is to conform our forward guidance on rates to our new framework, and I'm content to change the language, as alternative B does, to reflect that the ongoing purchases of Treasury securities and agency MBS are not just sustaining smooth market functioning, but also providing some accommodation.

But, as we make that transition, we will need to determine and communicate the appropriate contour of asset purchases for purposes of providing accommodation. So I agree with President Bostic that, before too long, it will be important for the Committee to assess the appropriate magnitude and duration of asset purchases in conjunction with our forward guidance to achieve our maximum-employment and average inflation goals. We should soon have an analytically grounded conversation about how much accommodation asset purchases are and should be providing and over what period, as well as how asset purchases and forward guidance on the policy rate should be connected. Market participants expect the Committee to move the maturities of asset purchases to the longer end as we move from market stabilization to QE. But it is important for the Committee to have an analytically grounded discussion to make that determination.

So I hope we'll turn to that conversation soon, armed with analysis provided by the staff. But, for today, I'm pleased to support the outcome-based forward guidance in alternative B, which I believe is essential to demonstrating the Committee's resolve in earning credibility. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Governor Quarles, please.

MR. QUARLES. Thank you, Mr. Chair. As a few of you have noted, I think all of us have felt this has been really a fascinating, a candid, a not-always-predictable, and, therefore, a very useful discussion, and really very encouraging about the structure of this Committee and the current composition of its members for the development and execution of policy.

In my own thinking about the proposed changes to the statement, again, like many of you—it sounds like all of you—I did find it very helpful to have all three alternatives. The differences in how each of those alternatives incorporated the consensus statement, especially the new forward guidance in alternatives A and B, crystallized for me the magnitude of the changes that we had agreed to last month. And after comparing the three options, considering the pros and cons of some potential wording changes that I might have made if I'd had the pen—the lack of which in any situation always makes me wistful—and considering the discussion today, I do support alternative B as written.

Let me begin by saying that I do view the forward guidance contained in alternative B as a very significant change to our existing guidance that will provide additional accommodation. It's much more aggressive than I had originally expected it would be, at least in this initial effort to issue forward guidance under the new statement. So, like many of you—I hadn't realized how many of you—I gave serious consideration to alternative C. Alternative C would update the statement to include the aims of the consensus statement, which are designed to be more accommodative than our previous framework. It would have given us more time to assess the shape of the burgeoning recovery and the risks associated with it. Just as an example, with our next meeting on November 4 and 5, we could have one very big piece of uncertainty cleared up.

But, as I said in my remarks yesterday, the current level of unemployment is unacceptable. The current level of inflation gives us room to address it. The path to meeting our objectives is long, and the risks to the recovery are still most likely weighted to the downside. As President Daly said earlier today, we remain in a very deep hole. Even my own optimistic forecast shows that even by holding rates at their current level throughout 2021, unemployment won't reach my estimate of its long-run normal level until 2022. My modal forecast of inflation holds it below the threshold of "moderately above 2 percent" for the entire forecast horizon.

Other forecasts are even more pessimistic. That's not necessarily hard, but the analysis in the Monetary Policy Strategies section of the Tealbook shows that even under the most accommodative alternative monetary policy rules, unemployment remains well above my assessment of the long-run normal level through 2021. Inflation remains below 2 percent for even longer than that.

So I agree with what the Chair said at the end of yesterday's session: There's no need to wait further. A bold strategy is warranted, and, as I said, I consider alternative B to be quite bold in two important respects—obvious to everyone, but I'll note them anyway. First, the statement emphasizes both of the Committee's objectives and makes clear that the Committee's expectation is that the target range for the federal funds rate will stay at its current level until both our employment objective and our inflation objective are fully met. And, second, I certainly noted the expectation within the sentence that the target rate will stay literally at its current level until those goals are met.

Each of those aspects of the statement make it much more aggressive than the thresholds that the Committee used in its previous efforts at forward guidance, such as saying a decade ago that it expected that rates would remain exceptionally low. So it does carry some more risk than those previous statements, as a number of you have remarked, that we will end up needing to recalibrate, potentially at some cost to the credibility of future forward guidance, in an upside scenario.

This formulation would end up working quite well, provided the economy converges slowly toward our objective, as it did from 2010 to 2016, or if you're confident that inflation will continue to behave as quiescently as it has over the past 30 years. In view, however, of the uniqueness of the COVID event, the economy could begin to accelerate quite quickly. For example, suppose a useful vaccine is developed and begins to be disseminated in 2021 at the same time as the proceeds of a large fiscal stimulus program are being disbursed. In that event, I'd expect demand to spike faster than supply could ramp up, leading to a textbook case of demand-pull inflation. And as I've detailed in previous discussions, I see other factors that could lead to inflation rising more than moderately above 2 percent before we reach our employment goal. We're seeing a retrenchment from open trade policy. We have an unsustainable path of the federal debt, which most of us have assumed in our forecasts is about to get at least $1 trillion larger.

Of course, the current depth of the recession and the extended period of low inflation before the COVID event could argue for accepting some of that risk in order to provide more immediate accommodation. I became comfortable with alternative B because of two features that I feel appropriately balance these considerations. First, I share Governor Bowman's view of the importance of the phrase "expects it will be appropriate" in the key sentence of paragraph 4. This phrase makes clear that the Committee's forward guidance is conditional on its expectations of the path of recovery, and that we'll respond to changes in that outlook in a way that's consistent with our mandate and our longer-run objectives. And while I do share some of President Barkin's hesitance about combining forceful language with a flexible off-ramp, I've concluded that acting forcefully to achieve our objectives can be a source of credibility.

The second aspect of the statement that convinced me to support it is the sentence in paragraph 5 reading "The Committee would be prepared to adjust the stance of monetary policy . . . if risks emerge that could impede the attainment of the Committee's goals." Indeed, for me, as for many of you, as Governor Brainard just remarked, this sentence in paragraph 5 is important. And for me, it's doing quite a lot of work in ensuring an appropriate level of flexibility in this alternative. In the preceding context, it's saying that the Committee will tighten monetary policy if inflation becomes inconsistent with the inflation goal rising above the level implied by "moderately above 2 percent."

It's also signaling that the Committee stands ready to provide additional accommodation should convergence toward our objectives stall or reverse. Despite my optimism about the recovery, I think it's important to remind the public that we're far from out of ammunition. We've added language to paragraph 4 that makes support for the flow of credit to households and businesses one of the goals of the current pace of asset purchases, and additional purchases remain an option for providing more accommodation should the recovery stall.

Finally, the sentence may alleviate some concerns that others have about financial stability in a prolonged period of ultralow interest rates. Now, on this point, I do tend to believe that in most circumstances, the federal funds rate is going to be too blunt a tool to address the behaviors that lead to financial vulnerabilities. And for that reason, the extent of the increase in the target rate that would be needed to achieve a material reduction in vulnerabilities would likely damage the real economy in ways that would more than offset the marginal gains generated by those higher rates. Nonetheless, should that flexibility be necessary, I believe we have it under this statement.

So, to sum up, I support alternative B as written. This is a highly accommodative policy change that's appropriate for an economy that's still in a deep recession, with risks weighted mostly toward the downside. Admittedly, I'm putting a lot of weight on the existence of two parts of the statement that serve as potential off-ramps. But I'm focused on those off-ramps not because I'm eager to raise rates prematurely if the baseline forecasts hold, but because they provide the Committee with the ability to alter its course with minimal cost to the credibility of its future guidance if conditions were to change significantly. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Kashkari, please.

MR. KASHKARI. Thank you, Mr. Chair. You know, I strongly support the new Statement on Longer-Run Goals and Monetary Policy Strategy that we adopted. I think that that strategy document really incorporates lessons that we've learned from the previous recovery and gives us flexibility to make up for periods of low inflation to achieve our dual-mandate goals.

I prefer alternative A in this meeting. I think alternative B is an important step forward in embracing outcome-based forward guidance. My preference is that it would have been stronger. Like others, I think that this is a very important meeting. This is where we're putting the framework into practice, and I think alternative B does that but not as strongly as I would like. And let me just walk you through why.

I think the most important thing that I learned—and, I think, we all learned—in the previous expansion is that it's very hard to assess maximum employment. I think we were all surprised how many more Americans wanted to work and how many Americans stayed in the labor force. And what did we hear? We heard businesses squealing that they couldn't find workers, historic worker shortages, just whining and whining. I think that we've taken that on, and we've learned from that.

But that's my concern. My concern is about the next recovery—and it's not about this group of policymakers around this table. It's about several years in the future. I'm confident that, when COVID is behind us, we're going to hear businesses whining and whining about worker shortages yet again, and there's going to be enormous pressure to try to get rates up off the ELB.

I think there are people who feel like we do. I think future policymakers feel great discomfort sitting at the ELB. It feels unnatural. It feels risky, like something's wrong, and we need to get rates up. I think that's the pressure that I certainly felt in the previous expansion, and I would expect policymakers will feel similar pressure some years into the future.

So while I like alternative B, my concern about alternative B is, it still relies on a future Committee to make a real-time judgment on whether we are at maximum employment and whether we expect inflation to climb. We saw in the previous recovery that inflation is volatile. You know, it bounced up to 2 percent a few times before turning back down. So my only concern about alt-B is that I think it may still be vulnerable to some of the experience that we saw in the previous recovery.

And I think about it, you know—if this forward guidance had been adopted in 2012, what do I think would have happened? I looked at the data with my staff, and inflation briefly crossed 2 percent in January 2017 before falling back down. At the time, we thought we were at maximum employment, so I think that this new forward guidance would have deferred liftoff from December 2015 to January 2017. That would have been an improvement, so it's clearly a positive step forward. It's just not as strong as I would have preferred in light of what I feel like I've learned over the past few years.

So my proposal—and maybe it's even stronger than alt-A; maybe it's alt-whatever-is-less-than-A—is that the forward guidance would be what I proposed a year ago last June: The Committee expects to maintain this target range until core inflation has reached 2 percent on a sustained basis. By eliminating the direct reference to our assessment of maximum employment and any forecast of inflation climbing, I think it guards against the risk of a future Committee underestimating slack in the labor market. They would lift off only once we had demonstrated that we're really at maximum employment, because, in my mind, that means core inflation would have had to actually hit or exceed 2 percent on a sustained basis. And what is a sustained basis? We would all have a debate, or the future Committee would have a debate, on what a sustained basis is. To me, it's roughly a year, but reasonable people could disagree about that. So core inflation gets to 2 percent, it sits there for six months or a year, and then we would lift off, and we would lift off knowing that we really have achieved our maximum-employment mandate.

What might be wrong under my scenario? If inflation is climbing and it crosses the 2 percent threshold, then we're free to raise rates. So inflation doesn't scare me. We heard in the previous expansion that there might be nonlinearities in the inflation process. Again, we can’t rule it out. That was not revealed in the previous expansion, but it’s possible in the future. If there’s some nonlinearity in the inflation process, that would be a situation in which we might regret this. But, again, that’s not yet been demonstrated to be true.

And then, of course, there’s financial stability risk that many people have talked about today. I’ve got to tell you, since I’ve been at the Fed, I’ve been very loudly arguing for higher bank capital standards, because I’m concerned about financial stability risk. So I’m sympathetic with the idea that financial stability is a very serious issue. But every time I think about using monetary policy to address it, I can’t figure out how to do it. So I’m afraid we’re just going to go around and around on this. We’ve been going around and around on financial stability and monetary policy since I’ve been at the Committee. I see no end to that, going around and around on that, so I have a request. My request is, to those either staff members or policymakers who think that monetary policy could be a tool to use against financial stability, tell us how. I don’t know how to make decisions if we’re going to not look at inflation and the labor market to assess what’s the appropriate level of the federal funds rate. I know how to do that. But if we’re not going to use that, because inflation is going to be low for the foreseeable future and there may be slack in the labor market for a long time, and if we’re going to use the federal funds rate to address financial stability risks, can you give some guidance on how we make decisions, some rule of thumb that we could actually look at? And I’m not asking for a Taylor rule, but some way to say, “Well, we look at the stock market or we look at bond spreads, and then this is how much I would adjust the federal funds rate.” That way, we could at least test that against previous episodes to see if it holds. Otherwise, I’m afraid where we’re left in this financial stability discussion is that we’re all just going to make it up, and we’re all just going to go based on our gut: "You know what? This one market looks 'frothy.' Therefore, I want to 'lean against' it by raising rates."

I've got to tell you, at least for me, that's not a very satisfying way to make policy. So my request is, help us come up with some kind of a rule or guidepost on how we would make such decisions. I think that could actually take the financial stability discussion forward. Otherwise, I think we're just going to keep going around and around in circles. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Vice Chair Williams, please.

VICE CHAIR WILLIAMS. Thank you, Mr. Chair. I support alternative B as written. The completion of the framework review and the publication of the updated Statement on Longer-Run Goals and Monetary Policy Strategy are significant and meaningful accomplishments that position us well for success in a world of low *r** and persistently low inflation.

Of course, this is a statement of high-level strategy, and the real work now is figuring out how best to put these words into practice. As always, the proof of the pudding is in the eating. And this is a consequential decision. I think that the rich discussion we've had today reflects that, and I think everyone's coming with that view—that the forward guidance is a very important decision. I think we've heard the full range of views from A to C, I guess, to A-minus—even further over. And I think that does help us think through these issues.

I do think, in terms of the timing, my view is similar to some others that have been expressed that the timing is correct now to do this—not just because we put out the consensus statement, but, really, it's also because of the reasons that President Daly and, in fact, President Mester made. My concern is that if we don't put out the guidance for some time, market participants are going to try to figure this out on their own. We are getting good data. I am more optimistic, like many others, about the economic outlook; and they can misinterpret what our policy intentions are.

So we don't want to wait until they've gotten off track, as happened from 2009 to 2011, and then we try to reel it back in. What we want to do is explain how we're thinking about this and what our plan is, and that will, I hope, lower the risk of market expectations getting out of alignment with us—because we know there are negative consequences when that actually happens, so it's really about being proactive on this.

It also gets back to the basic approach that we've taken throughout this year and, actually, I think last year as well, which is, try as best we can to get ahead of things before they develop and before they become problems as much as we can. That means acting quickly, boldly at times, and really in advance of problems emerging.

And I think the strong outcome-based forward guidance in the FOMC statement will help align market expectations of the path of the funds rate along with—and I think this is really the important part—along with key elements of our reaction function. It's not just about what the path of the funds rate is—I mean, the SEP has that—it's really explaining how that may change as the economic conditions change. It's really about aligning that reaction function that the market understands or the public understands with our own.

Now, the median SEP projection does highlight the sizable improvement in the outlook and our expectation that we're on a good path to achieving our goals. That said, we have a protracted economic recovery, with both employment and inflation falling short of our goals for the next few years. As such, and consistent with our new framework, I expect it will be appropriate to maintain a highly accommodative stance of policy through 2023 and beyond. But to return to some throwback language, the future path of policy is policy dependent, as the outcome-based framing of the forward guidance and paragraph 5 of the statement make clear.

I also support the modest broadening of the role of our asset purchases to include fostering accommodative financial conditions, thereby supporting the flow of credit to households and businesses. Now, this language has two favorable attributes. First, it is the truth, and that's a good thing. Indicators of market functioning continue to be very positive, and there's no question that our purchases are also contributing to financial conditions that are supportive of economic growth.

Second, it extends the bridge of our current constellation of purchases a bit further out, giving us some more time to assess, evaluate, and design a future modification to our purchases to maximize their effectiveness at achieving our mandated goals. I don't feel any particular urgency in making changes to our purchases at this time, but I expect that over the next few months, we should be able to gain more clarity on the outlook for market and economic conditions, and that'll help inform our decisions on how to calibrate our purchases to meet our policy goals.

Now, of course, monetary policy cannot do it all. The economic recovery depends on the path of the pandemic, particularly the willingness of the public to practice preventive measures, the availability of vaccines and treatments, and government actions related to public health and fiscal policy. And these are outside our hands, and they're highly uncertain. Nevertheless, regardless of the actions of others, we must stay focused on doing all that we can as a central bank—that is, support the flow of credit and promote the achievement of our maximum-employment and price-stability goals.

Just one comment. President Kashkari and, I think, others made this point that we should be having serious discussions in the future, not today, about the connections between monetary policy and financial stability. I fully agree with that. It's a topic I and many on this call right now have thought about over the years. There's been some research on this. And I think it would be good to continue that conversation in a serious way, and I fully support that.

And I just had one thing about this being a consequential meeting. We've had a lot of consequential meetings this year dealing with the pandemic. But as I look back, I think this is the one in which we're not just reacting to circumstances, we're in the driver's seat. We're the ones sitting here. We're not reacting to market forces or anything else. We're deciding what our consensus statement means and what that means for policy. And I think that's why it's really important for us to define these terms and move forward.

And I have to admit that I thought I had—it sounds like some others have, too. Many years in the future, when we're retired and thinking back to 2020 and thinking about the decisions made in March and the decision we're making today. And as I think about that and maybe even writing about that in the far-distant future, there's one thing I will highlight, and that is, of course, Governor Bowman's cat, who once again made a very visible appearance today throughout much of this discussion, which I really like. So I just would like to know the name of your cat so I can memorialize this at some point in the future. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Miki, can you share the name of your cat, please?

MS. BOWMAN. His name is Buddy, after Buddy the Elf—from Santa.

CHAIR POWELL. Excellent. Thank you. Okay. Thank you very much, everybody, for a truly interesting and thoughtful round of comments. This is, without question, an important meeting, an important decision, a difficult meeting, and a difficult decision. I laid out my views yesterday afternoon. I'm not going to go through all of that, but I will say a couple of things. First, I appreciate, understand, respect, and, indeed, celebrate the diversity of perspectives that we have. I will continue to do that publicly, and it really does come from the bottom of my heart. I do think that we all learn from this experience, painful though it may be sometimes—in fact, probably in proportion to how painful it is, we learn from each other.

But for me, it boils down to two things. Like many of you, I've traveled the road on this. I've been thinking about this exact meeting and these discussions for some months. And it comes down to this for me: The table is set for us to move in September in a way that is proactive, that gets us in charge, and that follows through and validates the Statement on Longer-Run Goals and Monetary Policy Strategy in a way that will be credibility enhancing.

I think waiting—90 days, in all likelihood—to do something would be a mistake. I also think—and I wore this shirt, many different varieties of this shirt, over the past three months—a substantially weaker form of guidance going forward, to me, would sound an awful lot like the same reaction function we've been using for the past eight years, really, or even less accommodative than that in some cases, depending on what we said. So I feel like I don't want to do either of those things. I think it's so easy to slide back into a place where people say, "There's no story here." In fact, it's already happening. People are talking about it now. So I think it's important.

I also just think that this is the right place to be. I've come to the view, strongly, that this is the right place for us to be. I do think it works. I think it will be very good for the economy, to the extent monetary policy can have effects. We clearly need more help from fiscal policy.

One other thing I'll say is that I couldn't agree more that the frontline of defense on financial stability needs to be capital requirements, liquidity requirements, stress tests, regulation, supervision, macroprudential policy—all of those things. And I do think that while I probably don't see the connection between low interest rates and financial stability as anywhere near as tight as some on the Committee do, I do think that this policy stance puts the weight on our shoulders to carry that forward very strongly in the future. So I will say that as well.

In any case, that's really what I've come to, and, again, I appreciate our discussion. So with that, we're going to move ahead then to the FOMC vote. Jim, would you like to make clear what the FOMC will vote on and then call the roll, please?

MR. CLOUSE. Thank you, Mr. Chair. The vote will be on the monetary policy statement and directive to the Desk corresponding to alternative B as they appear in Trevor's briefing materials. I'll call the roll.

Chair Powell	Yes
Vice Chair Williams	Yes
Governor Bowman	Yes
Governor Brainard	Yes
Governor Clarida	Yes
President Harker	Yes
President Kaplan	No
President Kashkari	No
President Mester	Yes
Governor Quarles	Yes

MR. QUARLES. Yes. Can you hear me?

CHAIR POWELL. Yes, we did. Thank you.

MR. QUARLES. Oh, good.

CHAIR POWELL. Okay. Now we have the Board votes on interest rates on reserves and discount rates. May I have a motion from a Board member to take the proposed actions with respect to the interest rates on reserves as set forth in the implementation note included in Trevor's briefing materials?

MR. CLARIDA. So moved.

CHAIR POWELL. May I have a second?

MS. BRAINARD. Second.

CHAIR POWELL. Without objection. Thank you. Next up, the Board needs to approve the corresponding actions for discount rates. May I have a motion from a Board member to approve establishment of the primary credit rate at 0.25 percent and establishment of the rates for secondary and seasonal credit under the existing formulas specified in the staff's September 11, 2020, memo to the Board?

MR. CLARIDA. So moved.

CHAIR POWELL. May I have a second?

MS. BRAINARD. Second.

CHAIR POWELL. Without objection. Thank you. Our final agenda item is to confirm that our next meeting will be on Wednesday and Thursday, November 4 and 5, 2020. And a final administrative matter: In light of Trevor's appointment as director of Monetary Affairs, we plan to send around a notice for a notation vote next week to formally appoint Trevor as an economist of the FOMC. Thank you very much to all. The meeting is adjourned.

PARTICIPANTS. [Chorus of thanks]

END OF MEETING