

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

A joint meeting of the Federal Open Market Committee and the Board of Governors was held by videoconference on Tuesday, December 15, 2020, at 1:00 p.m. and continued on Wednesday, December 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 Helen E. Mucciolo, 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
Trevor A. Reeve, Economist
Stacey Tevlin, Economist
Beth Anne Wilson, Economist

Shaghil Ahmed, Michael Dotsey, Rochelle M. Edge, Marc Giannoni, William Wascher, and Mark L.J. Wright, Associate Economists

Lorie K. Logan, Manager, System Open Market Account

Ann E. Misback,¹ Secretary, Office of the Secretary, Board of Governors

¹ Attended Tuesday's session only.

Matthew J. Eichner,² 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

Margie Shanks, Deputy Secretary, Office of the Secretary, Board of Governors

Sally Davies and Brian M. Doyle, Deputy Directors, Division of International Finance, 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, Burcu Duygan-Bump, Kurt F. Lewis, Ellen E. Meade, and Chiara Scotti, 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

Eric M. Engen and John J. Stevens, Senior Associate Directors, Division of Research and Statistics, Board of Governors

Jane E. Ihrig, Don H. Kim, and Edward Nelson, Senior Advisers, Division of Monetary Affairs, Board of Governors; Brett Berger,² Senior Adviser, Division of International Finance, Board of Governors

Elizabeth K. Kiser, Associate Director, Division of Research and Statistics, Board of Governors

Eric C. Engstrom, Deputy Associate Director, Division of Monetary Affairs, Board of Governors; Norman J. Morin, Karen M. Pence, and John M. Roberts, Deputy Associate Directors, 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 Dan Li, Assistant Directors, Division of Monetary Affairs, Board of Governors

Penelope A. Beattie,¹ Section Chief, Office of the Secretary, Board of Governors; Lubomir Petrasek, Section Chief, Division of Monetary Affairs, Board of Governors

² Attended through the discussion of developments in financial markets and open market operations.

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

Heather A. Wiggins,² Group Manager, Division of Monetary Affairs, Board of Governors

Michele Cavallo and Erin E. Ferris, Principal Economists, Division of Monetary Affairs, Board of Governors

Kyungmin Kim² and Arsenios Skaperdas,² Senior Economists, Division of Monetary Affairs, Board of Governors

Courtney Demartini,² Lead Financial Institution and Policy Analyst, Division of Monetary Affairs, Board of Governors

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

Becky C. Bareford, First Vice President, Federal Reserve Bank of Richmond

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

Todd E. Clark, Senior Vice President, Federal Reserve Bank of Cleveland

Jonathan P. McCarthy, Matthew Nemeth,² Giovanni Olivei, Rania Perry,² Matthew D. Raskin,² Jonathan L. Willis, and Patricia Zobel, Vice Presidents, Federal Reserve Banks of New York, New York, Boston, New York, New York, Atlanta, and New York, respectively

Robert Lerman,² Assistant Vice President, Federal Reserve Bank of New York

Lisa Stowe,² Markets Officer, Federal Reserve Bank of New York

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December 15–16, 2020**

December 15 Session

CHAIR POWELL. Welcome, everyone. It's good to see everybody. 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, I'd like to note a couple of things. First, as you all know, Chris Waller has been confirmed by the Senate and will join the Board as a new member very soon, we hope and believe. We are still waiting for some final paperwork before Chris can be sworn in, so he won't be able to participate in this meeting as a member of the FOMC. For now, though, let me offer congratulations to Chris on surviving the confirmation process. Congratulations on your new position and your new role, and all of us very much look forward to working with you in this new capacity. A round of applause for you, Chris [applause], albeit muted.

I'd also like to welcome Helen Mucciolo, acting first vice president of the Federal Reserve Bank of New York. In addition to making everything run efficiently and effectively in New York, Helen is now serving as an alternate on the Committee.

Now for logistics. As always, we have a parallel Skype session that participants and others can use to indicate that 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. And, in fact, I'm having difficulty with Skype at the moment, so what I said is not, strictly speaking, true, but I expect that it will be true when we get to the Q&A part. A link to the single

file containing all presentation materials was distributed yesterday evening. You can open that file at that link and follow along during the briefings. Thank you.

And with that, first up on the formal agenda is the Desk briefing. So, Lorie, would you like to begin, please?

MS. LOGAN.¹ Thank you, Chair Powell. My presentation on “Financial Developments and Open Market Operations” will start on page 1 of the consolidated package of materials.

Over the intermeeting period, the COVID resurgence darkened the near-term outlook, but positive vaccine developments pulled forward the expected timing of a widespread economic reopening. Against this backdrop, I’ll focus on three questions, which are outlined on slide 2. First, how did global financial markets balance the worsening near-term outlook with brighter medium-term prospects resulting from positive vaccine developments? Second, how were these developments reflected in yields, and what are expectations for monetary policy? And, finally, how did markets respond to the announced expiration of some 13(3) facilities, and what are expectations for money market conditions as we look ahead?

Starting on slide 3 with my first question: Market sentiment improved over the period as reduced election uncertainty and positive vaccine news outweighed the anticipated effect of the current COVID wave. Expectations of widespread vaccinations were brought forward to the middle of next year, as seen in the shift from the dark blue to light blue bars in panel 1. Nonetheless, upward revisions to 2021 GDP forecasts in the December Desk surveys were limited by markdowns to the first quarter, as shown in panel 2. Overall, the expected path of real GDP over the next few years rose slightly relative to November.

As shown in panel 3, risk assets broadly gained and the VIX declined, while Treasury yields increased modestly. These moves led the Goldman Sachs financial conditions index, shown in the dark blue line in panel 4, to reach the easiest level in its multidecade history. Other financial conditions indexes—including those that incorporate bank lending standards, such as the Chicago Fed index shown in light blue—also eased over the period and are near pre-pandemic levels.

On the next slide, you can see that although contacts expect the resurgent virus to weigh on near-term corporate earnings, they highlight the larger boost to valuations associated with a potentially faster recovery in economic activity. Indeed, over the period, U.S. equity price indexes reached all-time highs. And, as shown in the top two panels, the largest gains were in sectors that have underperformed during the

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

pandemic: smaller-capitalization firms; cyclical sectors, such as banks; and COVID-sensitive sectors, such as hospitality and airlines.

Similarly, as shown in panel 7, the tightening in corporate credit spreads over the period, shown in dark blue, was most pronounced among lower-rated firms and in COVID-exposed sectors, though spreads for these credits remain wider on the year. Credit market investors highlight that the significant cash buffers many companies built this year should help them weather a transitory period of weak cash flow. That said, smaller, services-oriented businesses with limited or no capital market access are viewed as much more vulnerable, especially without further near-term fiscal support.

The positive vaccine news also supported risk sentiment abroad, as shown on slide 5. Many global equity indexes outperformed U.S. benchmarks, as shown in dark blue in panel 8, partly reflecting the relatively higher share of cyclicals in most foreign indexes. Improved risk sentiment also led the U.S. dollar to depreciate further, to its weakest level since 2018, shown in panel 9. Emerging market currencies generally outperformed, with monthly portfolio flows to EMEs reaching a record high in November.

On slide 6, you see that despite the positive vaccine news—and in contrast to the United States—many sovereign yields were little changed or slightly lower over the period, shown in panel 10, partly reflecting additional monetary accommodation being provided by several key central banks. The ECB increased the overall size and extended the time frame of its pandemic-related purchases, implying that a monthly purchase pace similar to that in recent months could continue into 2022, as shown in panel 11. It also added targeted longer-term lending operations through 2021. In addition, the Bank of England and Riksbank upsized their asset purchase programs.

On the next slide, market participants highlight that despite an improving outlook, uncertainty is still high and several prominent risks remain. Most importantly, they observed that markets seem to have priced in a high degree of optimism about the vaccine rollout, despite numerous possible challenges. Even in a relatively benign vaccine scenario, some investors cautioned that the rise in risk prices may be outpacing the improvement in underlying fundamentals. Brexit negotiations continue to be fraught. Even with this week's deadline extension, the perceived odds of a hard exit for the United Kingdom remain elevated. And, finally, contacts continue to observe that some sectors—such as commercial real estate and small businesses—have significantly lagged the broader economy.

Slide 8 turns to my second question, on Treasury yields and policy expectations. As shown in panel 12, with a brightening outlook and evolving fiscal policy expectations, longer-term nominal Treasury yields rose modestly over the period, as indicated by the red markers, driven by increases in inflation compensation, the dark blue bars. Measures of breakeven inflation extended recent gains to reach levels previously seen in April 2019, as shown in panel 13. As a result, TIPS-implied real yields are back near all-time lows.

On slide 9, the FOMC’s forward interest rate guidance kept the expected policy rate path and shorter-dated yields relatively anchored. Expectations regarding the most likely timing of liftoff coalesced further around the first half of 2024, as shown in the red bars. Survey responses continued to reflect median expectations for headline PCE inflation to be above 2 percent and the unemployment rate to be around 4 percent at liftoff, shown in panels 15 and 16.

With forward rate guidance in place, most of the focus over the intermeeting period centered on potential changes to communications on asset purchases, which I’ll turn to on slide 10. The November minutes were interpreted as suggesting broad support among Committee participants to adjust the guidance on purchases. As shown in panel 17, a majority of Desk survey respondents indicated they expect the Committee to revise its guidance at this meeting. Many noted that they anticipate some form of qualitative outcome-based guidance tied to inflation or unemployment or both, and some suggested it could feature a phrase such as “progress,” “substantial progress,” or “on track.”

On slide 11, despite solidifying expectations for additional guidance on purchases, modal expectations for the overall size and time horizon of purchases were little changed. As shown in panels 18 and 19, median Desk survey expectations continue to imply that purchases will begin to slow in the first half of 2022 and then cease altogether in 2023, though respondents still hold a wide range of views on likely purchase amounts in later years. The total purchases implied by these medians would result in the Federal Reserve’s balance sheet reaching around \$10 trillion at the end of 2023.

Although the Desk surveys do not measure expectations for the maturity profile of Treasury purchases, qualitative responses and broader market outreach suggest that most market participants do not see a maturity extension as likely at this meeting. Nonetheless, as shown in panel 20, a notable minority of survey respondents indicated that they do expect such a change, and many others attach some probability to this outcome. Market participants took note of the Committee’s assessment in the minutes that adjustments to the pace or composition could be warranted if conditions shift, and some private-sector surveys suggest most think an extension is likely to occur by the first half of 2021. This range of expectations suggests some potential for yields to adjust modestly after this meeting if communications are perceived as signaling a high bar to maturity extension in the future.

More generally, as outlined on slide 12, a number of contacts suggest that conditions favor higher longer-term yields and a steeper yield curve. Many think that substantial Treasury security issuance next year could pressure yields higher and also note the possibility that a more widespread reopening of the economy in the second half of next year combined with still-recovering supply capacity could lift inflation measures to some degree. The path of the 10-year Treasury yield implied by the Desk survey forecasts is modestly upward sloping over the next few years, as shown in panel 21. Nonetheless, as shown in the light blue bars in panel 22, the distribution

of expected changes to 10-year rates implied by options prices does not suggest materially higher probabilities of rising yields than in recent years.

So, overall, while longer-term nominal Treasury yields rose modestly over the period on the brighter economic outlook, real yields fell or remained anchored by the Committee's forward guidance and by expectations of ongoing asset purchases, including the broadly expected guidance being considered at this meeting. There is somewhat more diversity of views on a maturity extension, and market participants will be attentive to Committee communications regarding conditions that might warrant a shift in the future.

Finally, I'll turn now to my third question, starting on slide 13. How did markets respond to the announced expiration of some 13(3) facilities, and what are expectations for money market conditions? For context, the Federal Reserve's balance sheet increased to \$7.3 trillion over the intermeeting period, driven by growth in securities holdings. The Desk conducted purchases to increase holdings of Treasuries and agency MBS at the minimum pace, as these markets continued to function smoothly. New activity remained limited across most Federal Reserve funding operations and 13(3) facilities.

I will turn now to slide 14. Treasury Secretary Mnuchin's November 19 letter surprised many market participants but was not associated with material price action. While contacts continued to view the presence of the 13(3) facilities supported by CARES Act funding as important backstops, usage has remained low given the improvement in conditions. Nonetheless, the Municipal Liquidity Facility and the Main Street Lending Program saw growing usage over the period, and more is expected before the year-end expiration, as shown toward the right side of panel 24.

A key reason for the limited market reaction to the 13(3) announcement is the expectation among many contacts that policymakers will reestablish facilities if conditions warrant. Many note that the ESF has \$70 billion in unencumbered assets that could be used to support lending. The facility SPVs will also retain capital to cover potential losses on existing holdings, which could support new lending or purchases if authorized. In addition, as highlighted on the right, market participants continue to cite the remaining 13(3) facilities, as well as the Federal Reserve's other liquidity operations, as important backstops should stresses reemerge.

In that regard, as outlined in the memo circulated ahead of the meeting, Beth Anne and I recommend that the Committee vote to extend the FIMA Repo Facility to September 30 next year. The path to economic recovery globally remains uncertain, particularly for many emerging market countries, underscoring the need for backstops that could address market stress and prevent spillovers from reemerging. In addition, provided the Committee has no objections, we will seek the Chair's approval to extend the temporary liquidity swap line agreements also to September 30 of next year. The extensions would be announced through a press release following this meeting, and a copy of the draft statement and the Desk resolution for the FIMA Repo Facility are shown in the appendix.

If we look ahead, as shown on slide 15, market participants anticipate calm money market conditions through year-end. Current premiums paid for dollar funding crossing year-end are generally below recent years, as shown by the implied spread between December SOFR and federal funds futures rates in panel 25. In fact, many market participants suggest that, given elevated reserve levels, money market rates could decline at the year-end as banks try to limit balance sheet growth on the reporting date. In this scenario, overnight reverse repo will provide a floor for rates, and usage could rise temporarily if money market investors are unable to find investments at more attractive rates.

If we look even further ahead, rising reserve levels could exert downward pressure on rates over time. The staff forecast, shown in panel 26, projects reserves to rise over \$500 billion from current levels through the first quarter of next year. In addition to increases in reserve levels stemming from asset purchases, the Treasury General Account is projected to decrease. The timing and magnitude of any decline in the TGA balance is uncertain, and a new stimulus bill could result in a faster reduction, particularly if it includes immediate payments for unemployment or other benefits. Another source of uncertainty to watch later in 2021 is the potential for a midyear debt ceiling event that could result in a further TGA drawdown.

To date, U.S. banks have appeared willing to increase their individual reserve holdings with rates near the IOER rate. However, as outlined on the bottom of the slide, the most recent Senior Financial Officer Survey suggests that many U.S. banks expect to take steps—such as investing in higher-yielding HQLA and reducing wholesale funding—to limit further growth in their reserve balances, even as aggregate reserve levels are projected to rise substantially.

Not surprisingly, fed funds futures contracts covering the next year currently indicate modest downward pressure. Market participants have, however, expressed confidence that the Fed has the necessary tools to maintain the effective federal funds rate within the target range. Of note, many think that the Federal Reserve would implement a technical adjustment to the IOER rate should the effective federal funds rate fall closer to the bottom of the range. It could be that some adjustment in administered rates will become appropriate over the first half of 2021; we'll continue to monitor money markets closely and report to the Committee as the conditions evolve.

Finally, I'd like to highlight a key development over the intermeeting period that will pave the way for an end to the use of dollar LIBOR in financial contracts, outlined on slide 16. LIBOR's administrator, along with the U.S. and U.K. regulators, made a series of announcements that garnered significant market attention. Collectively, the announcements proposed steps in the wind-down of LIBOR, with two key parts noted on the left. First, a final cessation of all dollar LIBOR fixings by June 2023, a date that would allow a significant proportion of legacy contracts to mature. Consultation on this proposal will close toward the end of January. And, second, supervisory guidance encouraging banks to stop writing new dollar LIBOR contracts as soon as practicable, but no later than the end of 2021.

Market pricing adjusted to reflect expectations for a June 2023 end date for dollar LIBOR, as seen, for example, in the move in the spread between implied rates on Eurodollar futures maturing in September 2023 and June 2023, shown in panel 27. These developments underscored the importance for market participants of preparing for the end to dollar LIBOR and laid out a path that would promote the safety and soundness of the financial system. Your appendix includes the usual summaries on operational testing, Treasury security and agency MBS purchases, and U.S. dollar liquidity swaps outstanding.

Thank you, Chair Powell. Patricia and I would be happy to take any questions.

CHAIR POWELL. Okay, thank you, Lorie. Any questions for Lorie or Patricia? [No response] I'm seeing no hands, and I'm not seeing any Skypes either. Okay. As Lorie indicated in her briefing, we'll need an FOMC vote now in order to extend the expiration date of the FIMA repo facility to September 30, 2021. Are there any questions or comments before we vote? [No response] Okay, hearing none, is there a motion to extend the expiration of the FIMA repo facility to September 30, 2021?

VICE CHAIR WILLIAMS. So moved.

CHAIR POWELL. All those in favor?

VARIOUS. Aye.

CHAIR POWELL. Thank you, without objection. As Lorie mentioned, following the foreign authorization procedures, I will approve the change in terms of the temporary dollar liquidity swap lines to extend them also through September 2021. And we'll now need a vote to ratify domestic open market operations conducted since the November meeting. Do I have a motion to approve?

VICE CHAIR WILLIAMS. So moved.

CHAIR POWELL. All in favor?

VARIOUS. Aye.

CHAIR POWELL. Thank you, without objection. Thank you, Lorie and Patricia. For our next agenda item, we'll have our discussion of economic and financial developments, including the Summary of Economic Projections. Let's start with the briefing on domestic economic developments with Stacey, please.

MS. TEVLIN.² Thank you, Chair Powell. My materials start on page 24 of the combined packet. Today I'll talk first about the unsettling news about the pandemic before turning to the good news on the resiliency of the economy and our upgraded outlook.

I know you're all familiar with the alarming rise in new COVID cases, hospitalizations, and deaths, so I'll make just two points in this area. Panel 1 is a way of showing how widespread acute COVID conditions are now compared with earlier in the pandemic. Regarding the pale blue region, despite the severity of the spring and summer surges, most people—around 60 percent—lived in counties with relatively low COVID mortality during those periods. But this current surge is different, and now just one-fourth of Americans live in counties with lower COVID death rates.

The increased spread of the virus this fall seems likely to be further exacerbated by what was, in retrospect, a somewhat busy Thanksgiving travel season. Panel 2 shows information on the number of Americans taking trips. The share of people taking trips declined over most of the fall, which is typical for that time of year, but jumped in the week including Thanksgiving. Though not as much as last year, the jump in travel has likely contributed to the most recent resurgence in cases and will likely continue to push up deaths through year-end.

The wave of the virus that has taken hold this fall has begun to show through into some indicators of economic activity, the three panels at the bottom. Goods spending, in panel 3, may have slipped in recent weeks, though the high-frequency data are noisy. More compelling is the weakness in sectors in which social distancing takes a bigger toll. For instance, panel 4 shows restaurant reservations, in blue, and employment changes in the food services industry, in red, both of which have turned down in recent weeks. Tomorrow morning, we'll get the November reading on retail sales. The component we use to estimate consumer spending includes both goods and food services, and we expect it to show a decline. In the labor market, panel 5, the slowdown in the November BLS measure of private job gains, the solid red dots, was sharper than we had been expecting. And the four-week average of ADP paid employment, the heavy black line, moved down in recent weeks, to a very low pace in early December. Based on all of these indicators, we estimate that overall consumer spending declined in November and will fall again this month. This weakness combined with the waning of fiscal support point to a pause in the recovery

² The materials used by Ms. Tevlins are appended to this transcript (appendix 2).

in overall GDP in the first quarter. Such a pause would likely be associated with much worse outcomes for some vulnerable segments of the population.

Now for the good news. The economy has been surprisingly resilient since the second-quarter plunge and shows fewer signs of scarring and recessionary dynamics than we had expected. For example, panel 6 plots the rate at which people found new jobs after having been permanently laid off. During and after the past recession, this rate dropped considerably—a pattern we had expected to repeat this year. Instead, job-finding rates currently stand at levels close to where they were in 2017, suggesting less labor market scarring than feared.

Similarly, the black line in panel 7 shows that although the number of bankruptcies in each quarter rose this year, the pace has been nowhere near the pace in 2009. Of course, it is also possible that some small firms have shut down and walked away from their businesses without seeking the protection of bankruptcy courts.

At the same time, as shown in panel 8, new business startups, proxied by new business applications, as given by the Census Bureau, though early October, have actually increased relative to their 2019 pace. The breakdown of applications by industry shows that entrepreneurs are responding to some of the new business opportunities generated by the pandemic. For example, the surge in applications in the nonstore retail and truck transportation sectors is likely a response to increased demand for online goods. Admittedly, not all business applications will end up translating into new, viable concerns, and some of the startups could merely be the newly unemployed “hanging out a shingle.” Even so, these data do suggest that the pandemic may be weighing on business dynamism to a smaller extent than anticipated.

Among other good news, capital goods orders, shown by the black line in panel 9—often a harbinger of business optimism—have rebounded smartly. Factory production, the red line, has not recovered as fully but, as shown by the hollow red dot, this morning’s release indicated it continued to rebound in November.

This collection of good news has led us to pare back our estimates of recessionary dynamics and labor market scarring. Although we expect the recovery could pause over the next few months because of the virus spread and, importantly, the drag coming from the possible unwinding of earlier fiscal policy support, we think this pause is unlikely to be accompanied by extreme recessionary dynamics and scarring before the widespread availability of an effective vaccine.

Panel 10 summarizes our assumptions about vaccines and the immunity of the U.S. population. As described in a Tealbook box, we assume that immunity arising from vaccination will begin to build up starting in January, as health-care workers and the elderly gain protection and should continue to ramp up through the first half. We project that herd immunity will be reached sometime in the summer, after which we expect that social distancing will decline. Of course, the interplay between the path

of the pandemic, vaccine distribution, and how spending will respond is highly uncertain, and our projection relies on many assumptions.

Putting all these pieces together, our baseline GDP projection, shown as the black line in panel 11, is a bit stronger in this projection than in the October forecast, the dashed red line. And we expect the unemployment rate, the black line in panel 12, to fall to 4.6 percent by the end of next year and to 3 percent by the end of 2023.

Given the prospect of another fiscal relief plan, I'm also showing the results of a simulation that includes \$900 billion of additional fiscal support. We view this simulation as at least as likely as our baseline at this point. Although we don't know exactly what the composition of such a plan will look like, we expect that it would boost the first half of next year materially and lead to the unemployment rate falling by a full percentage point faster next year than without the package.

Finally, panel 13 summarizes our projection for core PCE price inflation, updated to incorporate last week's CPI and PPI news, which included weaker-than-expected readings on rents. We now estimate that the 12-month change in core prices will stand at just 1.3 percent at the end of this year but—other than a transitory blip in the second quarter of next year—will rise steadily for the next several years.

Now I'll turn the presentation over to Shaghil.

MR. AHMED.³ Thank you. I will be presenting the international outlook. In assessing the foreign outlook, we are balancing two virus-related developments. The virus itself is again raging across many foreign countries, telling us to hunker down for a long, hard winter. But will this winter of our discontent be made into a glorious summer by vaccines? Certainly, the positive news regarding vaccines gives us some grounds for optimism and has made the risks more balanced. That said, uncertainty remains high, and downside risks are still significant.

Starting with page 1, as shown to the left, due to the recent resurgence of the pandemic, we see economic growth abroad moderating sharply to an annual rate of just under 2 percent in the fourth quarter, significantly less than anticipated at the time of the October Tealbook. Foreign growth in the first quarter, at about 3 percent, is also somewhat lower than previously expected. For the remainder of next year, however, we see foreign growth picking up at a stronger pace, following the positive vaccine developments. All told, this puts the level of aggregate foreign GDP, shown to the right, a bit higher than in the previous Tealbook but still not returning to its pre-pandemic value until the second half of next year.

Although the vaccine news supports our medium-term outlook and has buoyed global financial markets as Lorie discussed, right now, as shown on page 2, the virus situation is grim. New COVID-19 cases in most of Europe, the left panel, have come down but remain quite elevated. Deaths in Europe, the middle panel, are only just

³ The materials used by Mr. Ahmed are appended to this transcript (appendix 3).

starting to turn down, and in Germany they are still rising. In Canada, in red, and Mexico and Brazil, the right panel, new cases are shooting up.

On page 3, in mapping the virus resurgence to our economic projection, we assume the new wave will cause less economic harm than last spring. The main reason for this is that weighing the high economic and political costs, authorities are taking targeted measures, focusing on nonessential businesses and socially intensive sectors. Households and businesses are also following better virus management practices. These factors have contributed to less of a decline in mobility in advanced foreign economies, the left panel, than last spring.

Empirical work presented in a Tealbook box bolsters our view that the current virus resurgence will be less economically costly. The box presents evidence that the responsiveness of stringency restrictions and of economic outcomes to the virus in Europe has fallen in the second half of the year. Indeed, as illustrated in the right panel, according to the estimates obtained from our models, if the virus shock we are seeing now had occurred in the environment of six months ago, we would have seen a much sharper decline in mobility (the red line) than what is actually being observed, shown in black. Our rough calculations suggest that the decline in European GDP this quarter would be 7 percentage points greater had mobility responded to the new wave in the manner of last spring.

As shown in the left panel of page 4, the 11 percent, annual rate, contraction in European output projected for the fourth quarter is still sizable. European authorities have responded with further fiscal support, including extension of wage subsidy programs and additional monetary accommodation as well. In particular, at its meeting last week, the ECB expanded its Pandemic Emergency Purchase Program and its “funding for lending” program, in line with expectations.

The right panel shows that notable restrictions, indicated by the orange shading, are now in place in the current quarter in the AFEs. But due to the earlier rollout of the vaccine, we now expect a full lifting of restrictions by the end of next year, somewhat earlier than previously expected. Accordingly, our AFE real GDP path has been revised up in the medium term.

On page 5, vaccine news has relatively more limited implications for the EME outlook. In China and the richer Asian EMEs, the left two panels, recovery is well in train and, despite recurring flare-ups, these countries have effective strategies in place for keeping the virus under control. These economies should also be boosted by positive spillovers from the advanced economies over the medium term. But in Latin America, the right panel, we continue to assume a slow recovery. Due to logistical hurdles associated with the distribution of the vaccine, we still assume only a gradual rollout there.

Risks have shifted, as discussed on page 6. The positive vaccine news has decreased extreme downside risks, but considerable uncertainty remains about the exact timing of the widespread rollout of the vaccine, the course of the pandemic, and

the persistence of the economic damage. It is therefore useful to put our current baseline in historical context.

The left panel compares the path of aggregate foreign GDP in our baseline, the black line, with the average of past deep recessions that had an output drop of 7 percent or more across a wide sample of foreign economies over the past half-century, the red line. The gray shading represents the range of the 25th and 75th percentiles of our current projections for individual countries. The current GDP forecast shows a similar drop but a faster recovery than the historical average. The right panel compares the current crisis with the average of past recessions that were both deep and short, the blue line, a subset of those on the left. Here, the current forecast tracks the historical experience more closely. This comparison provides us more comfort in our baseline but still suggests there will be a very persistent gap between the recovery path and the long-term trend. And should the rebound be derailed, the permanent damage to the foreign economy could be quite high.

Moreover, while we assign a lower probability to extreme bad tail outcomes, risks still appear tilted to the downside. In addition to risks related to the virus, Brexit uncertainty continues to plague us, with negotiations down to the year-end wire. At this moment, the likelihood of a no-trade-deal Brexit is significant, as there has been little breakthrough in negotiations. Such an outcome would have a material adverse effect on our U.K. outlook but limited implications for the global economy.

More broadly, nine months into this pandemic, all economies are now more vulnerable to further negative shocks, particularly the emerging market economies with more limited policy space and structural challenges. The remainder of this briefing will focus on the current situation and risks facing the EMEs.

To assess conditions in EMEs, the Board and the New York Fed have developed a comprehensive EME financial stresses monitor, and page 7 summarizes the latest results. For each of 21 major EMEs, we track about 50 indicators, grouped into six components: metrics related to the health of nonfinancial corporates, sovereigns, and banks; text-based analysis of market sentiment; market access conditions; and financial market conditions. After analyzing these indicators, scores are assigned for each component for each country, from 1 indicating low stress to 4 indicating high.

As shown in the top panel, just under a third of the EMEs we follow are showing moderate to high stress, taking into account all components. For the EMEs as a whole, shown in the leftmost bar in the lower chart, the overall level of stress is medium-low, but that masks a divergence across the components. The EME corporate, sovereign, and banking sector stresses are more elevated (flashing orange), while market access and financial market indicators are showing low to medium-low stress, shown by blue and yellow. The situation is much different from March, the rightmost bar, when EME financial markets were flashing a high degree of stress.

As noted on page 8, the improvement in EME financial markets owes much to the easing of global financial conditions, in part due to a formidable policy response.

EME sovereign spreads, the left panel, are highly correlated with the behavior of U.S. high-yield corporate spreads. EME equity indexes, the middle panel, particularly for Asia, have moved closely with the S&P 500. And the sharp appreciation and subsequent retrace of the dollar against EME currencies, the right panel, have followed the fall and then rise of risk appetite, as proxied by the VIX. In addition, after the initial panic, markets probably took some comfort in the buffer of international reserves that many EMEs had built over the years and their improved policy credibility.

The last page describes how the divergence between financial market conditions and other parts of the financial sector may play out in the EMEs. One possibility, consistent with our baseline forecast, is that continued benign global financial conditions and some market confidence in EME buffers tide EMEs over to better times, although with some damage. But changes in risk appetite could tighten global financial conditions. Vulnerabilities in some EMEs could also engender more structural damage than we currently expect, or further negative shocks could tip these economies into a downward spiral. In these events, EME financial markets could suddenly worsen, with the health of nonfinancial corporates, sovereigns, and banks deteriorating more rapidly. To illustrate, the panel shows projected government debt-to-GDP ratios under our baseline for selected EMEs, the gray bars, and under the adverse Tealbook scenario, the red bars. Under the adverse scenario, debt-to-GDP would rise by the end of next year to levels that for EMEs are concerning, even taking into account improvements in their policy credibility. Should parts of the EME world have a financial crisis, the adverse spillovers to the U.S. real economy could be significant but are unlikely to threaten the stability of the U.S. financial system. Thank you. Lubomir will now continue our presentation.

MR. PETRASEK.⁴ Thank you. I will be referring to the “Materials for Briefing on Summary of Economic Projections” that begin on page 37 of your packet. To summarize: Your outlook for the economy has improved since your September projections, with most of you now seeing the strength of incoming data and positive vaccine developments as the main reasons for these revisions, notwithstanding the continued worsening in the public health situation. Nearly all of you marked down your projected path of the unemployment rate, with most of you doing so for all years of the forecast horizon. Most of you revised your projections of headline PCE inflation up a bit over the next couple of years, and several more of you now project it will be modestly above 2 percent by 2023. Despite your improved outlook for the economy, almost none of you revised your projected path of the appropriate federal funds rate over the forecast horizon, and a substantial majority of you continue to judge it appropriate to maintain the current target range for the federal funds rate through 2023.

The uncertainty attached to your economic projections remained high by historical standards. However, most of you now see the risks to the outlook for economic activity and the labor market as being nearly balanced. Many of you

⁴ The materials used by Mr. Petrasek are appended to this transcript (appendix 4).

pointed out in your narratives that positive news on vaccine development has reduced the risk of more unfavorable economic outcomes.

I will turn now to exhibit 1 of your handout. Almost all of you marked up your projections for real GDP growth in 2020, with the median participant now seeing a decrease of 2.4 percent—a milder contraction than the 3.7 percent in the September SEP. Many of you also revised up your projections of economic growth in 2021 and 2022, with median growth expected to exceed its longer-run rate through 2023.

Nearly all of you revised down your unemployment rate projections, with most of you doing so for all years of the forecast horizon. The median unemployment rate in 2020 now stands at 6.7 percent, which is almost 1 percentage point below its level in the September SEP; the unemployment rate in each of the remaining years of the forecast horizon was also revised down, albeit by smaller amounts. In your narratives, most of you indicated that your near-term outlook for the economy was influenced by a stronger economic rebound and a faster decline in the unemployment rate in recent months than you anticipated in September. Nevertheless, most of you expect the recent surge in COVID-19 cases to have an adverse effect on the economy and the labor market over the winter months. In addition, a substantial majority of you assumed that at least a modest fiscal stimulus package will be enacted in the next few months. For the second half of 2021 and beyond, many of you noted that your projections were premised on the assumption that widespread vaccination will lead to a faster rebound in economic activity than you projected in September. Your projections regarding GDP growth and the unemployment rate in the longer run were largely unchanged.

The median participant’s projection of headline PCE inflation in 2020 remained unchanged at 1.2 percent, while the core measure stands at 1.4 percent, down 0.1 percentage point relative to September. Several of you projected that both headline and core PCE inflation will converge a bit more rapidly to 2 percent over the projection horizon than you anticipated in September. Seven of you—five more than in September—expect headline inflation to modestly exceed 2 percent in 2023, and just over half of you project an overshoot in at least one of the years in the forecast period. Some of you mentioned in your narratives that you see it as likely that inflation will need to overshoot its longer-run level for some time after 2023 to achieve the Committee’s goals on a sustained basis.

Exhibit 2 reports your assessments of the appropriate path of the federal funds rate, denoted by the blue dots. Almost all of you left your assessments over the forecast horizon and in the longer run unchanged from September, with a substantial majority of you continuing to anticipate that it will be appropriate to maintain the current target range through at least the end of 2023. Many of your narratives noted that, under the Committee’s current guidance on the policy rate, your improved outlook for the economy and higher projected inflation did not translate into liftoff in 2023 or sooner. Some of you also cited lingering downside risks to inflation as underpinning your judgment that the federal funds rate should remain in its current range through the end of the projection horizon. Four of the five participants who judged that it would be appropriate to increase the federal funds rate in 2022 or 2023

saw four-quarter headline inflation in excess of 2 percent and unemployment at or below their estimate of its longer-run level at the time of liftoff. Finally, some of you mentioned in your narratives that your assessment of appropriate monetary policy encompasses your expectations of asset purchases or guidance regarding those purchases.

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, evident only in 2023 and in the longer run, show the corresponding interquartile ranges of the distribution of most likely policy rates. In line with the vast majority of FOMC participants, most respondents to the Desk surveys have not made substantial changes to their policy rate expectations since September, with the median respondent still expecting that the first rate increase will occur after 2023.

Exhibit 3 presents your views about the uncertainty and risks surrounding your projections. As shown in the left panels, the vast majority of you continue to see the uncertainty regarding all four economic variables as greater than the average over the past 20 years. However, the right panels illustrate a noticeable change in your assessments of risks to the economic outlook since September, with most of you now seeing the risks to real GDP growth and the unemployment rate as broadly balanced. Most of you continue to view the risks to your inflation projections as weighted to the downside.

Your narratives pointed to concerns similar to those you highlighted in September, including the course and economic effects of the pandemic and the extent and timing of fiscal support to the economy as key sources of uncertainty. Those of you who judged that downside risks to GDP growth and upside risks to unemployment have diminished since September typically cited positive news on vaccine development as reducing the likelihood of more adverse economic outcomes. That said, many of you judged that economic uncertainty will remain elevated until the virus is no longer suppressing economic activity. Several of you cited potential vaccination delays, arising from logistical obstacles or reluctance by the public to be vaccinated, as still skewing risks to the economy to the downside. A couple of you who judged inflation risks as no longer weighted to the downside cited the effects of the FOMC's current guidance on the policy rate and pointed in particular to the Committee's aim to achieve inflation moderately above 2 percent for some time. Many of you also mentioned upside risks to inflation in coming years arising from the release of pent-up demand or households starting to draw down the sizable savings that they have accumulated since the start of the pandemic.

Finally, exhibits 4 and 5 show the new diffusion indexes that will be included in the SEP for the first time this December. These indexes provide a complementary, longer-term perspective on your judgments of the uncertainty and risks attached to your projections. The diffusion indexes indicate that, despite having improved a bit, you still see the level of uncertainty as being elevated by historical standards, and a significant net fraction of you still view risks to inflation as weighted to the downside.

This concludes the briefing material, and we would now welcome any questions that you may have.

CHAIR POWELL. Thanks very much. Are there any questions for our briefers? And I've got a few written down here. So let's begin with President Barkin, please.

MR. BARKIN. Thank you, Mr. Chair. Stacey, a question. I'm really quite struck by the size of the effect on the unemployment rate of the fiscal stimulus that you've modeled. And I'm just curious, I guess, what goes into that. Did you model the one that's proposed, or was it more of a generic \$900 billion or so? And then, what does drive the unemployment rate so low when so much of that package looks like it's bridging payments to businesses and individuals?

MS. TEVLIN. We didn't model it exactly as it is in the press right at this moment. We tried to capture some of those things—this was a simulation that we put into the Tealbook 10 days ago. We have \$200 billion of PUA and PEUC unemployment benefits, \$300 billion of PPP, \$250 billion of state and local aid, and another \$150 billion for public health and things like that. So, you know, that's probably not exactly what we're going to get, and we may not get something as big as \$900 billion, but that's what we modeled here.

A big part of this is—we think that the unemployment benefits really are very beneficial to people. They go to people who have a high propensity to consume, and they're pretty efficient in how they go out. So that's a big part of why we think it has such a bang. We think that GDP growth would be something like 5 percentage points higher in the first quarter with this fiscal package, and so with that much additional spending in the economy, that's part of what's driving down the unemployment rate.

MR. BARKIN. Very helpful, thanks.

MS. TEVLIN. Sure.

CHAIR POWELL. Thank you. President Harker, please.

MR. HARKER. Thank you, Mr. Chair. Stacey, let me follow up on a different question. Obviously, we've seen a lot of activity in residential investment. Other than rates, what is driving the continued strength in that sector in your baseline forecast, as opposed to it maybe petering out just because we've seen this surge? Everybody moved out to the suburbs, everybody's got their house outside of the city. So what is driving that other than rates? Anything?

MS. TEVLIN. When you tell me I have to answer "other than rates," you take away a really important one.

MR. HARKER. Oh, no, no. I get rates.

MS. TEVLIN. Yes, rates are a big part of it. We do actually think that residential investment isn't going to continue to increase at the same pace. We actually have it flattening out in the first quarter of next year. And then it picks up again as the overall economy strengthens, obviously when we get a vaccine and everything else is picking up. So, as people start to have jobs and there is more confidence, residential investment picks back up. But we do have it flattening out a little bit in the first quarter.

So a lot of it is rates, it's optimism, it's job growth. And we think this is an area of the economy that has really been very effective at continuing to thrive in a pandemic era. They made a lot of adjustments, and that's part of why they've been able to be strong through this period. Like I said, in the projection it's a lot of things that you would expect from residential investment.

MR. HARKER. Thank you.

CHAIR POWELL. President George, please.

MS. GEORGE. Thank you, Mr. Chair. My question was on the foreign growth outlook, Shaghil. I wondered what assumptions you make about vaccine distribution and herd immunity between the advanced foreign economies and the EMEs.

MR. AHMED. Yes. Those assumptions are very different. The advanced foreign economies have procured a lot of the leading vaccines, and many economies have more than two doses per person already procured. Based on what they have procured and the poll data on the willingness to take vaccines, we have projected herd immunity. It happens quicker in Canada and the United Kingdom—I think that's a little bit faster than the United States—and then Europe, and then Japan. And Japan lags, and the euro area lags a little bit to the United States.

For EMEs, the assumption is quite different. They don't have that many of the leading vaccines, and most of the vaccines they have procured are further behind in the process. They also have transportation and so forth—there are logistical challenges associated with that. There, we think, it will take much longer to achieve herd immunity, and therefore our outlook there has not been that much influenced by the new news about the vaccine. But in AFEs, we see all the restrictions being lifted by the end of next year, which is a little bit earlier than we previously expected, and that's based on the vaccine news.

MS. GEORGE. Thank you.

CHAIR POWELL. President Daly, please.

MS. DALY. Thank you. Stacey, this question is for you—and a great briefing, by the way. But I want to go to page 25 of 57 and look at figure number 6, the job-finding rate for those with a permanent job loss. And the reason I want to look at this chart is, I've been puzzling over this too, and you've taken more signal than I have currently from the rather stable job-finding rate so far.

So the reason I was worried about it—and I just wanted your thoughts on it—is if you go back to 2008, that continues to trend down well past the recession ending, and there's all that volatility on this monthly data. So I guess I'm asking, why do you have confidence that this won't continue to trend down—unless you've already taken the scarring issue from your forecast?

MS. TEVLIN. It's true that it continued to go down after the recession ended, but the unemployment rate was still rising at that point, whereas we don't think it's still rising right now. We feel like we are further along in this than we were at the end of the shaded area in that chart. So we're taking some signal that we're not going to continue to see it go down, because we're not going to see the unemployment rate rise as much as we continued to see it after the previous recession—which is, of course, an assumption and could be wrong.

I would also just want to frame this a little bit for you in that we haven't taken a signal that there's no labor market scarring, and we haven't taken it all out of our projection by any means. If you take out the part of the natural rate that's just the short term because businesses were shut down and you look at the more medium-term natural rate of unemployment, we still have that rising in our projections, up to, I think, 4.6 percent. And so we still think that that is a feature of our forecast, but we took some signal that there's a little bit less now, which I think is a reasonable thing to do when you start to see data that come in a good deal better than you expected. And it's not just this, it's also the labor market has come in stronger than we expected. That seems like a reasonable signal to take from the data, but that's not to say that we don't still see some labor market scarring and that we don't think that there are definitely risks.

MS. DALY. If I may, Chair Powell, just to make sure I have it. That makes perfect sense to me. But would it be fair to say it this way, that given the robustness of the labor market

recovery thus far, we're not having some of the damage that we feared we would have earlier in the year? And so the more persistently you're out, the worse you are, and the damage accumulates. This is all interwoven into the strength of the labor market so far. And if that continues—and that's why the fiscal element, I think, has such a big effect, to go back to President Barkin's question. If the fiscal element is not there, then these individuals are out for longer, and then there's more damage. Is that one way to think about it?

MS. TEVLIN. That's right. In our baseline forecast, we actually don't have the fiscal element there. And we are basically assuming that it's not going to get a lot worse. We have the unemployment rate flat during the first quarter. And, basically, we're assuming that with a flat unemployment rate after it's just come down for a while, we're not going to see a lot of scarring. People still have some savings, and they're looking ahead to a time when there's a vaccine. So it's definitely an assumption—how people will experience a real slowdown in the first quarter with the light at the end of the tunnel. But that's kind of how we've put it in our forecast, that there's not more extreme recessionary dynamics and scarring while the economy flattens out in the first quarter.

MS. DALY. Okay, thanks very much. I appreciate it.

CHAIR POWELL. President Kashkari, please.

MR. KASHKARI. Thank you, Mr. Chair. Stacey, sorry to pile on—you're getting a lot of questions today. This is your panel 10, "Vaccine News Good; Herd Immunity in Q3," page 26 of 57, which is a very thoughtful chart showing the different types of vaccines and how they stack up and when we can achieve herd immunity. And I confess, I read the box, but it was a week ago, so I don't remember everything in the box, so sorry about that.

And you also said, appropriately, that you have to make a lot of assumptions to create a chart like this, and I totally get that. One assumption is, is 60 percent the right number for herd immunity? It could be 50 percent, it could be 70, nobody knows. When I look at this, though, it seems to me like this is, if everything goes right, in terms of vaccine distribution, in terms of people taking the vaccine—the Johnson & Johnson vaccine and the AstraZeneca vaccine still have not been approved yet. We hope that in Q1 they will. And I guess the first part of the question is, do you agree with that? Is this kind of, if everything goes right, this is when we could be seeing these thresholds? Because it's enormously important as to when we can get back to a “normal” economy.

MS. TEVLIN. I guess I would say, there are risks on both the upside and the downside, but I think there are probably more on the downside—

MR. KASHKARI. Okay.

MS. TEVLIN. —in terms of not having enough.

MR. KASHKARI. Yes.

MS. TEVLIN. It's easier for me to think of all the things that could go wrong. We have assumptions about wastage—it could be much higher than that, considering how difficult it is to keep them cold. We have assumptions about how many people will take the vaccine. You know, all of those things. It feels like that's the direction, but I can imagine risks on the other side. And, in fact, we included a simulation in the Tealbook of “earlier herd immunity” exactly for that reason, because, so far, we've been surprised in the positive direction on this, and it could be that that continues to happen. There's a lot of incentive for that to happen. I can see risks on both sides.

MR. KASHKARI. Okay. And then, related to that, I'm also just trying to think about what life is like after we achieve “herd immunity.” I'm thinking about, is there going to be a switch? Do we really go back to normal? I'm thinking about our own Bank. We have 1,000 or so employees. If we had 60 percent of our employees vaccinated, would we then signal “All clear, everybody go back to the Bank”? I don't think so, and so it makes me think—I don't exactly know what the world is going to look like in Q3 and Q4 if this plays out the way you've put on this page, but I'm not sure that it means we can all just suddenly go back to normal. I'm just curious if you have thoughts about that.

MS. TEVLIN. Obviously, we can't immediately turn on a switch. But it also could be that some of this could gradually start a little before herd immunity as more people are feeling comfortable that they are safe, even if the whole herd isn't safe. You'll start to see more activity. So I think it will be—it may start a little bit before herd immunity and continue to go on.

We have really strong growth rates in both Q3 and Q4, which suggests that activity is coming on in a very strong way over the course of six months. I don't know. That doesn't seem unreasonable to me. I feel like there's an awful lot of “pent-up people” wanting to go out and spend and do things, so it doesn't seem unreasonable to me.

MR. KASHKARI. Okay. Thank you.

CHAIR POWELL. President Evans, please.

MR. EVANS. Thank you, Mr. Chair. Let me follow up a little bit on what Neel was talking about. And while I'm thinking about it, before I forget, let me compliment the staff and all the organizers. I really think that getting the presentation materials the night before is just so productive. I mean, being able to look at it when it comes in and have a better idea of what the conversation's going to be, I just think that's really brilliant. So thank you so much.

In line with that, the box in which you went through your assumptions about the vaccine and leakage and ways to think like that, I thought that was very careful and well done.

Obviously, anybody could pick over assumptions, but I think you've laid it out so that if you find yourself making adjustments, you can easily pinpoint why. So I think that's really valuable.

The question I have is a little bit pedestrian, in the sense that we're throwing around this term "herd immunity" a lot, and I don't really know exactly—I mean, a lot is loaded into that. And so, could you just talk a little bit more about what most people are thinking the implications of herd immunity are—I mean, is it like "switch on, switch off"? If I'm talking to someone close to me who doesn't like shots or something, is it going to be, "If we get to herd immunity, you might not have to take this" or something like that? Just how powerful is that threshold? Or, the way that you're thinking about it in this, how should we think about it? That would be very helpful to me.

MS. TEVLIN. Right. I don't think I'm going to be as precise as you want here. We think we have herd immunity to measles in this economy except when we don't. There can be outbreaks if people aren't taking vaccines. And, obviously, if only 60 percent of people are taking vaccines, it seems like there could still be some worry about that.

I'm not sure what the official definition is, but, you know, it's not going to be perfect. What we're assuming is that with an R_0 —when people are not restricting their behavior but are just interacting—of about 2.5, then you need 60 percent of people to be immune for the transmission to drop way, way down. And that's basically what we're basing it on. We're looking at an R_0 of 2.5. And then there's a bunch of other things that go into that. That's the assumption we're making, and, again, I don't think it will be perfect. I hope that once we get to

60 percent, we can all start spending, but that people will keep getting inoculated and we will actually have higher numbers. But that remains to be seen.

MR. EVANS. Okay. That was very precise, and I appreciate that. Thank you.

MS. WILSON. If I could just add—if you can hear me—just a couple of observations from the international side. One is, the groups of people that are most at risk aren't necessarily those that are in the industrial side of the economy or in the service sector. It may be possible that you may still have some fraction of the population that's scared to go out, but they may tend to be very old or very immune compromised. And it might not necessarily have that sort of spillover into the broader economy. In those cases in which you are able to get kids back in school and you are able to get international travel and small restaurants open and have enough critical mass to use those services, you may see that you don't necessarily need to get that last 10, 20 percent. That's something we'll be thinking really hard about—the difference between that fraction of the population that's comfortable interacting and how that maps to the actual activity of the economy.

Another thing is, in those places where we have seen disease spread, like in the case of SARS, you did see a recovery. What I think we may see—and this is less for thinking about the near term, but—you did see a much sharper reaction to new pandemics or new outbreaks in those areas. There was learning and a much more rapid response. So as we go forward, in response to these risks we may see much sharper reactions. Thanks.

CHAIR POWELL. Thank you. President Bullard, please.

MR. BULLARD. Thank you, Mr. Chair. Just to follow on this discussion a little bit, I want to understand whether—if you administer the vaccine on a risk basis to those who are basically older in the population and with some kind of compromised immune system or other

complicating factors, then it seems like you could get to a point at which fatalities would go way down pretty dramatically. And if people aren't dying from the disease, then they're not going to be very afraid of the disease. So is that an upside scenario, or is that something that's not considered likely?

MS. TEVLIN. That sounds like an upside risk to me. It's not something we modeled in our going through it. We basically treated everybody the same as we were going through and just had to get to 60 percent. But you're right—if death rates go way down, people may feel comfortable going out and spending sooner.

MR. BULLARD. One of the data points circulating around Wall Street was that the number of people over 100 years old that had died was about equal to the number of people under 45 that have died. That suggests a terrific age skew. The size of the population that's under 45 years old is 2,000 times the size of the population that's over 100. So there's a terrific age skew here. That suggests to me you only have to get half the population or just the over-65 or over-55 population or something like that. So it seems like it could happen faster. That's just a suggestion.

MS. TEVLIN. Yes.

CHAIR POWELL. President Harker, please.

MR. HARKER. Yes. Thanks, Mr. Chair. Just a quick follow-up—it just triggered something in my mind—on what Beth Anne said. Until there's a universal coronavirus vaccine—which people are working on, but it isn't there—we may be in this scenario every year. This would be more like the flu: It's going to mutate, and you have to get a new vaccine. Not a lot of people have talked about the fact that—but Beth Anne made this point—we may get waves of this in coming months.

Now, this is not in your model, but it is in the planning horizon, that next fall we may see another wave like we do with the flu. And then the question is, what kind of scarring is there in terms of how we react to that, right? I mean, that's something worth starting to think about a little bit, because there is a reasonable probability that that scenario plays out. So at least starting to think about that and asking around with epidemiologists, what they think would happen there, I actually think would be helpful.

MS. TEVLIN. I think right now we're still waiting to see how durable the immunity is, right?

MR. HARKER. Yes, exactly.

MS. TEVLIN. People haven't been getting it long enough for us to really know, so—

MR. HARKER. Right—is this the measles vaccine, or is it the flu vaccine? We don't know.

CHAIR POWELL. Okay. There are no other questions on Skype that I see. Any hands coming up here? [No response] All right. Seeing none, let's go ahead and begin our economic go-round, and we'll begin with President Daly, please.

MS. DALY. Thank you, Mr. Chair. As we just discussed, the strength of the recovery has been surprising so far. Consumers and businesses, with the aid of fiscal and monetary policy support, remain really resilient, reengaging in the economy as the virus allows. And this underlying momentum, along with news about effective vaccines, has boosted my confidence about the medium-term outlook.

That said, we are not there yet, and several things in the current environment do give me pause. COVID-19 cases are surging across the country. In addition to the toll on health and hospitals that this takes, many small businesses and households are ill prepared to deal with the

second wave and another step back in economic activity as we try to control the spread of the virus.

I'm already seeing signs of this kind of distress in my communities. New shelter-in-place orders, as well as voluntary pullback among very cautious consumers, have significantly slowed economic activity across the District—put the brakes on it, if you will. The victims of this pause are the very same ones that suffered throughout the pandemic: high-contact sectors, like personal services and travel and tourism, as well as small businesses, community nonprofits, and state and local governments.

And as we've previously discussed, but it bears mentioning again, this translates almost directly into a disproportionate burden being borne by those least able to bear it: people of color, those with less education, and families with less income and wealth to cushion the blow. These unequal effects are quite terrible to witness. We've all mentioned that. But they also widen preexisting gaps in our economy that we've already been struggling to close for many years, and this goes beyond fairness and is important to the outlook. If we leave so many people on the sidelines and we don't get them back, it will ultimately slow the speed of the recovery and our growth as a nation.

Of course, this is where the Congress comes in, and I know we're not the Congress, but it does affect our outlook. An additional fiscal package would help bridge individuals, families, and businesses through the remainder of the pandemic and ensure that they are well prepared, or at least better prepared, to restart once COVID is behind us.

Should the Congress fail to act, it will unnecessarily compel millions of Americans to reduce their overall spending; miss rent, mortgage, and car payments; and, ultimately, scar their

credit and financial health in a way that does, in fact, lead to a more protracted rebound. In my judgment, this would be an unforced error.

But it's not just my judgment here, and this is beyond speculation. We saw these things happen in the aftermath of the Great Recession. After providing initial support, the Congress pulled back on fiscal aid fairly quickly, damping the economic rebound and likely contributing to the very protracted return to full potential that we spent years observing. I expect, as long as I don't spend too much time watching C-Span, that the Congress will recall this history and see the hardships faced by their constituents and work out a compromise on additional fiscal aid.

I've included this expectation in my SEP submission. In my forecast, we do get fiscal relief by the first quarter of next year, and that helps preserve worker–firm relationships, business capital, and the financial solvency of millions of Americans. It supports growth, limits further damage, and fosters a faster recovery once COVID is behind us. Even with the projected fiscal stimulus that I've penciled in and a fully deployed vaccine, the road to the medium term and a full recovery will not be easy.

The rapid rebound we saw last summer, after the initial wave of the virus, is highly unlikely to be repeated as the shock of COVID persists and the damage that it generates accumulates. And I really think hard about what Stacey said, but every month you go on, with people out of work and people waiting, there is a little more damage than there would've been if we had quickly rebounded.

So, from now on, I think we are more likely to face normal recovery dynamics. I want to point to the labor market as a really good example of how this happens. In the beginning of the pandemic, the lion's share of layoffs were temporary, as employers expected to bring almost all

of their workers back once the lockdowns were lifted. As the pandemic has persisted and continued, permanent job losses have become the norm.

Indeed, recent work by Marianna Kudlyak at our Bank in San Francisco shows that since midsummer, the share of permanent job losers has increased sharply, and they now make up the majority of those unemployed. Even more strikingly, she finds that of those who remain marked as temporary layoffs, about half of them have been out of work for more than six months, making it increasingly unlikely they will be recalled by their previous employer.

Now, this distinction is important, because people on permanent layoff find jobs at about half the rate of those who are temporarily laid off. So even if we simply shift from temporary to permanent, it slows the path of the recovery. To put all of this together, it means that the unemployed are increasingly becoming displaced, severed from their employer that they had at the end of last year, and they will need to re-up, essentially, and find a new employer as we enter into full recovery. And that will be more typical of recession dynamics that we're used to.

This ultimately has implications for the path of the unemployment rate. It will just take more time from this point on than it has taken in the past three months. So instead of getting an 8 percentage point decline in three or four months, we are probably going to get something closer to a 1 percentage point decline each year. Now, how did I come up with that 1 percentage point decline? Simply by looking at history. A good rule of thumb, if you will, comes from Hall and Kudlyak. They've written a paper that looks at the past eight recoveries. Those are ones that are V shaped, ones that are jobless, and they have found that the decline in unemployment has averaged 1 percentage point per year. Uh oh—suddenly the screen went blank, so I didn't know if you guys left me. I didn't know if the Chair took his prerogative and said, "That's enough." [Laughter] It's 1 percentage point per year.

As they note, it takes a long time for long-duration unemployed and permanent job losers to find work. There's just a search and matching that takes some time. And, importantly, as the economy gains strength, many who exited the labor force altogether come back, and that further slows the decline in the unemployment rate as we move forward. Now, this is for a very positive reason but does change the unemployment path dynamics.

I've just gone through what are very typical recovery dynamics, and I think those are more likely to be experienced when COVID is behind us. And so this will mean that the challenge will be for all of us to remember and communicate that a more gradual climb to full employment does not signal our failure or the failure of our tools. It just means that we're not finished using them yet because with strong and sustained growth, unemployed and sidelined workers do get jobs; workers who are out of the labor force come back; wages, income, and wealth gaps narrow; and, as far as those who are disenfranchised or those who are simply sidelined right now, they are once again able to participate.

Of course, all of this depends then on what happens with inflation, and so I want to close with just a few words on that front. The softening of inflation in October is broadly in line with a more moderate pace of economic activity than we saw in the summer. In fact, since the start of the pandemic—I mean, this is to be expected—the initial fall and subsequent rise in inflation have been almost fully driven by COVID-sensitive sectors, and work in San Francisco and other Banks has shown that.

So, in the near term, I think inflation is likely to remain soft as these sectors are held back by containment measures for COVID and then come back as we put COVID more behind us as the vaccine rolls out. But that will only be part of the battle. Returning inflation to 2 percent, on average, will take sustained policy accommodation to moderately overshoot the target, and I

don't see that occurring in the forecast horizon that we have—for the SEP, anyway. And I will return to this and achieving full employment on the policy statement tomorrow. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Governor Clarida, please.

MR. CLARIDA. Thank you very much, Chair Powell. Before I begin my outlook remarks, I would like to offer some comments on the new SEP exhibits. We saw examples of those in the presentation, just to remind you, following our November discussion of this and approval by the Committee. They will be released publicly tomorrow, and I am quite optimistic about the value that these will provide over time.

Obviously, we'll have to see what the reaction is, but I just think now, if you look at them in the context of our decisions, it does provide useful information to see the evolution of uncertainty and risks, and I do think they will add value in our ability to communicate our policy. I'd also like to commend Michelle Smith and her team who have put a lot of information about this on a revised Board landing page for the SEP, also furthering our communication efforts. And so thank you to them.

I will return now to the outlook discussion. The flow of spending data received since our November meeting has continued to surprise, on balance, on the upside, and GDP growth in the fourth quarter appears to me to be on track to reach or perhaps even exceed 5 percent. Now, while this would represent a downshift from the once-in-a-century 33 percent growth rate in the third quarter, it is clear to me that since the spring, the economy has turned out to be more resilient in adapting to the virus and more responsive to monetary and fiscal policy support than many predicted.

Under the staff baseline, the decline in the level of GDP this year will come in at roughly minus 2 percent, and this is a smaller decline than in the worst four quarters of the Global Financial Crisis. By the fall of '21, according to the staff baseline, GDP will have recouped entirely the catastrophic collapse suffered in the spring of 2020. By contrast, following the GFC, it took the economy nearly 4 years to regain the previous peak level of GDP and nearly 10 years to return to the pre-GFC level of unemployment.

Now, to be sure, while the recent surge since our previous meeting in new COVID cases and hospitalizations is cause for real concern and a clear source of downside risk to the near-term outlook, the very welcome news on the development of several effective and apparently safe vaccines indicates to me that the prospects for the economy next year and beyond, relative to the pre-vaccine assessment, have brightened. The downside risks to the outlook have diminished, the right tail of the distribution of economic activity has fattened, and these reassessments are reflected in my SEP projections submitted for this round.

In particular, I project over the next three years somewhat faster growth and somewhat higher inflation than does the staff baseline, but piggybacking off something President Daly just said, I also see perhaps a somewhat slower return to pre-pandemic levels of unemployment because I do think labor force participation will return, and, obviously, that's a positive development on its own.

I do project that inflation modestly overshoots 2 percent in both 2022 and 2023, in line with our new framework, and consistent with that framework, project no increase in the federal funds rate over the forecast horizons. Now, I should note that my projections do assume that some additional fiscal support for the economy is passed by the Congress and signed by the President.

With the vaccine news and my baseline view of widespread distribution by next summer, I now, in my SEP submission, indicate that the risks to my real GDP and employment projections are roughly balanced and the risk to my inflation projection is to the upside. Thank you, Chair Powell.

CHAIR POWELL. Thank you. President Rosengren, please.

MR. ROSENGREN. Thank you, Mr. Chair. Since the spring, I have been worried about a second wave of the pandemic emerging during the late fall and winter. It did not require clairvoyant powers, as most epidemiologists anticipated that outcome with their models. Unfortunately, a severe new pandemic outbreak has ensued, with daily death rates last week starting to exceed 3,000 people a day and with hospitals in many areas of the country at or exceeding capacity.

What I did not anticipate was the United States' public health response would be so muted in the face of these frightening statistics. Unlike Europe, which began lockdowns as deaths rose and hospital capacity fell, many states have done little to stem infections. Apparently, these states place a lower value on human life and health outcomes and a higher value on keeping businesses open even when a vaccine is only months from widespread availability. Particularly striking is the willingness in many states to continue to allow group gatherings and bars to remain open despite rampant community spread of the virus. Thus, my forecast does incorporate some tightening of restrictions on mobility and activity, as states such as California have recently instituted some lockdowns, as President Daly has just described, although much less than I previously expected.

My forecast deviates from the Tealbook baseline along several dimensions. On the optimistic side, I assume a fiscal stimulus bill of roughly \$900 billion will be adopted and begin

to be implemented in the first quarter. More pessimistically, I assume that increased restrictions on people's voluntary social-distancing behavior in response to the worsening pandemic cause a more substantial reduction in consumer services consumption, as well as slower employment growth, in pandemic-affected industries than does the Tealbook. And, finally, I assume the NAIRU remains elevated relative to pre-pandemic levels as firm closures, increased CRE problems, and a rise in nonperforming loans at banks will further delay the recovery, thus leading to a longer-lasting scarring in the labor market.

These assumptions leave me with a less optimistic outlook than that of the Tealbook. In my forecast, real GDP growth during the first half of next year is more depressed, given my expectations for a somewhat more pronounced increase in social distancing caused by both policy changes and personal choices. A pickup in activity qualitatively similar to the Tealbook's then begins in the third quarter of next year when vaccine dissemination becomes widespread enough for social-distancing concerns to abate substantially.

My outlook, however, features a slower recovery in labor markets, with the unemployment rate at the end of 2021 at 5.8 percent, significantly higher than the Tealbook baseline forecast but quite close to the most recent Blue Chip consensus forecast. A slowdown in growth during the first half of next year seems consistent with recent high-frequency data.

As infections have soared and states have started to take some actions, containment indexes have begun to increase. Trips to nonessential retail establishments, visits to restaurants, and debt and credit card expenditures on services that require social contact have begun to sag. Services, which have been depressed by the pandemic, are produced domestically and exert a larger drag on domestic employment than goods, many of which are produced abroad. Similarly, the recent slower employment growth and the rise in initial claims are consistent with business

retrenching as they prepare for the difficult winter months ahead before the vaccine rollout becomes widespread.

I expect that pandemic-sensitive service industries, which account for a significant proportion of job gains over the summer, may give back some of those gains as the pandemic worsens. There is also likely to be more job scarring as employers are forced to close permanently and employees are subsequently compelled to find new jobs, possibly in different industries. These disruptions can increase search costs and significantly delay the return to our long-run measures of full employment, as President Daly has emphasized.

The slower return to full employment also raises my concerns about deferred credit problems. In the Great Financial Crisis, commercial real estate nonperforming loans did not peak until two years after the Lehman failure. CMBS data already show very high delinquencies for retail real estate and for hotels, much higher than the peak of the Great Financial Crisis. It is also worth noting that most of these CMBS agreements make changes in loan terms much more difficult than for a typical bank loan.

In contrast, banking data do not yet reflect significant increases in nonperforming loans, in large part because of the section 4013 CARES Act provisions and troubled debt restructuring guidance that provided many troubled borrowers some breathing room. The damage associated with rising nonperforming commercial real estate loans could also slow the recovery over the next year or two, posing additional challenges for policymakers.

Monetary policy should also use supervisory tools to address these credit problems. Because of the more severe current wave of the pandemic, I think it is important to extend supervisory guidance to encourage banks to continue to work with borrowers. While loan loss reserves should reflect the internal downgrades of credit, prematurely tightening supervisory

guidance could create significant headwinds for the recovery as banks take possession of collateral and businesses close.

It is exactly at times like this that it is important to understand the macroeconomic consequences of supervisory actions. Thus, we are forced to trade off the health of the economy with bank solvency risk, which means we have to be willing to take on increased bank solvency risk to improve the near-term health of the economy, keeping in mind that improved macroeconomic performance will contribute to bringing the increased bank solvency risk back down. Without a positive CCyB to do this automatically, we now need to do it intentionally.

Just how troubled many borrowers have become is evident in the recent take-up of the Main Street Lending Program. We have purchased more loans in the first week of December than we did during the entire months of July and August. It is quite disheartening that the Treasury Department decided to ask for a return of CARES Act funding, which has resulted in us ending the Main Street Lending Program at the height of the pandemic as the economy has slowed and as the Main Street Lending Program volume has increased substantially. I am hopeful that the new Administration will work with us to restore the Main Street Lending Program, along with streamlined legal documents, a wider credit aperture, additional ability to roll over maturing debt, and a more attractive fee and maturity structure.

In sum, we face significant economic risks associated with widespread infections at a time of uncertainty about fiscal policy, the funds rate already at the ELB, and a withdrawal of many of our 13(3) authorities. Premature removal of economic support places the improvements in the economy we have seen to date at some risk. I will have more to say about this tomorrow. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Bostic, please.

MR. BOSTIC. Thank you, Mr. Chair. Since our previous meeting and as noted by the staff and many here today, the most significant developments for the economy have been health related. On the downside, the spikes in infections and deaths across the country have triggered both mandated and voluntary social-distancing restrictions intended to slow the spread of the virus and limit strains on our health-care system. These necessary responses come with the costs of reducing economic activity and employment and increasing uncertainty.

On the upside, many District contacts report that they view the positive news on vaccines over the past month as limiting downside risks moving forward, which has them optimistic for the prospects in the second half of 2021. How this ultimately plays out will depend importantly on the effectiveness of vaccine distribution. There are clearly challenges here, and I would commend the staff for the nice discussion of this in the Tealbook box “News on COVID-19 Vaccines and Herd Immunity.”

This topic was also top of mind for my directors at last week’s board meeting, and I would highlight three points that are less widely recognized. First, one board member noted that all of the major shipping companies have built up a sophisticated cold storage infrastructure over the past five years. So transporting the most promising vaccines at the required very low temperatures will not be a problem.

Second, shipping logistics for the vaccines will likely eliminate the distribution warehouse stage, with the vaccines moving directly from planes to the medical and pharmacy locations in which vaccinations will occur.

And, third—and this is the troubling part—it is not clear that these vaccination locations have adequate on-site cold storage facilities. This is where attention will need to be focused to limit vaccine wastage and maximize distribution efficiency.

While the imminent rollout of vaccines is a cause for optimism, institutional details like these will affect the pace of vaccinations and the resulting positive effect on economic activity. And I would add that many questions remain regarding the behavioral responses to all of this, which was alluded to by President Kashkari earlier.

The question of how people will respond as the vaccine moves through the population is a big one, and there could be negative responses, such as people letting down their guards too early, as well as the positive ones that have been highlighted today. And I think President Evans's question about what exactly does "herd immunity" mean is the real one, and how people respond to that will be an important determinant of how the economy responds in the short run.

Regarding economic conditions for businesses and households, our continued engagement with a larger-than-normal cross section of contacts across the District and our business surveys have revealed that things are largely unchanged since our previous meeting. As you may recall, I have been characterizing this COVID recovery as a "less than" recovery, with firms and sectors on the upward-sloping portion of the less-than sign experiencing a robust recovery, while those on the downward-sloping portion have experienced stagnation or even continued decline.

While this dynamic is basically unchanged, its extended duration is causing businesses and households to focus increasingly on short-term considerations and forgo any long-term planning or investment. "Uncertainty" and "caution" are the dominant buzzwords among firms on the upward portion of the less-than sign. They face staffing challenges in part because of COVID-related absenteeism and a shortage of workers applying for their positions and are concerned that a portion of the current demand for their products is potentially transitory.

Conditions are bleak for most sectors on the downward slope of the less-than sign. Here most are not looking to the vaccine for hope. They are just trying to live to fight for another day. This is a stark message coming from preliminary findings in the 2020 Federal Reserve Banks' Small Business Credit Survey. The responses of nearly 9,000 small businesses provided a detailed view into current conditions, and a key "takeaway" is that relief in the form of policy actions has been important for small business survival to date and will be essential if these businesses are to survive over the next few months.

The Paycheck Protection Program was found to be a vital lifeline. The survey found that 75 percent of all small employer firms received at least some PPP funding, and of those recipients, 77 percent received the full amount of funding requested. Looking forward, nearly two-thirds of small business respondents indicated that they would apply for additional government-provided emergency assistance if it was available. And of those firms that said they would apply, 40 percent indicated that they were somewhat unlikely or very unlikely to survive without further government assistance.

The plight of unemployed workers is no better. As of November 21, there were 8.5 million total claims for either Pandemic Unemployment Assistance or Pandemic Emergency Unemployment Compensation benefits. Given the looming expiration of those benefit programs and the fact that many workers will soon exceed the allowed 39 weeks of unemployment insurance benefits, inaction by the Congress to expand availability of benefits beyond the CARES Act structure will leave millions of Americans in extremely dire straits as we enter 2021. And this relates to the dialogue between Director Tevlin and President Daly on exhibit 6 that we just had a little while earlier. My reading of the economy, especially for small businesses and the unemployed, is that the scarring of the economy and the potential for scarring remain great,

especially without support. So I'm where President Daly is on this. More lasting damage is definitely a possibility without additional fiscal support.

Now, regarding my outlook for the recovery, I, like many of you, revised my real GDP projection upward in recognition of the stronger-than-expected economic data received since our September meeting. And this is certainly welcome news. However, similar to Presidents Daly and Rosengren, I did not make a proportional downward revision to my unemployment rate projection. This is because District contacts continue to remark that firms are not planning to return to pre-COVID employment levels even after sales have returned fully.

These comments are supported by information in both our Survey of Business Uncertainty and the CFO Survey, which the Atlanta Fed conducts in partnership with the Richmond Fed and Duke University. In both surveys, firms anticipate there being stronger sales growth than employment growth. And in the Survey of Business Uncertainty, the latest projections imply that, on average, firms do not expect to reach pre-COVID employment levels through at least next November.

Now, this could be interpreted as good news on the productivity growth front, but I read this as a signal that there is a longer road ahead as we pursue our mandate for maximum sustainable employment. Coupled with my concern about meeting our employment mandate, given that job losses in this pandemic have disproportionately affected low-income households, which was emphasized by President Daly, this information will cause me to be watching labor market indicators much more closely than output measures to assess economic progress.

Let me conclude by turning to the other half of our dual mandate. At our previous meeting, I shared my views on the challenges we currently face in trying to get any current reads

on inflation fundamentals, given the dramatic relative price swings that we have experienced during the pandemic due in large part to supply chain issues and shifts in spending patterns.

In recent months, we have seen the overall variance of price changes in the PCE and CPI baskets starting to return to more normal ranges. But it is clear that our primary measures of 12-month inflation for both headline and core PCE will be distorted by these relative price shifts likely through the entirety of 2021. Therefore, I don't think strong assertions about the underlying inflation trends are warranted until some of these distortions begin to fade. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Harker, please.

MR. HARKER. Thank you, Mr. Chair. My near-term forecast is somewhat weaker than that presented in the Tealbook's baseline scenario, and that is largely because of the residual scarring that the pandemic will leave in its wake and the likely permanent changes in how business may operate in the future. There could very well be less business travel, more working from home, and perhaps even a change in where businesses locate. Take, for example, business travel. According to last month's report of the U.S. Travel Association, business travel is expected to decline nearly 60 percent in 2020 from 2019, \$141 billion from \$334 billion, and it will not clear \$300 billion again until 2024. That's just one example.

I realize the tremendous uncertainty surrounding these conjectures, but they form the basis of my baseline forecast. All in all, I see GDP growing at 3.8 percent next year, with growth gradually tapering off to 2.6 percent by the end of the forecast horizon. I project that the unemployment rate will steadily fall from its current rate to 4 percent by the end of 2023, and that inflation will only gradually return to target. Given this projection, I do not see any reason to raise the funds rate for some time to come. I am hopeful that the staff's view regarding the

effective rollout of the vaccine will come to pass, and that we won't see subsequent waves of mutated or new viruses. But doing so faces many hurdles, as others have noted, and it could be longer before vaccines are available in quantities that allow widespread vaccination.

Given that vaccines are beginning to be administered, however, I do see less downside risk for the spring and summer than I did, for example, at our November meeting. So, to be sure, the near-term risks are still tilted to the downside and largely stem from the possibility of more stringent lockdowns in response to the alarming number of new cases and the strains being placed on our health-care systems, as others have noted.

As well, the degree of fiscal support, as others have noted, is highly uncertain. However, our better knowledge of the virus and its spread should lead to lockdowns that are less economically damaging than those imposed in the spring. And, with the arrival of effective vaccines, the lockdowns should not be long in duration, we hope.

In looking at some of the data, the latest high-frequency credit and debit card data we collect at our Consumer Finance Institute are giving mixed signals as to whether the consumer will continue to be a major source of near-term strength. For example, the JPMorgan data are showing some recent weakness in card spending, while another source of card spending has recently picked up and is about at its level of a year ago. However, it is clear that the recovery in consumption has slowed since September, and the data have been fairly volatile of late. Some of the slowdown is no doubt due to the failure of the federal government to enact another round of stimulus.

For the Third District, the regional economy is little changed from our November meeting, and activity in most sectors remains below pre-pandemic levels. Early benchmark revisions indicate that the decline in employment earlier in the year was deeper than originally

thought, with the District suffering greater job losses over the February-to-October period. However, the unemployment rates in Delaware and Pennsylvania continue to decline, whereas the rate in New Jersey has recently experienced a notable uptick. As well, the initial unemployment insurance claims remain elevated. For the week ending November 28, initial UI claims, regular plus PUA, stood at slightly more than 59,000. This is far below the series peak of nearly 600,000 claims in the spring, but roughly 2½ times its pre-pandemic average.

In summary, the District's labor market continues to recover, but, honestly, it still has a long way to go before it returns to a more normal footing. There are, however, notable pockets of strength in the District. Housing, especially single-family housing, is experiencing robust activity, with permits now at pre-pandemic levels, and house prices continue to accelerate, with gains being particularly robust in the Philly metro area.

Although manufacturing activity is still expanding, it is doing so at a much more subdued rate. Our most recent survey, to be released on Thursday, declined roughly 15 points, to 11.1, and most of the subindexes fell as well. However, despite that, firms do remain optimistic when we asked them. A diversified manufacturing firm with a worldwide footprint that we talked to is experiencing exceptional growth in many of its product lines. Improvements in shipping, new orders, and backlogs have been steady, with orders up 39 percent over September to November compared with April and May.

Orders of equipment have been especially robust, increasing 69 percent over the same time frames. With backlogs exceptionally high, the firm's CEO is expecting record earnings in 2021. They are hiring and investing in additional capacity. This is also generally true in the District as a whole, and, as I said, many manufacturers do share his optimism.

The results contained in our special annual survey of both manufacturing and nonmanufacturing firms yielded, I think, a number of interesting details. Fifty-two percent of respondents reported being at or above their pre-pandemic employment level, and an additional 21 percent indicated they would attain that level in 7 to 12 months.

Fifty-four percent of firms reported no layoffs due to the pandemic, while roughly one-third said that their layoffs were temporary. And of those firms indicating temporary layoffs, approximately one-half had already recalled their workers. The most important factor restraining additional hiring was, unsurprisingly, the uncertainty regarding the course of the pandemic. Thus, District firms appear to be fairly resilient, but the pandemic has taken a huge toll on the regional economy.

In summary, the regional economy continues to slowly improve, but activity is clearly still below pre-pandemic levels. There appears to be breadth in the improvement, and contacts do remain fairly, if cautiously, optimistic. As a result, I continue to project strong, but slower, real GDP growth. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. And with that, it is about 2:50. Why don't we take our break here, and we'll come back at 3:15, working off of your electronic timekeeper. So, come back at 3:15 East Coast time. Thank you.

[Coffee break]

CHAIR POWELL. Let's resume with President Barkin, please.

MR. BARKIN. This year has been dominated by elevated uncertainty, particularly about the spread of the virus and the government's response. But over the past several weeks, it's occurred to me that the path forward has come into much clearer focus, for good or bad. I realize I may regret that prediction. The health situation seems clear. We had all hoped that the virus

would subside, but its cooler-weather resurgence suggests it will persist at elevated levels into the spring. On a more positive note, news on the vaccine front gives hope for the summer.

The path of fiscal policy also seems to have become clarified, postelection. Congress presumably will pass some version of this most recent package. But regardless of the final outcome in Georgia, I place high probability on a legislative stalemate next year when it comes to significant further stimulus, as deficit focus undoubtedly will return to fashion. So unless the economy worsens significantly, I am not counting on much additional fiscal support.

I'm also more confident in the resilience of the banking system supported by the spring stimulus. Defaults appear controlled post forbearance—a significant uncertainty, at least for me, a quarter ago. So, net, I have confidence in forecasting a bumpy first half but daylight on the horizon.

And, in that context, I am watching real-time spending closely. I watch the same markers as President Harker, and so far my read of credit and debit card spending seems to be holding up through the holidays, with the obvious exception of high-touch service businesses. I presume this is elevated savings funding gifts, but I also perceive less caution by most consumers and more shutdown reluctance by political leaders.

The first quarter will be challenging as the weather worsens and, presumably, the virus spreads further. But I put a lot of weight on four backstops that should mitigate the downside. The coming fiscal package would, of course, help bridge many of those living close to the edge, and were the economy to worsen, we would likely see more. Elevated savings by the lower-income half of households, shown in the November Tealbook, will also support their spending and, therefore, the economy. Confidence in the coming vaccine should reduce precautionary

savings. And, finally, I take comfort from inventory levels, which are quite low. Any of you who have tried to get an appliance delivered know that.

The ISM manufacturing survey index of customer inventories reached its lowest levels in more than 10 years. In the NFIB's small business survey, small businesses are reporting inventories too low more than ever in the 50-year history of that data. The Census Bureau's retail inventory-to-sales ratio was also the lowest in the history of that index. Housing inventories remain at their lowest level ever in the 40-year history of that data. Inventories this low would support production for a time, even were demand to soften, and we may well see inventory increases as manufacturers see opportunities or those who are concerned about health-driven supply disruptions build their buffers.

Like it seems to all the rest of us, I am less optimistic on the employment side. Participation continues to be challenged by health concerns and childcare responsibilities. As President Rosengren said, the high-touch service businesses most affected by the resurgence are labor intensive. And I hear of other sectors, understandably, being cautious on headcount.

So employment is lagging spending. Making things worse, despite elevated unemployment—and, as President Bostic said, I continue to hear, and the Tealbook chart on jobs hard-to-fill confirms—employers are struggling to find workers with the necessary skills. With the vaccine on the horizon, the unemployed may well be frozen in place, forgoing reskilling in hopes of a return to normal. As evidence, community college enrollment has dropped meaningfully.

On inflation, I take some comfort from market-based inflation expectation measures edging up toward our target range though, like all of you, I await validation in the PCE price

data. In particular, I will be interested in what kind of rebound personal contact service prices are able to make postvaccine.

To pull this together, my expectations for '21 differ greatly by spending segment. I expect strong business investment, supported by greater certainty in the promise of a vaccine. In contrast, government spending should go the other way, given my expectations for legislative stalemate.

I worry about lower-income consumers, particularly those vulnerable to eviction and ineligible for unemployment insurance, but I hope that the four backstops I mentioned will help moderate the downside. And I anticipate higher-income consumers will have a quiet first half but start to deploy their savings postvaccine. As I said, I think it will be bumpy. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Evans, please.

MR. EVANS. Thank you, Chair. There have been many important developments since we last met. The resurgence of COVID-19 cases and the public health implications are troubling. The toll on American families has already exceeded the upper range of dire outcomes that the President's White House Coronavirus Task Force communicated earlier this year. In terms of the economy, the next few months will likely include elevated restrictions on businesses and commercial activities and additional voluntary precautions on the part of individuals, leading to a good-sized dent in economic activity.

But there have been positive developments, too. The good news on vaccines provides more confidence that, by the middle of next year, a substantial portion of the population will have been able to resume safely a fuller range of activities involving social contact. The difficult question looming over our forecast today is whether the economy will absorb this winter's

COVID-19 shock without too much further damage. If so, the many COVID-disadvantaged sectors should be positioned for a robust recovery once vaccines are distributed and taken up by the public in mass quantities.

Other activity would rise briskly as well, both because of direct effects and the spillovers of having these long-suffering sectors finally coming back up to speed. I am optimistic that this will be the outcome, and sustained economic recovery in 2021 and beyond is my base-case scenario. Of course, risks remain, and not all of these are health related. The additional costs associated with the virus upsurge will surely be high.

Many of my big business contacts, particularly in manufacturing, have done reasonably well navigating the recovery from the depths of the shutdown last spring, and they think they can continue to do so now. Increased absenteeism and rising COVID-related difficulties will be costly to address, but they see these as short-term, manageable challenges.

But bifurcations continue between advantaged and disadvantaged segments, even within manufacturing. For example, auto manufacturers have been successful using temporary workers to mitigate such labor shortfalls, but some other manufacturers, especially those located in more rural areas, report larger challenges finding replacement workers.

In addition, many small businesses are experiencing intensifying financial strains in line with President Bostic's comments. And my contacts in the nonprofit and community development sectors see increasing pressure on lower-income households as early relief funds are being used up and eviction moratoria and forbearance programs are set to expire soon.

I appreciated a recent presentation by Board staff at Brookings that usefully added some analytical insight into these risks. Their study uses the 2019 SCF to update estimates of how many working households could meet basic expenses. It shows the CARES Act relief provided

substantial support through this year. But as we move into 2021, more and more households are in a vulnerable position.

How much this will weigh on the macro outlook remains an open question. Better-off households retain substantial financial capacity and may pick up the slack in spending. Nevertheless, without additional relief or income support, there will be even more stress on lower-income households and communities. Such serious and uneven experiences of economic distress are surely bad news for the nation as a whole.

Our baseline forecast of real GDP growth—we are SEP submission number 3—is similar to the Tealbook and other major forecasters. The latest COVID-19 outbreak slows the economic recovery in early 2021 but does not spill over to inhibit a robust return to growth later in the year. One key difference from the Tealbook, though, is that we assume a fiscal package on the order of \$1 trillion, and that it will be enacted soon. Frankly, I don’t have much confidence in this assumption. I definitely see a protracted stalemate as another likely outcome. And the strong possibility of legislative gridlock imparts a distinct downside risk to my projection.

I’d like to mention that I agree with President Daly’s outstanding comments regarding the labor markets. I, too, worry about job matching for individuals who aren’t able to return to their preexisting place of employment and job scarring. President Bostic, President Harker, and President Rosengren alluded to that, too. I think that’s really quite something that we need to be mindful of.

I have not studied very carefully the Hall and Kudlyak paper that President Daly cited, that the average experience—once you get through the current COVID second quarter, enormous down, and the third quarter, enormous up—is that the unemployment rate is going to fall about

1 percentage point each year. I sort of understand that's the historical experience. I saw Bob Hall's presentation of that.

What makes me nervous is, it sort of ignores whatever policy does, and I think if we do policy well, it has a different effect. I think if policy is done badly, it must have some kind of effect. And so it's sort of seductive, in terms of thinking that all will be well—keep going about your business and whatnot—and I do worry about that. I'm extremely confident that everybody at the Fed is focused on policy and getting those outcomes and much better—but still, it's an interesting issue.

Our inflation forecast also is similar to that in the Tealbook through 2022, but we see inflation picking up more in 2023 and beyond as strong monetary policy communications provide a greater lift to inflation expectations and to the underlying inflation trend.

This is the point in my presentations when I always get optimistic about what we're going to do with policy. Just to be clear, my funds rate path is similar to the Tealbook's, but my approach to appropriate policy recognizes the need to generate greater credibility to our publicly stated goal of delivering inflation that averages 2 percent over time. To do so, we attach substantial importance to FOMC communications. In particular, we assume that the Committee strongly communicates the desirability of overshooting 2 percent inflation by a healthy margin.

We need much more than the de minimis 0.1 percentage point found in the Tealbook's longer-run projection or in the monetary policy simulations under discounted average inflation targeting. I worry that attempts to fine-tune such a minimal inflation overshoot will limit our success. After all, how will the public judge averaging 2 percent? What if they just look at a simple time-series graph over many years? After a prolonged period of large shortfalls, I do not

believe that the picture with a couple of years of 2.1 or 2.2 percent inflation is going to convince the public we have successfully achieved an average of 2 percent.

Consequently, I see substantial risk that such a meager overshoot, or any communication that signals that such an outcome is acceptable, would fail to increase inflation expectations sufficiently or budge the underlying inflation trend. This would make it all the harder to achieve our goals in the first place. To counter this risk, our forecast assumes appropriate policy that strongly communicates the aim of moving inflation up with enough momentum such that rates of 2½ percent are well within the central range of possible outcomes. This more aggressive strategy seems necessary to move expectations enough to deliver on the overshooting and inflation-averaging standards we laid out in our new monetary policy framework. I don't see how simply inching above 2 percent is going to do our job. Thank you, Chair Powell.

CHAIR POWELL. Thank you. President Bullard, please.

MR. BULLARD. Thank you, Mr. Chair. To begin, I want to stress, as I have in previous meetings, that during this time of economic upheaval, it is my view that current monetary policy settings are appropriate for now. We remain in a crisis, and we continue to respond to the crisis in textbook fashion.

The policy rate is set at a low level, and financial markets expect it to remain low. Our balance sheet policy is proceeding apace, helping to keep longer-term yields at relatively low levels, and measures of financial stress remain at normal pre-crisis levels according to indexes such as the St. Louis Fed's Financial Stress Index.

Whether the crisis will take new turns that affect the macroeconomy in the days ahead, no one can be sure. But regardless of that, these policy settings are likely to remain appropriate

until the crisis has passed. Relatedly, monetary policy changes at this juncture or at upcoming meetings would likely have a peak effect perhaps 6 to 12 months in the future.

But the nature of today's national macroeconomic outlook is that, given the earlier and more successful introduction of vaccines than had previously been anticipated, it now appears that mid-2021 is likely to mark the beginning of continued and possibly rapid expansion for the U.S. economy. This makes me view our current policy settings as appropriate while we wait to see if such a scenario actually plays out.

The shorter-term national outlook is marked by considerable uncertainty. Incoming health news has been worse than I expected in my previous baseline case. Fatalities per million per day have been rising in the United States during the intermeeting period and now rival or exceed the peak last seen in the March–April 2020 time frame, about 6.5 to 7 deaths per million per day as of December 9.

In Europe, defined as the United Kingdom, Germany, France, Spain, and Italy, which is approximately 321 million in population, fatalities per million per day have risen to similar levels in recent data after having been close to zero during the August time frame. U.S. hospitalizations today are running considerably higher than peaks previously seen in March–April and July. This is a human tragedy that is only being tempered by the faster-than-expected arrival of vaccines.

One of the key questions for the macroeconomy is whether the negative health news will lead to a downturn in the economy like the one that we saw in March and April. My assessment is that such an outcome is possible but not likely. The peak in hospitalizations in March–April was associated with an economic downturn, but the similar peak in hospitalizations in July was associated with rapid economic expansion.

At a minimum, this shows that there is no one-to-one mapping between renewed health concerns and macroeconomic outcomes. A great deal has been learned about the nature of the disease and its transmission. Nearly all the most obvious transmission channels have already been shut down.

Renewed or enhanced restrictions on sectors in which not much economic activity has been allowed anyway is not likely to generate a renewed downturn. Other areas that are less risky remain open but are tightly managed. The key remaining area for transmission control is personal contact in nonbusiness settings. The ability to control that disease-transmission vector requires enhanced public education, some of which seems to be occurring.

Meanwhile, other developments in the economy seem to be pointing toward continued recovery. The Atlanta Fed's GDPNow, listed as suggesting 2020:Q4 real GDP growth at an annual rate of 11.2 percent in recent days, is eye-opening. I would take this as one read of what the data alone are suggesting, based on what we have so far for the fourth quarter. If this growth rate should turn out to be correct, then real GDP will have recovered essentially all the way to the average level for 2019. To the extent one thinks that U.S. national income in 2019 was reasonably good, and it was the level that was achieved after a decade of expansion following the Global Financial Crisis, then we would be back at that level.

This sort of calculation suggests that the nature of the pandemic shock and the subsequent policy response have been so different from previous recessionary episodes that we cannot draw on the past as a reliable guide to predict the remainder of the macroeconomic recovery this time around. Real disposable income, for instance, not only did not fall in 2020, as it normally would during a recession, but actually remains above the 2019 trend line. That is, at a macroeconomic level, real disposable income is arguably higher today than if no pandemic had occurred at all.

This is, of course, mostly due to the astonishingly large fiscal package of March–April, combined with a faster economic recovery so far than would have been anticipated last spring.

Despite this, it is certainly true that some households and businesses have been hit much harder than others, the lower leg of the *K*-shaped recovery that has been discussed here in past meetings. These households and businesses will, I now think, get additional relief from a new fiscal package that I've assumed will pass soon in the Congress.

I see the real disposable income levels as bullish for holiday spending overall even as many forecasters are suggesting weak retail sales in the near term. While conventional shopping will continue to be disrupted, online sales are booming. Walmart, for instance, reports that their online business is up 80 percent over one year ago, and one suspects that other retailers are experiencing something similar. I think one issue for holiday shopping data is that the infrastructure to deliver as much as households are going to want delivered is not really in place, and that constraint may limit holiday consumption relative to what it otherwise might have been.

One element of the current macroeconomic situation that is different from the post–GFC era is that household wealth is near all-time highs, with both equities and housing values doing well during 2020 instead of trading at considerable discounts as one might have expected. This is important for many households but also for businesses, making them more resilient than otherwise during the crisis period.

Labor market outcomes have generally been better than expected since March–April, and now the possibility of achieving an official unemployment rate of 6½ percent in the December jobs report is a distinct possibility. In an earlier calculation during the intermeeting period, I found that labor market recovery is about four years ahead of where it was after the Global Financial Crisis in the United States. For hours worked, about two-thirds of the recovery has

already taken place from the depths of March–April. For household employment, about two-thirds of the recovery has already taken place, and for nonfarm payrolls, about 55 or 56 percent of the recovery has already occurred. And this was a little bit earlier in the intermeeting period, so these may need to be updated slightly. But the point is, after the Global Financial Crisis, it took an additional four years to get to those levels. This gives me confidence that we can continue to return to normal in the quarters ahead.

It is certainly true that job gains have slowed, perhaps as one would expect, since outsized job gains cannot continue forever. I am concerned that seasonal adjustment may be affecting how we interpret the jobs data in the near term. This would be a year when ordinary retail hiring might be muted in an important and appropriate way, relative to other years, as health policies suggest trying to keep disease transmission to lower levels.

The fact that unemployed workers continue to describe themselves as on temporary furlough suggests that official unemployment could continue to decline in the months ahead. Permanent unemployment has been rising, but I think it will peak in the months ahead and begin to decline from a level that is substantially lower than what occurred during the Global Financial Crisis. And, again, I recommend Hall and Kudlyak's October 2020 paper on temporary unemployment.

I continue to be encouraged by U.S. market-based inflation expectations, which, as of the date of the Tealbook, were up 24 basis points during the intermeeting period on the five-year and up 19 basis points on the five-year, five-year forward. The ECB's measures were only about 1 percent and 1¼ percent on inflation expectations over those same time horizons. So I think we're doing quite well on this dimension, and I am hoping that as the recovery continues to take

hold, we'll continue to see those improve. I think if we keep the interest rate low through the boom that may be ahead, we may see above-target inflation, as suggested by our new framework.

And, finally, as I hinted at earlier in this meeting, vaccine distribution is partially risk based and may have more of an effect on disease mitigation than is commonly appreciated. Because of this, I have some sympathy for the “Early Vaccine” scenario outlined in the Tealbook. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Kaplan, please.

MR. KAPLAN. Thank you, Mr. Chairman. Our Dallas Fed U.S. forecast for the fourth quarter and the early part of next year is not that different from the Tealbook's. We are concerned that the resurgence in the virus we are going to see over the next three to four months is going to damp growth in the first quarter. Having said that, we are relatively optimistic that we'll have a widespread distribution of vaccines by at least the summer of 2021.

We're also assuming that there will be some fiscal relief passed over the next few weeks or over the next couple of months that will help moderate, to some extent, the economic effects of this resurgence. And so we are expecting real GDP growth for all of next year in excess of 4 percent, even though we could see first-quarter GDP growth being flat or even possibly modestly negative. We're probably not as optimistic about the unemployment rate as the Tealbook, but we expect to see good improvement next year. And I'll come back to unemployment in a moment.

We do expect headline PCE inflation to firm during 2021 at something close to 1.7 percent. We expect cyclical inflation pressures to build during '21. We expect, in some cases, supply outages, as others have commented on, but we also believe that the effect of technology and technology-enabled disruption will accelerate during the year and into the future.

We would also note—and we hear this from contacts—one of the accelerants of technology and technology-enabled disruption is a very historically low cost to capital, which improves the relative value of long-duration assets. That is, disruptors, which gain share now but only show profit in years into the future, are extremely highly valued when you have a very low cost to capital. We're going to be weighing how the cyclical forces of inflation are offset by the structural forces of technology and technology-enabled disruption, and we'll be watching that carefully as events unfold.

As concerned as we are about the next few months, though, we have been struck, as others have said, about how people and the economy are proving to be much more adaptable and resilient than we expected and have been able to use technology and technology-enabled platforms to adjust their behavior and continue to consume goods and services and work in a remote environment. On the negative side, though, regarding scarring, we have been struck in a negative way by the rate of small business closures in our District—in some cases, in some cities, estimated as high as 30 percent by local chambers of commerce.

Related to this point are those with low incomes, as many of you have talked about, and with a high school education or less, and particularly women with a high school education or less who have children. Those in this group are much less able to adjust their behavior, are much less likely to be able to use technology to adjust their behavior, may not even have access to Wi-Fi, are much more likely to be in a job in which they can't work remotely, are much less able to leave their children with daycare, and are likely struggling to make ends meet today and are only making ends meet as a result of fiscal relief. It is also more likely for people in this group that their children are falling behind right now, in terms of educational attainment based on the figures that we're looking at. This pandemic has been a far more jarring experience for this

group than the rest of the population. Obviously, another round of fiscal relief will be particularly helpful to these individuals.

But we also believe, in the aftermath and as we come out of this crisis—and many Reserve Banks are working on this, I know, and we are in our community outreach efforts—it's going to be critical, we believe, to beef up skills training, improve broadband accessibility, improve childcare access, improve childhood literacy programs, and improve other structural efforts in order to reduce some of the scarring that we are very concerned about and we think could hold back improvement in the unemployment rate.

Regarding the Texas economy and this region, the pattern is similar to the country. The one striking thing that I have mentioned in previous meetings, but I'll mention again today, is a notable trend we see in Texas of migration of people and firms to the state. That migration is accelerating. You're reading about it in the newspaper. Obviously, we're seeing it in home prices and in out-of-state buyers. The reason I mention it is not so much for Texas, but it raises, for us, a concern about the ability of other states to raise taxes in order to address their fiscal situation. And it just shows how hard that's going to be in the rest of the country.

But I've been here for five years, and we have had a steady migration. But in the past six months—and, I would say, actually in the past two months—this migration is accelerating. And there's not a week that goes by where I don't have two or three conversations about a sizable company that is thinking about moving here to the state. We are just trying to figure out here, what effect does that have on the United States when you have this kind of migration trend? And so we'll come back to that, I'm sure, in future meetings.

Regarding energy, global energy demand is running right now, by our estimate, at 93 percent of year-ago levels. U.S. oil demand right now, we believe, is running at 91 percent of

year-ago levels. It's our best judgment that it will take until the end of 2021 or early '22 for excess inventory to be worked off globally, and we believe that global oil demand will reach 98 or 99 percent of normal by the end of 2021. For the United States, we think we'll approach about 96 percent of "normal" by the end of 2021.

We would note, though, that due to significant shareholder pressure and given the capital-starved nature of this industry, in the future when you do get some price firming, we think companies are going to be much more inclined to use higher prices and greater cash flow to return capital to shareholders than to meaningfully increase drilling activity. That's what they're telling us. And they also tell us they are making this commitment to their shareholders. So there's going to be less money going into drilling.

The industry is going to have fewer players. They are going to be larger. They are going to need to have greater scale. They are going to need to make greater use of technology to make greater investments in sequestration and carbon capture and other sustainability initiatives. It's our view that alternative energy sources are going to grow dramatically. We continue, though, to see solid demand in the future for fossil fuels but as a smaller and smaller percentage of energy consumption. But due to expected growth in emerging markets and developing larger middle classes around the world, we still believe—and our contacts believe—that oil demand is going to be resilient for the next few decades even though we're likely to see peak oil demand in the next few years if we haven't seen it already.

The challenge for the United States, though, is going to be to maintain an oil and gas industry that's productive and provides sufficient supply without undue price spikes as the economy increasingly shifts away from reliance on fossil fuels. This transition, we think, could

take decades, and many existing energy players are going to wind up making greater investments in ESG and alternatives as this transition accelerates.

Last, I'll mention some notable comments given to us by contacts. Contacts continue to tell us, particularly larger-sized companies, that size and scale have never been more important. Investment in technology is essential to improving efficiencies and preserving profit margins as pricing power continues to be challenged. In this regard, we continue to see expected strong merger activity, and we're already seeing record merger activity as a result. And we expect corporate activism to likely apply pressure to accelerate this trend.

Business contacts are telling us that they are looking at everything—in terms of staff, conferences, travel, physical space, more remote work, relocating their businesses, having multiple geographic locations—in the aim of managing their costs.

And the last comment would be, business leaders we talked to are struck by the loose nature of financial conditions unless you're a small or midsized company who is in a person-to-person contact industry that depends heavily on bank lending.

S&P 500 earnings for 2021 are expected to be in the range of \$175 a share—a record. CEOs are very optimistic about the next few years, but they are also cognizant that highly speculative conditions; proliferation of SPACs, or “blank check” companies; extremely loose financial conditions overall; and anticipated record margins feel to many of them as late-cycle dynamics even though we're in the midst of entering a rebound. But it's causing them to think that maybe this cycle, as we go through it, is going to be a shorter one than previous cycles, and it is affecting their planning as they go forward. Thank you, Mr. Chairman.

CHAIR POWELL. Thank you. Governor Brainard, please.

MS. BRAINARD. Thank you, Mr. Chair. The intermeeting period has seen wind shear coming from two powerful opposing forces. Just as the widespread availability of effective vaccines appears poised to significantly lift the medium-term outlook, the surge of virus spread well above peaks seen earlier in the year and repeated delays by fiscal authorities in providing a lifeline to the hardest hit portend difficult challenges in the near term.

The recent approval of effective vaccines opens the door for a historically rare, globally synchronized recovery in just a few quarters. But the intervening months will be precarious for low- and moderate-income households facing the possible exhaustion of unemployment benefits, the depletion of CARES Act savings, and the termination of eviction moratoriums and forbearance for mortgages and student loans, as well as for small businesses and states and localities confronting revenue declines and dwindling buffers.

Intermeeting data have been better than expected, bolstered by fiscal and monetary supports. Spending on consumer goods has exceeded pre-pandemic levels, especially on interest-sensitive durables. Upside surprises in existing and new home sales augur well for fourth-quarter residential investment, as do strong readings on orders, shipments, and imports of nondefense capital goods for E&I spending.

By contrast, high-frequency indicators suggest the virus resurgence is restraining activity, although not by as much as in the spring. Renewed social distancing will likely generate a significant drag over the cold winter months on spending on personal contact services, and state and local government budgets are strained because of depressed income and sales tax, gaming, and energy-related revenues and the increased spending related to the pandemic.

We saw a sharp deceleration in the jobs market recovery between October and November, corresponding to the sharp increase in virus spread. Payroll growth slowed by more

than half from October to November, and last Thursday's initial claims saw the largest weekly increase since March.

Meanwhile, the labor force contracted again in November, particularly this time for prime-age men. Taking into account the additional 5½ million workers who have left the labor force are now outside the labor force relative to February boosts unemployment from the current headline 6.7 percent U-3 measure to 9.5 percent, and mismeasurement would boost it further, close to 10 percent.

Within these broad aggregates there are significant disparities. Staff analysis based on ADP data indicates that unemployment is likely still above 20 percent for workers in the bottom wage quartile, while it's fallen below 5 percent for the top wage quartile. The unemployment rate for Black workers was still nearly 10 percent in November, as compared with 8 percent for Latinx workers and 5.6 percent for white workers.

On the other side of our dual mandate, after boosting inflation through the summer, prices of durable goods stopped increasing in September and prices on services have remained subdued. The CPI release last week showed continued weakness in housing services due to tenants' and owners' equivalent rents. Depressed housing services inflation in part reflects cyclical forces that are familiar elements of past recessions, but it is also possible that the pandemic has introduced or accelerated structural changes that could be a drag through the medium term, given its 20 percent weight in the core PCE index.

Market-based measures of inflation expectations, as others have noted, have moved up over the second half of the year, although consumer survey-based measures are soft. My discussions with market participants suggest that though many are marking down inflation forecasts on account of the drag coming from housing services or the expectation that lean

operating postures and restrained pricing power are here to stay, some point to the possible rapid reflation due to demand outstripping supply. Although I remain vigilant with regard to a large sustained deviation of inflation from target in either direction, I don't anticipate that a likely temporary postvaccine surge in demand will generate sustained inflation pressure absent considerably tighter labor markets.

Financial market sentiment has improved significantly since our previous meeting. Market-based financing conditions remain highly accommodative as equity prices have risen and credit spreads have tightened, but smaller firms and households reliant on bank lending continue to face tight lending standards. While the announcement of the end of several 13(3) facilities did not have a discernible effect on financial conditions, some of my market contacts indicated the Federal Reserve's statement helped provide reassurance that there will be a backstop if needed.

As President Rosengren noted, there's been a surge in demand for Main Street loans in the past week. And it'll be difficult to process all the applications representing several billion dollars in time to get them funded by December 31. The surge suggests that the facility could be making a materially greater contribution to supporting creditworthy midsize and smaller firms if various features that we supported had been incorporated, such as the smaller minimum loan size that was only recently accepted, eligibility for rolling over maturing loans, and a termination date that does not fall in the middle of the height of the pandemic.

Similarly, given the revenue strains experienced by many states and localities, the fiscal stalemate, and the vaccine just over the horizon, the municipal lending facility also could have made an important contribution to maintaining favorable market conditions over the next six months. By contrast, credit markets are back to pre-pandemic levels and haven't required any support for several months now.

Regarding the foreign outlook, while the third-quarter bounceback appears even stronger than we anticipated at our previous meeting, the sharp virus resurgence led the staff to project a 10 percent annual-rate fourth-quarter contraction in the euro area and the United Kingdom. By contrast, the virus remains under control in China and more-developed Asia, and China's growth is anticipated to be a solid 10 percent in the fourth quarter, due, in part, to strong export demand. All told, the second half of 2021 could be a period of globally synchronized recovery as the vaccine achieves broad distribution and social rapprochement gets under way in the United States, Europe, and other advanced economies. Emerging markets outside Asia are likely to lag advanced economies in achieving broad vaccination coverage but would nevertheless benefit from global demand recovery.

The widespread distribution of effective vaccines presents an upside risk to the outlook, particularly given the possibility of this synchronized rapid resumption of activity. Before that time, however, the current spike in cases, along with the repeated delays in fiscal stimulus, is likely to weigh on activity, consumption, and employment.

So while the balance of risks has certainly improved since we last met, on the whole, risks are still weighted to the downside. The prospect that vital fiscal support doesn't materialize in time is the most prominent risk. The financial viability of hard-hit households and businesses literally hangs in the balance as unemployment benefits and PPP cash run out and rent and utilities come due.

In a survey in October and November, 10 percent of small businesses reported expecting to close permanently, and 45 percent expected to make more layoffs in the coming months on the heels of the 44 percent that had already laid off workers. A final fiscal bridge to a vaccine-induced inflection point in the recovery may never be more valuable than right now for those

hardest-hit households and businesses or more likely to produce significant returns on investment in terms of avoiding scarring and reducing recessionary dynamics.

For our part, we must demonstrate our continued resolve to deliver on our maximum-employment and 2 percent average inflation commitments, commitments that I anticipate we will be well positioned to do after our discussion tomorrow. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President George, please.

MS. GEORGE. Thank you, Mr. Chairman. Many aspects of the economy have fared better over the course of this year than I had expected despite the numerous challenges posed by the virus, thanks in large part to unprecedented levels of policy support. This is particularly true in credit markets, in which speculative-grade defaults have come in more than 30 percent below even the most optimistic expected default rates in April.

Unfortunately, two key downside risks, a resurgence of the virus and fading fiscal policy support, materialized. Although I continue to assume that further fiscal support is coming, delays in progress on comprehensive legislation come at a time when momentum is already slowing across a range of indicators, including the Kansas City Fed's labor market momentum measure and high-frequency indicators on spending, dining, and mobility, raising the prospect that any eventual stimulus could be too little, too late. As a result, my SEP anticipates starting the new year with a slowdown in economic activity before picking up during the second half.

While some households and businesses will be able to weather these risks, large segments of the population are facing severe financial strains. According to recent surveys, a growing share of households in the 10th District reported difficulty paying typical household expenses in October and November despite existing forbearance on rent and other obligations. And our business contacts in hard-hit industries such as travel, leisure, and hospitality are indicating that

they won't be able to stay in business without a second round of PPP funding. One contact in the hotel industry described the fragile nature of some of these businesses, noting that when a TV breaks in one of their hotel rooms, they don't bother to replace it but rather just shut off the room.

At the same time that fiscal support is poised to lapse, high-frequency measures of activity have begun to turn down as virus cases rise, with the hardest-hit categories again showing the greatest strains. Spending is likely to face ongoing constraints in the current public health environment. My staff's analysis shows that erasing the Q3 consumption gains in highly sensitive sectors alone would bring down fourth-quarter real GDP by nearly 8 percentage points on an annualized basis.

The good news is that vaccine developments suggest a light at the end of this tunnel if the economy's momentum proves sufficient to sustain the recovery for a little longer. Financial markets have reacted with enthusiasm to recent vaccine news, and our District contacts have expressed optimism at the prospect of widespread vaccination. Our health-care industry contacts have cautioned that production and distribution challenges could surface. But, at a minimum, the prospect of a vaccine removes the tail risks of COVID lingering indefinitely. Many estimates suggest that a sufficient proportion of the U.S. population could be immunized to provide herd immunity by the middle of next year.

News of an effective vaccine has especially lifted equity prices in virus-sensitive sectors, including energy, transportation, and hospitality, on the promise that an immunized population will allow demand to eventually normalize in those sectors. As demand returns for travel and leisure, the large price declines in those sectors that have restrained inflation this year are likely to reverse. As a result, though I expect inflation to remain subdued this year, my forecast

anticipates that inflation will rise toward 2 percent as price declines in hard-hit sectors go into reverse amid the release of pent-up demand and an effective vaccine.

While the prices of some services remain depressed, we have seen robust demand and supply constraints for other consumption goods. One District contact noted that inventories have never been so low. This low level of inventories, if not rebuilt in time, could lead to a scenario in which pent-up demand is released in an environment of limited supply, quickly pushing prices higher.

Finally, it's worth noting that the large price declines in a few COVID-sensitive industries are masking the inflationary pressures being felt by many households. While headline price pressure has remained low throughout this crisis, many of the items for which costs have risen, especially food prices, are those disproportionately represented in the baskets of lower-income households. Surveys of consumers show that a persistent gap in near-term inflation expectations has opened up between low-income and high-income households since this crisis began.

Looking beyond next year, I see both upside and downside risks to my outlook. On the upside is the potential for the release of pent-up demand to boost the expansion and generate the kind of momentum that would help bring individuals back into the labor force. On the downside, we could see the pandemic accelerating existing structural trends like automation, consolidation, and online retail while potentially bringing new ones to bear, such as the reduction of business travel. Thank you, Mr. Chairman.

CHAIR POWELL. Thank you. President Mester, please.

MS. MESTER. Thank you, Mr. Chair. Overall, the reports from business contacts in the Fourth District indicate that economic activity has increased moderately over the intermeeting

period. Our businesses remain concerned about the increase in virus cases and the implications for the near-term outlook, but they're also optimistic that things will improve in the second half of the year and beyond as vaccines are deployed.

Conditions continue to be uneven across sectors and within sectors. Contacts in professional business services and freight report relatively strong activity. Retailers report that customer traffic in stores was much weaker than normal around the Thanksgiving holiday, which is what they expected, but that online sales remain strong. And most retailers expect overall sales through the entire holiday shopping season to be comparable with those of last year.

On the negative side, firms providing high-contact consumer services like hotels and restaurants continue to struggle. A contact who works in a restaurant industry association reported that November was one of the worst months so far for Pennsylvania restaurateurs, and challenges are expected to increase with the recent reinstatement of restrictions on indoor dining. The restaurants in Ohio face similar conditions. Many expect they'll have to go out of business within the next nine months if they don't get additional relief.

Performing arts institutions are already struggling, and now they're facing even more challenges after having to cancel holiday performances, which typically generate substantial income.

District manufacturing activity continues to improve but at a slightly slower pace than earlier in the year. Forty percent of contacts reported an increase in activity over this intermeeting period compared with about 60 percent before the November meeting. Supply chain challenges appear to be intensifying for some firms, which is leading to extended delivery times.

Production at District auto facilities remains strong, but one of our directors reports that some assemblers are having a lot of trouble getting components from factories across North America, and they've had to resort to retrofitting parts as they come in to sustain production. On the other hand, a director at a multinational consumer goods company says that the supply chain issues that they faced early in the pandemic are largely resolved. So it looks like there's less need to stockpile toilet paper and paper towels than there was earlier in the year.

Home sales in the District remain strong, but shortages of some materials including lumber have added two to three months to home construction times. In contrast, the nonresidential real estate sector, aside from warehouses, remains weak. Owners of shopping centers are increasingly concerned about tenants' ability to survive through the winter, and they're working to reduce rents in some cases, especially for anchor tenants.

The District labor market continues to improve, but monthly employment gains have slowed as they have elsewhere in the nation. In the special System labor market survey, over one-third of Fourth District firms said that their employment levels have returned to pre-pandemic levels, but 6 percent report that they never expect them to return to those levels. About one-third of District firms report that they're looking for workers, comparable to what we saw a year ago. And while the level of employment remains nearly 7 percent below its February level, many District firms report they're having trouble attracting workers. Even so, only about one-half of the hiring firms have raised wages in response, compared with about two-thirds in the labor surveys conducted in 2018 and 2019 when firms also reported they were having trouble hiring qualified workers. That may reflect the fact that they don't feel financially able to do so.

On a more positive note, contacts at staffing companies report that while they have few people actually coming and looking for job placements, they have seen a significant increase in

people taking their online training courses. And one contact interpreted this as basically saying that people who can afford to sit things out are doing so, but they're also preparing themselves to reenter the labor force. That's a positive sign. And my hope is that this is happening across the country, and that might help lessen the labor market scarring that we're all concerned about. But I agree that that's a hope and not necessarily what's going to happen.

Regarding the national economy, three major forces bear on my outlook, and these are similar to things that a lot of you have already talked about. First, while the pace of the recovery is slowing from the strong rebound seen in the third quarter, so far the recovery has been stronger than anticipated. And much of the data available for the fourth quarter have exceeded analysts' expectations. Now, this suggests we may have been underestimating the economy's resilience and underlying momentum.

Second, the widespread surge in virus cases is straining hospital capacity, necessitating more voluntary and mandatory restrictions on activity and casting a shadow on the near-term outlook.

And third, the news on vaccines has been very positive, and I've become more confident about the economy's recovery over the medium run. Widespread vaccinations will create economic conditions that look very different from the current conditions in the midst of the rapid rise in virus cases, hospitalizations, and deaths that we're seeing today.

Now, in my baseline SEP submission, I assume that the current surge in virus cases in the United States is brought under control by social distancing, mask wearing, and targeted shutdowns that are less severe than in the spring. And I assume that vaccines will be widely deployed by the third quarter of next year. I've also incorporated additional fiscal relief of about \$1 trillion, which should help support the economy in the first half of 2021. Now, under this

scenario I expect growth will be uneven over the next year, with activity slowing this winter before picking up markedly in the spring and summer as people become vaccinated.

My current forecast is somewhat stronger than in September. And while there is still a lot of uncertainty, I have become more confident in the medium-term outlook, given the resilience the economy has been showing and the vaccine developments. I expect the recovery to continue over the next few years, with growth above trend, declines in the unemployment rate, and gradually rising inflation. But it's going to be an uneven recovery. Some sectors will recover faster than others.

Employment remains more than 6 percent, or almost 10 million jobs, below its level in February. And a larger share of those currently unemployed are on permanent rather than temporary layoff compared with earlier in the year. Because of the severity of the shock, it's going to take time to move to a more broad-based, sustainable recovery. Changes in consumer preferences with respect to shopping, dining, housing, firms' demand for office space, and the reestablishment of more robust supply chains could all necessitate structural changes to the economy that will take time to unfold.

Like President Bostic, I also thought that preliminary results in the Federal Reserve System's annual Small Business Credit Survey, which was administered in September and October, were interesting. Now, the final report is being prepared by the staff at the Cleveland, Atlanta, and New York Feds, and it will be available in February. But the preliminary results underscore the disparities of the recovery. Many small businesses remain under considerable stress. Among the survey's almost 10,000 small businesses with employees, about 80 percent experienced a decline in revenues this year. Over 60 percent of those firms expect revenues will be down 25 percent or more for the year. A majority think their sales will return to normal in the

second half of 2021 or sometime later. But 30 percent think that they are unlikely to survive until that time if no additional government assistance becomes available.

All of that suggests that, to achieve my forecast outcomes, monetary policy will need to remain highly accommodative over the forecast horizon. Patience will prove to be a virtue. In my forecast, by the fourth quarter of 2023, the economy is still growing at an above-trend rate, inflation has risen to just over 2 percent and is on track to rise further, and labor market conditions have reached levels consistent with maximum employment, with the unemployment rate under 4 percent and below my estimate of its longer-run level.

My forecast assumes that we'll continue to purchase assets at the current pace in 2021. With the economy making substantial progress toward maximum employment and price stability, I expect that additional purchases will be tapered in 2022 and halted in 2023 before the first increase in the federal funds rate late in 2023. Of course, there are both upside and downside risks to my forecast. I now view the risks to the real economy as being broadly balanced rather than tilted to the downside, as in my September SEP.

On the downside, there's potential for a more adverse pandemic scenario than I assume, in which case the pullback in activity through voluntary and involuntary restrictions could be sharper and result in more severe business failures and bankruptcies, especially among small businesses, and more permanent job losses, which would take longer to reverse.

On the upside, the incoming data have generally been better than expected, suggesting that the economy may be even more resilient than I've assumed and that there's more upward momentum. Once most people are vaccinated, the recovery in the second half of the year could be stronger than I anticipate, in line with some of the anecdotal evidence suggesting there's

strong pent-up consumer demand and firms are ready to ramp up hiring and investment quickly after the threat of the virus is behind us.

Now, as many people said, fiscal policy poses a risk. I think of it as both a downside and an upside risk, depending on whether an additional relief package gets passed and its size, as well as the amount of other government spending that may be forthcoming. Fiscal policy has provided important support to households and businesses this year, but it's winding down. In my view, additional fiscal relief focused on the unemployed, businesses hit hardest by the virus, and state and local governments would be appropriate to bridge them through the coming months until vaccines are well deployed. Without that assistance, we could see a sharper-than-expected slowdown and more persistent damage that will be harder to recover from. On the other hand, it is possible that fiscal spending exceeds expectations and engenders a stronger-than-projected recovery after vaccines are deployed.

Regarding inflation, I see the risks as tilted to the downside, but less so than in September. The potential for a stronger-than-expected recovery coupled with supply constraints poses upside risks to my inflation projection. But while inflation expectations have remained broadly stable, there is also the possibility that they're anchored at a level below our inflation objective. In addition, during the past expansion, inflation was held down by idiosyncratic factors, and those factors could still be in play.

Finally, with monetary policy expected to remain very accommodative for a long period, risks to financial stability should never be far from our minds, and they will need to be carefully monitored. Also, as the recovery proceeds, the forbearance that lenders offer to borrowers will need to be unwound. If unwound too quickly, we could see a spike in borrower distress. In addition, in response to the pandemic, some of the bank capital and liquidity requirements and

some types of supervisory oversight were relaxed to encourage banks to continue lending to support the real economy. These actions were appropriate at the time, and I agree with President Rosengren that they may need to be continued for a time. But, eventually, as the recovery proceeds, they'll need to be carefully unwound to ensure that the banking system remains resilient and well prepared for the next shock, whenever that may be. And I think it's important for us to think about how they will be unwound.

And, finally, I strongly agree with President Evans. Of course, that's true about many things, but, in particular, today I mean his comments on policy communications. Our communications are going to be a very important tool that can reinforce our commitment to our new monetary policy strategy. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Governor Bowman, please.

MS. BOWMAN. Thank you, Chair. In many ways, my baseline outlook for the U.S. economy is substantially similar to where it was at the November FOMC meeting. But I'm concerned that the latest macro data, which have continued to paint a positive picture of the U.S. economy, may mask substantial challenges ahead. As a result, despite the news on the vaccine front, I have become more concerned about downside risks to the outlook than I was in November. The encouraging data, as many have already noted, show real GDP growth rebounded sharply in the third quarter, inflation remained low, and the labor market continued to show improvement but at a more moderate pace.

But the macro data tell only part of the story, and I'm especially focused on two risks that many of you have already mentioned today, risks to the economic recovery that may not be adequately captured by the national statistics. And, from my perspective, these two risks have become much more prominent. The first risk relates to the fact that the national data are

providing an unusually incomplete view into the condition of American families. As we see demonstrated through state and local government action, individual experiences in different areas of the country and across different parts of the income distribution have been highly divergent in this pandemic-induced downturn.

As one member of the Federal Advisory Committee put it earlier this month, “We’re seeing big winners and we’re seeing big losers in this pandemic.” Although national spending growth has rebounded, the recent strength has been heavily concentrated among high-income households. Meanwhile, there are signs that the financial pressures faced by those at the middle and lower ends of the income spectrum have continued to intensify, with those in the lowest wage quartile experiencing the most severe job losses last spring and employment levels recovering much more slowly than has been the case for higher-income workers. And President Daly and President Bostic and many others have already noted this challenge for the lower-income workers in returning to work.

Similarly, the aggregate savings rate has remained high, likely reflecting restrained spending by some and the substantial fiscal support received by others. However, the extent to which eviction moratoriums and other forbearance programs have enabled the growth of savings remains to be seen. So it bears watching how the approaching expiration of these policies will affect the savings rate and whether some folks may have prioritized savings or other expenses over staying current on rent payments.

So my first point is that households in the lowest income group seem to be struggling more than the aggregate data indicate. And without further fiscal support or a resumption in economic activity, especially restoring employment in the service sectors, I expect we will see

additional hardships experienced by these households. And this indicates to me that many households may be closer to the financial edge than we may appreciate.

The second risk relates to the effect of the pandemic on small businesses—again, as many have noted before me—but we may not be seeing the full effect of this from the aggregate statistics. With the recent virus resurgence, many state and local governments have reintroduced stay-at-home orders and other economic restrictions. These restrictions are further threatening the viability of many small businesses.

From my vantage point, I see evidence that a growing number of small businesses have already been permanently closed or may be on the verge of failure. The roughly 32 million small businesses in the United States comprise an important source of job growth in the macroeconomy, and they have an outsized effect on their local communities. Over the past 20 years, small businesses created 10.5 million new net jobs, accounting for roughly two-thirds of overall net new job creation. Despite this importance, monitoring the overall financial health of small businesses is very challenging, especially in the current environment, as the pandemic has affected some industries and locations much more so than others.

Up to this point, national data on loan delinquencies and bankruptcy filings have not been particularly concerning, but this could be partly because small businesses are often unincorporated, and many go under without declaring bankruptcy or defaulting on loans. In fact, many small business owners rely on credit cards or home equity loans for financing. So their failure to make timely payments would not be reflected in data on business loan delinquencies.

Other high-frequency indicators and anecdotal accounts, including my own conversations with contacts across the country, suggest that pressures on small businesses have intensified in recent weeks. For example, in the Census Bureau's November Small Business Pulse Survey,

roughly one-half of business owners surveyed said that they expected more than six months to pass before their businesses returned to the normal level of operations. But in the same survey, nearly one-third of respondents reported having only enough cash on hand to fund a month or less of business operations, and nearly two-thirds reported having insufficient cash on hand to fund their operations beyond two months. This leaves me concerned that many small businesses will not be able to weather another extended period of inactivity.

Further, recently produced estimates drawn from the online review platform Yelp indicate that, over the past several months, a steadily rising number of business closures—nearly 98,000 small businesses through September—that were initially temporary have become permanent. And, finally—noting that President Kaplan has also visited with some area chambers of commerce—according to the New York City Chamber of Commerce, one-third of their membership of nearly 4,000 small businesses have either permanently closed or are in the process of transitioning to closure.

These observations paint a picture that is at odds with the aggregate data. If another wave of business failures occurs next year, I believe the fallout to the broader economy would be substantial and long lasting. In my mind, there's a critical balance here. Either economic activity must be allowed to resume, or additional fiscal support is absolutely necessary to help households and businesses get through the next few difficult months.

If neither of these conditions come to pass, I expect to see that the macro data will begin to reflect more of the vulnerabilities that seem to be evident among many low- to moderate-income households and small businesses. I'll have more to say about the monetary policy implications of the prevalence of these downside risks in my remarks tomorrow. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Governor Quarles, please.

MR. QUARLES. Thank you, Mr. Chair. Like all of you, I think, I'm also expecting a relative slowdown in economic activity in December and January. But the developments in vaccines, the introduction of successful treatments, and the continuously expanding experience of the populous with COVID-19 make me still quite optimistic about next year as a whole.

My expectations about the near term, the next couple of months, reflect the spread of COVID-19 over the past two months among the elderly and the resulting increase in hospitalizations, which is very different than what we saw over the summer when cases were more concentrated in younger cohorts, which we know are significantly more resilient to the virus. So these strains and the perception of possible increased strains on hospitals are driving an increasing number of states and local governments to reimpose significant restrictions on economic activity. And the economic effects of these restrictions mean that the already hit brick-and-mortar retail economy, along with travel and hospitality and leisure, will experience further stress this winter.

For example, recent indications emerging from several sources—weekly unemployment claims, Homebase's small business data, the ADP data that we have—suggest that employment has likely slowed further and could even decline in December. And while Stacey's presentation indicated that mobility may not have declined as much as we might have feared, many mobility indicators have moved down in the past few weeks to the lower end of their range since May. Data on airport passenger throughput and restaurant reservations have fallen.

And intensifying restrictions are particularly affecting small businesses and their employees, as Governor Bowman and many others have noted, with surveys showing that owners perceive an elevated risk of permanent closure in most sectors as a result of this wave of

government actions, not just the ones that are hardest hit. Nonetheless, I expect that this weakness over the next couple of months will prove to be transitory, with a good chance that, as has been the case for most of this year, the ingenuity and common sense of individuals and businesses will lead them to adjust in ways that allow the economy to perform better than we currently fear.

One thing that stands out among the high-frequency indicators, for example, is that overall credit and debit card spending has held up, suggesting that spending so far has shifted to necessities and to online retailers, as President Bullard noted, rather than entering a steep decline. In addition, there's reason to believe that a fiscal deal that looks something like the bipartisan proposal now being discussed can be agreed to.

Third, the staff's, I think, relatively conservative estimate of up to 90 million people being vaccinated in the first quarter when there are only 53 million people who are age 65 or older in the country means that prioritizing vaccinations among the most vulnerable populations should lead to significant declines in hospitalizations relatively quickly and removal of this round of mandatory restrictions early in the first quarter, perhaps by February. In addition, hospitals that have begun deploying antibody treatments for the highest-risk patients are reporting that the vast majority show rapid improvement, with few follow-on hospitalizations there. And as production of these drugs increases and more of those who aren't yet vaccinated can be treated if they are infected, I suspect we'll see a faster return to normal activities by populations currently at less risk of serious complications from the disease, which is most people.

Against that backdrop, my overall forecast follows the trajectory of the Tealbook alternative for additional stimulus. And I envision the positive effects of vaccinating at-risk

populations in coming weeks as likely to pull even more of that growth into the first half of 2021. My strong forecast of activity and employment in 2021 also reflects continued support coming from the factors that have contributed to the better-than-expected performance of the economy throughout 2020. As a number have noted, the sum of new and existing home sales in October reached levels that were last seen in December 2005. And that activity will continue to spur knock-on spending for consumer durables and home improvement even after home sales themselves have tapered.

Indicators of business spending also remain promising through November. Commercial construction spending even stopped contracting in October. The still-elevated savings rate as of October adds to the already large stock of unexpected savings, which remains a substantial source of pent-up demand that I think will be released as conditions normalize over the course of next year.

And, somewhat surprisingly, we heard from the Financial Advisory Council that the savings position of their account holders remains strong through November even for what they describe as low-balance accounts. And, like many of you, I had assumed that any savings accumulated by lower-income households would have dissipated after the expiration of the bonus unemployment payments in July, and that higher-income households would continue to accumulate savings because of reduced opportunities to spend. But the report of the FAC was closer to it being exactly the opposite case. There were lower balances in the higher-income clients and relatively higher balances in those with lower income.

Looking further out, I have growth remaining well above trend in 2022, as we are currently realizing nearly the best-case scenario for vaccines and treatments and a faster-than-

expected return to normal, which should reduce the ultimate number of business failures, long-term unemployment, and other features of recessions that leave lasting scars on output.

Financial conditions are still broadly accommodative. On the household side, those with good credit histories have plentiful access to credit at historically low interest rates. For businesses, investors in equity and debt markets, and even those for speculative-grade bonds and leveraged loans, appear to be looking through this current slowdown over the next couple of months to a postvaccine world.

Wall Street analysts now expect earnings for the S&P 500 for the fourth quarter of 2021 to be back to about the same level as year-end 2019—again, as President Bullard noted—and rollover risk is very low. Among outstanding corporate bonds, only 5 percent of triple B and 3 percent of high-yield issues are maturing over the course of the next year.

Of course, we’re looking closely at bank credit for signs of unwarranted supply constraints, especially given the importance of banks as a source of funds for small businesses, which face credit conditions that are reportedly much more restrictive than is the case for large firms. But banks haven’t cited capital or liquidity positions as a reason for adopting a tighter lending stance. The actions that we’ve taken to actually increase bank capital levels this year should support lending as loan demand picks up and uncertainty declines in the expanding economy.

Regarding inflation, after some increases in prices over the summer, recent readings on inflation have come in weak: Overall inflation for this year looks close to 1 percent. But market-based measures of inflation expectations increased on news of the vaccines and moved higher still early this month when fiscal negotiations picked up steam. Market-based measures

of inflation expectations are now above their levels before the onset of the COVID event earlier this year—which may indicate some traction stemming from our revised consensus statement.

So my forecast sees inflation running about $\frac{1}{4}$ percentage point above the Tealbook forecast in 2021, in large part reflecting price pressures stemming from the higher-than-expected spending that I built into the first half, while some of the supply lost to business closures in 2020 is still coming back online and faster growth in employment is leading to earlier recovery in rents.

Despite my optimism about continued growth and inflation returning to 2 percent next year, I do believe it's appropriate for monetary policy to remain accommodative.

Unemployment right now is still very elevated and disproportionately affecting the lowest-paid occupations. Labor force participation is depressed. Some sectors have largely been left out of the recovery. So my forecast assumes that the current pace of asset purchases continues until unemployment approaches 4 percent and inflation is about 2 percent in the fourth quarter of 2021, at which point purchases begin tapering and conclude in the second quarter of 2022.

My forecast has the target for the federal funds rate remaining at its current level until inflation has been slightly above 2 percent for a time in 2022 and then remains highly accommodative through 2023, substantially below where it was in 2019 even as unemployment continues to fall below the level achieved last cycle and inflation remains at 2 percent. And transparency being my lodestar, I am SEP participant number 13. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Kashkari, please.

MR. KASHKARI. Thank you, Mr. Chair. I want to start by thanking President Daly for ably filling in for me as my alternate last meeting when I was out for paternity leave for the birth of my son, Tecumseh Sebastian Kashkari, who was born on November 3. We had tried to

arrange it for him to arrive the day after the FOMC; he chose to arrive the day before the FOMC. Thanks to President Daly for helping me out there. At least I can report one positive thing emerging from 2020, and that was his arrival.

With regard to the bad news, I want to start talking about COVID. I think a lot of my comments are going to echo President Rosengren's comments. Last time I was here, I noted that the United States appeared to be at the beginning of a dramatic second wave of COVID, as many epidemiologists had forecast. Unfortunately, the fall and winter surge is looking even worse than I had expected. We're now averaging around 200,000 cases a day, which seemed almost unimaginable a few months ago. We just crossed the point at which 300,000 Americans have died, and we have a daily death rate of somewhere between 2,500 and 3,000 deaths. The best comparison that just jars me is that on 9/11 about 3,000 Americans died, and we're seeing that every day.

Earlier in the spring, it was much more regional. Obviously, this is a national wave that seems to be hitting almost the entire country, which makes this wave worse. At the same time, in the spring we were heading into a warming season; people could be outdoors a lot more. We know that the virus transmits much better indoors, and now we're heading into winter, and so I think the dynamic of it being national and also heading into winter really sets us up for a very tough few months. Experts are suggesting that we could have this high death rate every day for the next few months. Even with the rapid vaccine rollout, it's not actually going to bend the curve on deaths for several months, probably until the April or May time frame, and that is quite alarming.

The wave is, in a sense, even worse than we feared, but as others have noted, the economic imprint is less severe. That's not, in my opinion, because we've gotten better at

navigating the economy in COVID. It's because, to my surprise, our tolerance for death is much higher than I had expected. If you had said to me that we're going to have 2,500 or 3,000 Americans dying every day, even if it's dramatically skewed to older Americans, I still would have said, "Oh, my gosh, we are going to take dramatic action as a country like we're at war to try to save lives." So I'm really surprised by that. As others have noted, there have been some restrictions imposed around the country, but nothing that's been that aggressive.

Let me shift to technology—and I'm going to talk about vaccines in a second, as others have noted. The other piece of technology that was hoped that could be an end to this pandemic is rapid testing. Many people have talked about it. I just want to revisit this because a couple of months ago, I reported that we had spoken with the NIH folks who are running this thing called RADx, which is essentially a venture capital program that the CARES Act funded to invest in the most promising new testing technologies. Again, the idea is to test all of your employees at the door every morning so you can see who's safe and let them in. A couple of months ago, the NIH folks were much more optimistic. They had received 700 applications for their program from different companies. They had hoped to have 6 million tests a day for this new technology by year-end. Unfortunately, they've run into a lot of roadblocks, and they've dramatically ratcheted down their forecast, probably by a factor of 10.

They've run into technology problems, manufacturing problems, supply chain problems. There is the most fundamental question of, can you reliably, using this new technology, test asymptomatic cases so that you're confident that you're not going to have false negatives? They still can't answer that, and they're trying to run experiments right now to see if this technology even works. So they've dramatically lowered their expectations. They're hopeful that this

technology could be useful in future pandemics, but it's, as of right now, not on track to change the trajectory of the COVID-19 pandemic that we're on.

Let's turn to vaccines, which is the good news. As others have noted, the Pfizer and Moderna trials have far exceeded expectations for their effectiveness, which is terrific—95 percent effectiveness in these phase 3 trials. So now the question is, as we discussed earlier today, how rapidly can they be produced, and can they be deployed? Right now it seems like the United States has bought enough from Pfizer and Moderna to vaccinate about 100 million Americans. Hopefully that can expand over time.

These breakthroughs, just to put it in context—so the testing R&D has not borne fruit yet. Many of the other vaccines have not borne fruit yet. AstraZeneca had problems with their phase 3 trial, and it's hoped they can get that back on track. GlaxoSmithKline has pushed theirs back by about a year. Russia has announced that they have a vaccine they say is effective, but they've run into huge manufacturing problems in trying to scale it up. If Pfizer and Moderna come through as we all think they will and hope they will, it's actually going to be a remarkable achievement in technology and business and manufacturing. So fingers crossed that that all goes as well as we all hope.

So the near-term outlook remains very bleak with this case count and the hospitals' capacity and the deaths. We're not going to vaccinate enough people to change the winter surge. The Institute for Health Metrics and Evaluation is forecasting about 500,000 American deaths in total by the summer, so we're a little bit past the halfway point. That's still a lot of Americans dying. It's really sad, because now that we have the vaccine and there's a light at the end of the tunnel, every one of those lives that we could protect—it's not just a delayed infection, it's actually a life saved. And so it's really quite sad that so many people are dying right now.

This goes back to the discussion we had earlier: What does “herd immunity” mean? And, again, I’m just trying to think about it. I used the example of, when would the Minneapolis Fed, if we had all of our older workers and all of those with preexisting conditions vaccinated—let’s say, it’s one-third of our workforce—would we then say, “Okay, everybody go back to the Bank”? Or let me ask the FOMC a rhetorical question. If the older members of the FOMC were all vaccinated, would we then say, “Great, we’re going to meet in person”? As one of the younger members of the FOMC, I’d say, “That doesn’t sound like a very good deal to me.” So I’m not sure that when we get to the 50 percent mark, that means that it’s going to be all clear and we can all go back to normal. It may be considerably after that. And, again, I would look to each other and say, “When are we going to change our own behavior and go back to normal?”

So—

MR. BARKIN. At what age do you define old, Neel?

MR. KASHKARI. You can judge it for yourself. I’m just saying, relatively, within the Committee, there’s an age range, and if we just said the older half of the Committee were vaccinated, is that enough for us to say we’re all going to come back in person? I doubt it, because the cost of us doing this remotely is quite low, and so, as an example, why wouldn’t we wait until we have all of us vaccinated?

So, bad news on the virus spread and good news on the vaccine. Weaker economic outlook in the next few months, brighter economic outlook in the second half, but a lot of risks. As I said, growth has held up well, but that’s mostly because we’ve been willing to take more health risk, not because we’ve gotten better at reopening the economy and controlling the virus. And it’s possible that we’re going to see—I think the one thing is, if hospitals really do get

overwhelmed, I think that would be a catalyst to force elected leaders to impose more stringent lockdowns. And so how bad things get really depends on the virus over the next few months.

Just briefly, risks to the outlook—we've talked about risks to vaccines. Financial markets have responded very strongly. The big uncertainties are, is there going to be another fiscal support package? I hope there is, as I think does everybody on the Committee. The end of COVID mortgage and renters' forbearance—that's also going to be a potential big downside risk coming in the New Year. And then, Brexit is also another potential downside risk. So I'm really excited about vaccine developments, but I think we have a long road ahead. Thank you,

Mr. Chair.

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

VICE CHAIR WILLIAMS. Thank you, Mr. Chair. The virus continues to dictate the outlook. Setting aside the heart-wrenching human toll, the record high levels of confirmed cases and hospitalizations are again weighing on sectors such as leisure and hospitality that rely on face-to-face interactions. Last week's sharp rise in initial claims and the decline in high-frequency indicators such as restaurant bookings attest to the deterioration in those sectors.

The same pattern is seen in the Second District. The headline index in our Business Leaders Survey, which will be made public tomorrow, declined sharply in December to the lowest level since June, with a drop-off in leisure and hospitality especially pronounced. Unfortunately, as many have said, things are likely to get worse before they get better, as the recent experience in Europe illustrates. In the United States, we've seen a tight relationship between declining temperatures and rising cases, which points to a very difficult winter, especially for the Midwest and Northeast regions.

These recent signs of near-term slowing are occurring in the broader context of a recovery in economic activity that has, so far, proven far more resilient than expected as indicated by the upward revisions to growth for this year in the Tealbook and most projections, including my own. In addition, news on vaccine efficacy has been much better than expected, with both the Pfizer and the Moderna vaccines found to be safe and highly effective. Consistent with the vaccine distribution timelines that were discussed in the Tealbook box, I anticipate a significant bounceback in economic activity starting in the spring.

In listening to all of you today, I was worried that I might have been the most optimistic, but luckily Governor Quarles went before me, so he's anchoring that end of the distribution. The magnitude and speed of the rebound in my projection reflects that this is not a typical recession. With safe and effective vaccines, consumers and businesses should be able and willing to engage in activities that the pandemic constrained, like travel, eating in restaurants, health visits, and, hopefully soon, haircuts.

One reason we've seen such a rapid improvement in the labor market and why I remain optimistic of a renewed rebound in employment next spring is the very unusual nature of the COVID shock, which has led to a historically high share of temporary layoffs. Past experience shows that a high initial share of temporary layoffs is typically associated with a faster decline in unemployment during the early stages of the recovery. And this is exactly the pattern that we have seen unfold so far this year. Furthermore, financial conditions and the flow of credit also differ from typical recessions and should be positioned to provide support for a strong recovery. In addition, because this is a global pandemic and economic downturn, widespread vaccination and rebounds in other advanced economies will provide additional support to our recovery, as Governor Brainard highlighted in her remarks.

Finally, I have penciled in a \$350 billion fiscal package, which would modestly boost growth next year and—perhaps more importantly, and I think to a point that many of you have raised—this should help limit the longer-term damage to the economy arising from the pandemic.

Taking this all together, I expect real GDP to increase 4.7 percent in 2021 and the unemployment rate to decline to 4.7 percent by the fourth quarter of next year. With sustained and strong monetary policy support, I expect above-trend growth in 2022 and 2023, with the unemployment rate reaching 3½ percent by the end of 2023. And you can learn more about my projection in my SEP submission, in which I'm participant number 10.

Despite the good news on vaccines and the resilience in the overall recovery so far, I continue to view uncertainty about the outlook as being highly elevated and the risk skewed somewhat to the downside, albeit less so than in September. The list of risks is long, and many of you have mentioned them already, but I'll go through the list anyway. There may be delays in vaccinating the broad population, both here and abroad. Additional fiscal policy may not materialize or may be even much larger than I had penciled in. And Brexit negotiations may still implode. Another risk is, the larger share of temporary layoffs may become permanent as businesses shutter for good, which would slow the pace of recovery, as President Daly and others remarked. And this is especially acute for Black workers; a much larger share of temporarily unemployed Black workers have already become permanently unemployed relative to their counterparts, worsening their near-term economic prospects.

And, finally, on a theme that we talked about a lot maybe five years ago but I think is going to be more relevant, the limited monetary policy and fiscal policy space that exists in many

other countries implies that negative future shocks will likely have larger effects on our economy than otherwise, which does skew the risks somewhat to the downside.

One risk that we are not yet seeing in the data is signs of significantly elevated mismatch in the labor market. We've certainly witnessed massive dislocation in particular industries, but, a priori, it's unclear whether this leads to significant and sustained reallocation and mismatch unemployment. A large share of temporary layoffs has been rehired by their previous employers, as I mentioned, so the consequences for mismatch are likely to be very different this time around. My staff looked at this question and found that, once we take account of the unique attributes of temporary layoffs, the contribution of sectoral mismatch to the rise in unemployment this year has been quite modest, around 0.4 percentage point. Furthermore, mismatch across occupations, as opposed to industries, has remained extremely low. This tells me that elevated labor market frictions are not a salient concern in assessing the level of maximum employment that we should be aiming for.

Finally, with regard to inflation, incoming data have been largely consistent with my expectations. Now, there've been a lot of reports in the news having to do with possible upside risks to inflation, and I've been watching that carefully. I do have one data point that I thought I should share with the Committee. My wife tells me that my request to get a Sony PS5 for Christmas is going to lead to paying three or four times the list price. So there are signs of possibly large price increases that will show up in the December CPI, at least if she carries through on her promise to deliver the PS5 that I want, but we'll have to see on that. I see core inflation picking up over the next few years, slightly exceeding 2 percent in 2023, and, getting to President Evans's point, increasing somewhat further thereafter, really delivering on our policy framework of a moderate overshoot of our inflation target. Thank you.

CHAIR POWELL. Thank you, and thanks, everyone, for your comments. As many of you noted, it's an interesting juncture: both quite challenging in the near term and then quite promising as we look out. Despite a recovery that continues to exceed expectations, the economy remains a long, long way from our goals. With the pandemic spiking across the country and further fiscal policy support likely but far from certain, the expansion seems likely first to slow or pause in coming months, but then to return with vigor around the middle of next year as the vaccines make their economic effects felt.

Echoing many of your comments, I agree that it's hard to say how bad it's going to get this winter—there's a wide range of uncertainty—and it's hard to say how good it'll be in the middle of next year when vaccines are widely available. I would agree that uncertainty remains quite high. As the spread of the disease has waxed and waned this year, the economy has generally performed better than our expectations. And for me, at least, part of that explanation is that we're learning to live with COVID, at least from an economic perspective.

The staff's excellent box in the Tealbook shows that, in Europe, the current rise in COVID deaths has resulted in fewer restrictions on activity and smaller declines in mobility than did the first wave in the spring, as Shaghil described a few hours ago. The result is that economic activity has been more resilient to COVID. In other words, the tradeoff between population health and economic activity has improved significantly. And I would say that that's at least part of the story here at home. The summer wave of infections in the South and West did not, in the end, leave much of a mark on economic activity. I realize it was younger people, by and large. But that was a big contrast to March and April, and that was even with the expiration of the CARES Act extended unemployment insurance benefits.

So, like all or nearly all of you, and as reflected in the Tealbook forecast, I do think that this third spike—you can call it the second or the third; in any case, the largest so far, and one can only hope the last—will suppress activity in coming months, with activity roughly flat or perhaps down in Q1 slightly. Indeed, there's early and growing evidence consistent with that view. Employment gains decelerated more than expected in November. Although the unemployment rate fell a couple of ticks, if you account for misclassifications, nonparticipation, and unwanted to shifts to part-time work, the broader employment picture actually got a bit worse in November.

With hospitalizations and deaths rising, we are beginning to see a pullback from economic activity that involves close contact with others, reflecting both voluntary caution and tighter mandated restrictions. We can see the imprint in the high-frequency data on travel, in-store spending, light vehicle sales, and dining out. The Homebase data indicate that small businesses are again shedding jobs. Despite the benefit of an expected resurgence in the labor market, payroll employment is still almost 10 million below its February level. And as a number of you commented, the pain is not spread evenly. Job losses have been much larger for those who previously had the lowest wages.

Unemployment has declined sharply for those in the highest income quartile but remains at 20 percent for those in the lowest quartile. Black and Hispanic workers have borne an unequal burden. CARES Act money and foregone household spending on services have more than offset lost wages overall, leaving historically large increases in household savings across the income spectrum.

Although household savings can support spending for a time, even for many in the lowest income quartile, the store of savings won't last forever. Without further fiscal action, about

9 million people could lose unemployment benefits at the end of the year if programs are not renewed. Many households, particularly low-income ones, may face eviction if moratoriums are allowed to lapse at year-end. The case for fiscal help at this time seems to me to be reasonably clear. There is clearly a risk that, for some, resources will be exhausted early next year, limiting spending and imposing great hardship. Of course, the talks on the fiscal package are ongoing and, I would say, quite promising. But the prospects are not yet clear.

On the brighter side, vaccinations are now beginning for essential workers and highly vulnerable populations and are likely to be widespread by midyear. Of course, the rollout may be slower than expected. Some will decline to be vaccinated, and that will slow the arrival of herd immunity. Even so, like many of you and like most forecasters, I expect a strong second half in 2021. People are eager to resume normal social and economic activities. Once the vaccine is widely available, economic activity should move up strongly.

My SEP submission shows real GDP growth of 4½ percent next year, with the unemployment rate falling to 5 percent by year-end, a very good year. Your forecasts, most of which have been revised up, show that there is broad alignment on this. I continue to see the pandemic as adding to disinflationary pressures. Inflation remains below our 2 percent objective, although it's moved up recently. I expect that trend will continue. Indeed, I too have inflation peeking its head over the 2 percent line in 2023, as continued above-trend GDP growth pushes the unemployment rate down to 3½ percent by the end of that year. In this base case, I see liftoff as being plausible in 2024.

Despite downside risks in the near term, I now see the overall risks to GDP and employment as balanced. The vaccines substantially reduce the negative tail risks. I also see

significant upside potential in the medium term. However, the risks to inflation seem to me to remain weighted to the downside.

With regard to tomorrow's policy discussion, over the past nine months, we have reacted vigorously and effectively to the COVID crisis. Our aggressive and sustained actions have kept financial conditions accommodative and have kept the credit flowing in the economy. Our policies are greatly benefiting our fellow citizens every day. We will need to continue to provide the economy with the support that it will need for some time. We remain a long way from our goals, and it will very likely take several years to closely approach them. Our focus should be on sustaining highly accommodative financial conditions and the flow of credit.

At this meeting, I see us as refining our policy and communications while remaining ready as always to act quickly if conditions change. The pandemic created a chasm in economic activity, and our actions have been part of a broad governmental effort to build a bridge across that chasm for as many of us as possible. At this point, it looks like many Americans have that bridge, but there are many who don't have it yet. And I'm thinking here in particular of the 10 million who've lost their jobs, many of whom may struggle for some time to find work.

At our November meeting, most of us expressed the view that we should update our guidance on asset purchases and implement qualitative outcome-based guidance linked to our economic objectives. The new language in alt-B does exactly that. The qualitative outcome-based nature of the guidance means that if progress toward our goals slows, the combined guidance will convey our intention to increase policy accommodation through a lower expected path of rates and a higher expected path of asset purchases. This will help ensure that the stance of monetary policy is appropriately calibrated. I look forward to tomorrow's policy discussion.

Again, thank you for your great comments. And I'll hand it over to Trevor to talk about the policy alternatives. Thank you.

MR. REEVE.⁵ Thank you, Mr. Chair. I will be referring to the exhibits starting on page 44 of your briefing materials packet.

The new consensus statement you released in August and the forward guidance on the federal funds rate you introduced in September appear to have reinforced investor perceptions that the federal funds rate will remain low for quite some time. As shown by the red line in the upper-left panel, the median respondent to the Desk's surveys sees it most likely that the federal funds rate will remain at its current level into 2024. A longer view can be gleaned from the June and December editions of the Blue Chip Financial Forecasts, which provide projections for additional years. As shown by the shift from the dashed blue line to the solid one, the average expected path of the federal funds rate in these surveys has moved down notably since June. Given that the economic outlook was at its darkest point in June and has improved considerably since, the downward shift in these expectations over this period would appear to owe importantly to your policy communications.

Regarding your deliberations at this meeting, the upper-right panel lists some relevant considerations. As most all of you noted, the path of the pandemic and its consequences for the economy remain highly uncertain, notwithstanding the very encouraging news on vaccines. Considerable uncertainty also surrounds additional fiscal stimulus, which, if deployed, could help limit damage to the economy as the country grapples with the resurgence of the virus. As many of you noted in previous FOMC meetings, outcome-based guidance can be well suited for providing appropriate policy accommodation, especially at times of a highly uncertain outlook. Having updated your forward guidance on the federal funds rate in September, you may want to consider enhancing your guidance on asset purchases as well, as many of you and the Chair have suggested.

As Lorie mentioned, most respondents to the Desk's surveys appeared to expect outcome-based guidance on asset purchases to be announced at this meeting. Such guidance may help keep the public's expectations about future policy aligned with the Committee's intentions as the economic outlook evolves. To get a sense for how expectations regarding asset purchases may already relate to economic outcomes, the lower-left panel presents results given in the Desk's Survey of Primary Dealers, which contains more detailed economic forecasts than the Survey of Market Participants. The orange lines show that the median primary dealer respondent expects asset purchases to continue at their current pace through the end of 2021, to taper over the following year, and to end in the first half of 2023, about one year before the median respondent expects the federal funds rate to rise from its current target range. Note that the primary dealers survey forecasts of asset purchases are generally lower than those in the market participants survey, so these medians lie

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

somewhat below the combined results that Lorie discussed earlier. As shown by the blue dots, the median forecast of core PCE inflation on a Q4-over-Q4 basis rises from 1.4 percent at the end of this year to 1.65 percent in 2021, with the tapering of purchases beginning soon thereafter in 2022. And shortly after core inflation reaches 1.8 percent at the end of 2022, net asset purchases are expected to cease. Over the same period, as depicted by the red squares, the median projection of the unemployment rate declines to 5.5 percent right before tapering starts and to 4.7 percent right before net asset purchases cease.

To get a sense for how recent and prospective asset purchases compare with previous programs, the lower-right panel plots the Federal Reserve's actual and projected holdings of Treasury securities, converted to 10-year equivalent terms and expressed as a percentage of nominal GDP. This measure provides an indication of the amount of policy stimulus provided by asset purchases through the duration risk channel. The black line shows history and the Tealbook baseline projection, under which increases in holdings of Treasury securities continue at their current pace through 2021 but stop at the end of that year. The blue dashed line depicts a scenario consistent with the median responses to the Desk's surveys. Versions of these scenarios were featured in the staff's "Intermeeting Report on the Federal Reserve Balance Sheet and Open Market Operations," which you received last week.

A few observations flowing from the chart are worth highlighting. First, the increase in Treasury holdings so far this year has been very rapid and, in terms of 10-year equivalents, bigger than any single previous purchase program that followed the Global Financial Crisis (shown by the shaded regions). Second, if purchases continue as in the Tealbook baseline, the rise in Treasury security holdings since before the pandemic would amount to about 9 percent of GDP—which is almost double the size of LSAP3, but somewhat less than the total amount of net purchases recorded over the course of all previous LSAPs and the MEP. Third, under the Desk survey scenario, the blue dashed line, Treasury holdings by 2023 are about 2 percentage points higher as a share of GDP than under the Tealbook baseline. Not shown are holdings of mortgage-backed securities, increases of which under the Tealbook baseline would be about half the size of those that occurred under the combined previous LSAP programs.

Investors' expectations regarding the Federal Reserve's asset purchases are presumably reflected in longer-term interest rates and financial conditions. The 10-year Treasury yield, the black line in the upper-left panel of your next exhibit, has risen about 40 basis points since its low in the summer but remains well below its pre-pandemic levels. In assessing the policy implications of such a rise, it is worth noting that much of this increase has been associated with higher inflation compensation, the blue dashed line, rather than a rise in real yields, the red dashed line. Moreover, measures of broader financial conditions that take into account a wide range of financial asset prices point to highly accommodative financial conditions. The average reading given by publicly available financial conditions indexes, the red line in the upper-right panel, stands at a level that is as accommodative as before the pandemic, and equity prices, not shown, are near record highs. As depicted in the

lower-left panel, mortgage rates, the black line, and corporate bond yields—in gold for investment grade and in green for high-yield—have reached all-time lows. These observations suggest that, despite somewhat higher Treasury yields, overall financial conditions remain highly accommodative, although, as noted in the Tealbook, bank lending conditions appear to have remained relatively tight. Of course, the current state of financial conditions is highly dependent on your monetary policy actions and communications.

As summarized in the final panel, the alternative policy statements differ with regard to the guidance they provide on and the changes they make to asset purchases. Alternatives A and B offer outcome-based guidance. They note that asset purchases will continue at the current pace “until substantial further progress has been made toward the Committee’s maximum employment and price stability goals.”

Alternative A also announces that “purchases of Treasury securities will be weighted toward those with longer maturities” in order “to promote a stronger economic recovery.” Alternative C maintains the language of the November FOMC statement that net asset purchases will continue “over coming months...at least at the current pace.”

Thank you, Chair Powell. That concludes my prepared remarks. Pages 47 to 56 of the briefing materials present the November statement and the draft alternatives and corresponding draft implementation notes. I will be happy to take any questions.

CHAIR POWELL. Any questions for Trevor? President Evans, please.

MR. EVANS. Thanks, Mr. Chair. I’m reluctant—I didn’t read the previously cited memo sent last week. But looking at the 10-year equivalents as a percentage of nominal GDP, the sharp increase in 2020—I mean, some part of that’s got to be in the fact that nominal GDP fell a lot—right?—not just the increase in long duration. Is that right, or—

MR. REEVE. Yes. This is not a percentage of potential GDP.

MR. EVANS. Yes. So by ’21 or ’22, it probably gets through that V-ish kind of effect, I guess, that would be like that. At any rate, I wasn’t expecting the increase in longer-duration equivalents, you know, that we were buying through the curve. Thanks.

CHAIR POWELL. President Kaplan, please.

MR. KAPLAN. Yes, thank you, Chair Powell. Trevor, this is a little bit of an elementary question, I guess, but I just wanted to confirm. If we meet the forecast that Stacey

went through earlier and we get to 1.8 percent PCE inflation by the end of 2021—this may be even a dumb question—would that be considered “substantial progress”? How would you suggest we might define “substantial progress”? Would that do it?

MR. REEVE. Well, I think “substantial progress” is very much a collective judgment of all of you.

MR. KAPLAN. I understand. I guess I’m asking your opinion.

MR. REEVE. If you look at the Tealbook forecast, as you noted, core inflation is 1.8 percent at the end of next year, and the unemployment rate is 4.6 percent, I believe. That’s a really great year, in my opinion, and I think that would qualify as “substantial progress” and would be consistent, potentially, with the taper commencing soon thereafter.

That, of course, is, you know, a determination that is not just dependent on the readings of those variables at that point in time, but very much on your expectations for how they will evolve in the future and whatever the balance of risks happens to be at that time. And as that date or those economic outcomes come into view, I would imagine that your communications would evolve in a way that would help the public understand where you were headed on that front.

Just on a related point, one thing that struck me in looking at that primary dealer survey is, they have—at least the medians in the primary dealers survey—quite a bit weaker of an outlook for next year than the Tealbook. So, as you can see in the chart in the lower left in that first exhibit, they have the unemployment rate about 1 percentage point higher than the Tealbook forecast for the next year and beyond and inflation lower for the next year. And even with those conditions, you know, that’s what they are—I know, it’s maybe reading a lot into the survey, but

at that point, by that basis, you could say they think that is substantial further progress. It's probably reading too much into the survey, but it's meant to be kind of a benchmark.

MR. KAPLAN. And then a follow-up. If the year unfolds in the neighborhood of what we might expect, or we feel as a group collectively we're making substantial progress—I guess we've talked about it—if we're going to start tapering in early '22, we should start communicating something, at least assessing, characterizing our progress late during the fourth quarter, then, of next year, I gather, if collectively we feel that's appropriate.

MR. REEVE. I would agree with that. I mean, I think the lessons of the taper tantrum are still vivid in a lot of people's minds, and communicating early and going slowly seems to be prudent. So, yes, I would agree.

CHAIR POWELL. Further questions for Trevor? Okay. President Evans.

MR. EVANS. I'm not going to ask you questions and belabor this. I'm just going to point out that this is one of the unfortunate aspects, that we can't adjourn to the West Court Café and—

CHAIR POWELL. The elegant West Court Café.

MR. EVANS. —important question in all of that. I'd like to read the definitive explanation of how people thought through the 2013 taper tantrum and other ones that they—

CHAIR POWELL. —Okay. Yes, I am sorry. Governor Brainard.

MS. BRAINARD. Thanks. Just a quick question, Trevor. For the median expectations that I'm looking at here, is that in any way adjusted for 10-year equivalents or expectations of possible duration extension?

MR. REEVE. No. The Desk survey numbers that are shown are just the dollar values. The Desk survey does not ask about the maturity composition of those, and that is also true for

the projection based on—in the lower-right panel, that dashed blue line assumes the current composition of Treasury securities purchases continues. And that was something that was also noted in that staff report that I mentioned you received last week. One of the scenarios assumed an extension of the maturities along that Desk survey path. And there you got another couple of percentage points' or something's worth of GDP, in terms of 10-year equivalents.

MS. BRAINARD. Yes. Thanks.

CHAIR POWELL. Further questions for Trevor? President Daly.

MS. DALY. Sorry, it'll be brief for everyone who wants to go home. I should have asked this to Lorie, but, Trevor, I'm going to ask you instead. When Lorie did her presentation, she noted that market participants, or the Desk survey—some thought that we would come out with more specific forward guidance, and others thought that we would do exactly what we're intending to do. I don't know what those percentages were, and if I saw them earlier, I forgot them. So are there any potential surprises that we're looking at, with people being disappointed that we didn't say something more on inflation or unemployment outcomes?

MR. REEVE. I mean, I'll take a stab at that question. If Lorie wants to jump in as well, that would be fine, too. As she pointed out in her briefing—right?—most participants do expect some sort of qualitative outcome-based guidance to be announced tomorrow. And the commentary in the survey seems really quite consistent with what is now in alternative B, so on that basis, I don't think the guidance itself would be all that surprising, with the usual caveats that who knows what's going to happen. Knock on wood.

MS. DALY. Of course.

MR. REEVE. As Lorie also noted, there were a minority of respondents and some market commentary who, as a modal case, thought that a maturity extension of Treasury

purchases might also be announced. Now, that is a minority view, so if that doesn't materialize, perhaps it would not lead to much of a reaction. It's also a view that doesn't seem to be firmly held by, really, many people at all, right? There's very little conviction in that view, so that would also, I think, tend to attenuate any effects.

And then, you know, stepping back more broadly just from that particular decision on the maturities, I think it's really the broader communications that go along with the resolve to use this tool that may be more material for the market reaction at the end of the day than some of these particulars. That's not always true as a general principle, but I think it is now.

MS. DALY. Thank you.

CHAIR POWELL. Lorie, do you want to add anything? No? Okay.

MS. LOGAN. I think Trevor's answer there was very consistent with my interpretation of the survey results as well. I'll also just make the point that, in addition to the forward guidance language, I think the discussion and communications regarding any potential change in the composition of Treasury security purchases is a key part of that communication.

CHAIR POWELL. Thank you.

MS. DALY. Thank you.

CHAIR POWELL. Okay. All right then, I guess we'll adjourn. I am sorry we can't go to the West Court Café, but that time will come, we hope, soon. We resume tomorrow morning at 9:00 with the policy go-round. Thanks, everybody. Great presentations today by the staff, great comments by people. And, everyone, have a good evening. Thank you.

[Meeting recessed]

December 16 Session

CHAIR POWELL. Good morning, everyone. Before we begin this morning's go-round, let's turn to Stacey for an update on the morning's data, please. Stacey.

MS. TEVLIN. Good morning. Can you hear me okay?

CHAIR POWELL. Yes.

MS. TEVLIN. Okay. This morning's retail sales data were disappointing. As I mentioned yesterday, we did take signal from the high-frequency indicators. And for the retail sales grouping that we follow most closely, we had written in a 0.6 percent decline, and this morning it instead declined 1 percent—so, a bigger drop than we'd expected.

In addition to the expected large drop in restaurants and bars, which did fall 4 percent in November, we also saw quite large declines in clothing, electronics, and sales at general merchandise stores. And online stores, which we might have expected to pick up the slack, increased just 0.2 percent. So, overall, the weakness was pretty widespread.

In light of these data, we will likely push down our projection of fourth-quarter real PCE to about 3.2 percent at an annual rate. We're still looking at the details, but we assume that general area—which is about 0.4 percentage point below yesterday's projection. Our forecast for Q1 PCE growth will probably remain in the area of around minus 2.3 percent—which is still a very low figure other than in a recession but will not be that much changed as a result of today's data.

We'll be poring over the data this morning and may switch some of these numbers around. But that's the general gist of it.

CHAIR POWELL. Thanks. Any questions for Stacey? [No response] Hearing none, why don't we begin our policy go-round, beginning with Governor Clarida, please.

MR. CLARIDA. Thank you, Chair Powell. I support alternative B as written. In particular, I do support the new outcome-based language that we will continue our Treasury security and MBS purchases at least “until substantial further progress has been made toward the Committee’s maximum employment and price stability goals.” With this change, our guidance with respect to asset purchases is now much better aligned with the outcome-based guidance on the funds rate we adopted in September and, of course, retain in this statement. This change to our guidance on asset purchases appears to be expected by most market participants, in no small part because of the account of our productive November discussion of asset purchases, as expertly summarized in the minutes.

I would note that the most recent Survey of Market Participants conducted by the New York Fed indicates that our asset purchases are expected to continue at the current pace throughout '21 before stepping down in 2022 to a slower average pace. I do believe the state-based guidance offered in alternative B should be seen as consistent with this expectation, as our SEP shows both inflation and unemployment remaining below mandate-consistent levels for at least the next two years. Thank you, Chair Powell.

CHAIR POWELL. Thank you. President Rosengren, please.

MR. ROSENGREN. Thank you, Mr. Chair. Given my more pessimistic outlook than the Tealbook baseline, I would prefer the language in alternative A. I see little macroeconomic effect coming from purchasing short-term debt maturities that already have very low interest rates. Instead, we should focus our purchases on longer maturities so we do get some potential economic improvement with the expansion of our balance sheet. And if we’re going to place greater weight on purchases of longer duration, we should be transparent about this policy in the statement.

I also worry about a statement that does not provide some lean toward more accommodation by focusing on longer maturities. I'm not under any illusion that this policy will offset a lack of additional fiscal support or even the removal of 13(3) programs. But it will signal a willingness on our part to do more. While the outgoing Administration has shown no desire to use the extension of 13(3) facilities to encourage a faster recovery, I am hopeful the incoming Administration will.

As I mentioned yesterday, I think an expanded Main Street Lending Program could be helpful. The benefits to larger companies flowing from our actions to date have been widespread, but the benefits have been limited to midsize firms that are not large enough to issue bonds but are too large to get PPP loans, despite those firms suffering greatly during the pandemic. In fact, the crest of a pandemic, with a vaccine on the way, is exactly the “unusual and exigent” circumstances that should cause us to use 13(3) powers to avoid significant closures of midsize firms.

Although I prefer the language in alternative A, the low interest rates all along the term structure mean that a faster recovery is probably more dependent on our supervisory actions and our ability to restore the 13(3) programs. That said, the policies most likely to affect economic outcomes significantly are probably controlled by public health authorities and fiscal policy, not the FOMC. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Bostic, please.

MR. BOSTIC. Thank you, Mr. Chair. I support alternative B, with one important qualification that I'll get to in a minute. But first, I'll offer what I like about the language changes in alternative B. I previously indicated my discomfort with language regarding our balance sheet policy that emphasizes financial market functioning as a rationale for asset

purchases. Those purchases were appropriate to address market functioning in the early phase of the pandemic, but the need for those emergency actions has, in my view, long passed. This could argue for winding down the program, given that the conditions that sparked the need for the policy no longer prevail.

A Committee “pivot” toward using purchases for quantitative-easing purposes to provide accommodation—a move that I support—positions the asset purchase program differently. Given that, I think there would have been some value in our deliberating on various options for providing that sort of accommodation, with an explicit consideration of the various QE mechanisms that might be at play as well as thoughts on how we might get the most bang for the buck from each approach.

As I noted at the November meeting, research is consistent with the view that there are distributional effects associated with some approaches—which offers the Committee an opportunity to “lean in” strategically to capitalize on them to maximize effect. I fear the Committee is not taking advantage of this opportunity. However, I accept that the Committee has chosen to maintain our current pace of asset purchases to support our employment and price-stability objectives. With that in mind, I fully support a pivot in language that directly emphasizes our dual-mandate objectives while deemphasizing direct financial market support. I think alternative B accomplishes that pivot.

My qualification relates to the word “substantial,” as in, we will maintain our purchases “until substantial further progress” is made toward our goals. My first concern is that we’re adding a term that is extremely ambiguous. Now, I recognize that ambiguity is unavoidable if we choose to maintain an appropriate degree of flexibility regarding our policy levers, but I think the Committee should at least have a robust discussion of what we might have in mind and come

to some loose understanding of what “substantial” looks like. And President Kaplan spoke to this yesterday in his question, and I agree with that.

Second, I agree with the staff’s argument that the value of adding this word is to reinforce our forward guidance on the funds rate target. But, to me, this calls for holding back until we are more certain that the extra boost to our forward guidance is warranted and when it has the best chance of affecting public sentiment about our commitment. By early into the New Year, we should get a better sense of how the economy is evolving as the course of the virus, the pace of vaccine deployment, and fiscal policy support become more apparent. I would rather wait to lean into a more protracted signal on asset purchases until then. The language in alternative B works perfectly well if the term “substantial” is simply deleted. That would be my strong preference. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Harker, please.

MR. HARKER. Thank you, Mr. Chair. I can support alternative B as written and am in favor of the outcome-based changes as well, as Governor Clarida said.

I do have some concerns, however, over how the new language will be interpreted—not the language itself, but how it will be interpreted. It is possible that the public will now view asset purchases as the primary tool of monetary policy and not simply a response to the economic strains brought on by the pandemic. I hope, in our subsequent communications, we’ll make clear that the funds rate remains our primary tool, and that asset purchases will be tapered in the future.

Now, amid the current heightened uncertainty, it is, in my mind, premature to announce that today. But we will need to adjust our communications in the future, especially if my somewhat optimistic forecast does come to pass. As well, if circumstances imply that a more

aggressive asset purchase program is necessary, I would first favor using maturity extension before increasing our asset purchase levels.

And, finally, when the timing is appropriate, I do think we should unwind asset purchases by first tapering before we consider shrinking the balance sheet. That policy, I think, would be easily understood as “The Committee is just simply following the QE3 playbook,” and I think markets and the public would understand that if we just followed essentially the same playbook. So unwinding in that manner will underscore our commitment to continued support for the economic recovery. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Barkin, please.

MR. BARKIN. Thank you, Mr. Chair. I’m comfortable with alternative B. I’m pleased that we’ve made our asset purchase plans state based but avoided the temptation to define it too specifically. There is still a wide range of plausible economic outcomes, and we’ll value the flexibility to react as needed. Similarly, I’m happy we chose not to add additional stimulus today through either increased purchases or added duration. We may well want to do so in the future, and if that time comes, we’ll value having those tools still available.

Of course, we’ll now have to face the challenge of defining when “substantial progress” has been made, as President Bostic said. I’m hopeful the Chair will have a chance to define it today, as it will surely become an area of focus and one in which our collective clarity would have value in support of our policy. For me, I lean on plain language: “Substantial” means somewhere plus or minus halfway to our mandated goals, and “progress” is judgmental—we don’t specify a formula or equal progress on each goal.

As a check on this thinking, I want to take President Kaplan’s challenge given yesterday. The Tealbook forecast at the end of 2021 has unemployment at 4.6 percent, participation at

62.6 percent, and core inflation at 1.8 percent. Similarly, the SEP median has unemployment at 5 percent and core inflation at 1.8 percent. While short of our targets, such numbers, to me, clearly would represent “substantial progress.” And I’m hopeful that, after the rollout of a vaccine, we’ll find ourselves in a position—say, even at the beginning of the fourth quarter—to begin tapering. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Evans, please.

MR. EVANS. Thank you, Mr. Chair. I support alternative B. Now is an appropriate time to provide qualitative outcome-based forward guidance about our asset purchases. The language in alt-B aligns well with our September guidance on the funds rate and further confirms our steadfast commitment to supporting the economy until substantial progress has been made toward our dual-mandate goals. This message is particularly important today, due to the likelihood that the virus will slow the recovery over the next few months and the risk that additional fiscal policy support may not be coming to help us out.

Given my current economic outlook, I see the forward guidance about the balance sheet in alt-B as being broadly consistent with the Tealbook baseline. But instead of purchases stopping abruptly at the end of 2021, I expect, in my SEP, they would begin to taper slowly in early 2022. With 12 to 18 months of tapering, my expected increase in the SOMA is larger than the Tealbook’s. According to the staff estimates in the report on the balance sheet and open market operations, when scaled against GDP, this would amount to asset purchases running in the neighborhood of those we made during the financial crisis and its aftermath. Given the magnitude of the shock we’ve experienced and the uncertainty we face today, this calibration seems like a good starting point.

With the adoption of alternative B today, I think all of our monetary policy tools will be well positioned as we assess how the economy evolves over the next few turbulent months. With more information, we can respond accordingly in the spring. Although I expect the real economy will be on a firmer footing by spring, substantial accommodation will still be needed to maintain momentum to achieve our employment mandate and also to get inflation moving up to a meaningful overshoot. Bottom line: The guidance we're giving today should serve us well for some time to come. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Bullard, please.

MR. BULLARD. Thank you, Mr. Chair. I support alternative B today as written. I like the “substantial further progress” language. I think that this sets a benchmark—you take today’s numbers, and then we can debate from here whether we’ve made enough progress. For instance, unemployment is at 6.7 percent today, and the SEP says it’ll be 5 percent by the end of 2021. It seems to me you could make the argument that that’s pretty substantial progress if that actually transpires.

I like the idea that we leave this to Committee judgment. I agree with President Barkin on the “no formula.” I would not try to define it at this point. It will set up a debate in financial markets, but I would not try to define where the Committee is going to come down. But I would say that we’re putting a line in the sand, saying, “We’re starting from today, and we want to see further progress from today.” So we can debate that as we go through 2021.

My sense of this is that it should push a taper to the end of 2021, which seems to be the market expectation anyway. I see a taper as a very sensitive issue for this Committee, and it has to be handled very well. We do have the previous experience where, when we finally did taper

last time around, nothing happened. And we certainly want to replicate that, and I hope we'll get to that.

But I like alt-B for today. I think this will cement the idea that we're going to stay in the game until this crisis is over and we're not going to try to do anything until the crisis is over.

I see three risks near term. I think the main risk for the Committee is that health news—and we can't control the health policy—may somehow morph into financial instability again, as it did in March and April. I'm not seeing it right now, but I'm going to draw a little scenario about how we may not be that far from that. One is that the health news could get substantially worse in the days ahead. Pandemics are explosive, and it's possible that you'd get many more cases than you even have right now. So health news could get substantially worse over the holidays here just in the next few weeks or days.

You have the Congress dithering, which is their wont. But it's very possible you get no action, and it's also very possible that the politics would just settle into a “no deal under any circumstances” mode. I hope we don't get to that, and I hope we can continue to have a centrist policy that will compromise, but I could see just no action—and no action expected at any time—depending on how things play out in the weeks ahead.

And, finally, the vaccines have been supporting the positive news in financial markets, but they could go badly wrong. There could be side effects that we don't know about, and there could be distribution problems. For instance, if you got unexpected deaths of people who took vaccines or something like that, then you'd have to pull everything back and go back to the drawing board.

So these are not crazy things. I think all of those would have to happen to get the financial markets to become unstable. But if that happened, I think we'd be back in the soup,

and then we'd really have to scramble. So I was just trying to think through the kind of risk we might face just in the intermeeting period here up to our next meeting.

I also think—although I don't have the negative real GDP growth forecast, the staff does, and I respect that—if we get a lot of negative economic news that suggests that GDP growth really will be negative in the first quarter, that could feed into a process that would put pressure on financial markets and possibly come back and put pressure on this Committee.

Still, overall, my sense—and, I guess, my sense from the discussion—is that the vaccines have changed the dynamic dramatically. We have a light-at-the-end-of-the-tunnel effect that is going to be very powerful, and my base case is that that is going to overwhelm everything else that I just listed that could go wrong. The vaccines have arrived much sooner than originally anticipated. They are more effective than originally anticipated. These firms that are behind it have thought carefully about logistical and production issues—they're very good at what they do. So I've gained a lot of confidence in vaccines. I think I've been very skeptical this year about the whole vaccine story, but this has come in much more to the positive side than I was anticipating.

So I would summarize the situation by saying that the war is not over, but the D-Day landing has been successful. And what you have to do now is execute, end the war, and end the crisis. So I think that's exactly where we are right at this juncture. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Governor Brainard, please.

MS. BRAINARD. Thank you. I support alternative B. As we close out 2020, the substantial hardship and heartache associated with the virus are foremost in our thinking. But it's also worth taking a moment to reflect how much better American workers and businesses are faring today compared with what would have transpired in the absence of the unprecedented

combination of fiscal and monetary policy that we saw. The unprecedented scale and composition of fiscal support will no doubt be studied for years to come. And for our part, we can already see that the prompt and aggressive monetary policy response and the use of an expanded set of tools cut off the financial accelerator channel, supported lower bowering costs along the curve for households and businesses, and led to better inflation and employment outcomes.

Encouraging news on the vaccine holds out the promise of widespread social “nearing” and the possibility of an attendant broad recovery in demand in the second half of next year. But the resurgence in the pandemic, the Treasury’s decision to terminate the facilities on December 31 at the worst stage of the pandemic, and the continued delay in fiscal support present near-term challenges that could exacerbate recessionary dynamics. And our SEP projections show that we remain far from our goals, with several years of accommodation yet to come.

With the termination of the facilities and our outcome-based forward guidance and SEP projections suggesting the funds rate could be at the lower bound through 2023, the balance sheet is our marginal policy tool. At the November meeting, we discussed a variety of different approaches to providing forward guidance on our COVID-19 asset purchases. The approach that we’re adopting today is a significant change in our stance. It shifts the primary focus of the COVID-19 asset purchase program from market functioning to accommodation to ensure achievement of our inclusive goal for employment and 2 percent average inflation goals. It moves from a temporary program to one that is conditioned on outcomes. The “over coming months” language has grown stale and could have been misinterpreted as signaling that we plan to continue those purchases only as long as special circumstances such as financial distress or uncertainty about the virus remains elevated.

I see the forward guidance on asset purchases as demonstrating clearly our resolve to follow through on the new monetary policy framework. The commitment to continue asset purchases until “substantial further progress” is made on the Committee’s maximum-employment and price-stability goals establishes clear qualitative, outcome-based criteria tied to both legs of our dual mandate. By conditioning it on the same goals, the forward guidance on asset purchases is well integrated with the forward guidance on rates, rather than establishing distinct criteria, and logically implies that asset purchases would taper somewhat before the conditions for liftoff of the policy rate have been achieved. The forward guidance on COVID asset purchases makes clear that they will not end just because financial markets have stabilized or for predictably transitory events, like the brief surge in 12-month inflation that might occur in the second quarter of next year, or improvements that do not reflect significant progress, such as declines in the unemployment rate that occur primarily as a result of declines in the labor force.

We have had a significant rebound, and we are better positioned than we anticipated six months ago, but the economy is still in a deep hole. The staff estimates that total PCE inflation has been 1.1 percent this year, and payroll employment is currently nearly 10 million jobs lower than in February. To put those conditions in the context of the previous cycle, at the end of ’09, that same measure of inflation stood at 1.3 percent, and payroll employment was 8.4 million jobs lower than in March of ’08. We’ve come a long way from the shock in the spring, but the recovery is still long.

At the November press conference, the Chair stated we’re “strongly committed to using these powerful tools...to support the economy during this difficult time for as long as needed, and no one should have any doubt about that.” We should continue to use language that removes any doubt about our resolve.

Importantly, like our rate guidance, the asset purchase guidance is conditioned on employment and inflation outcomes, and market participants should be able to adjust their expectations as the pace of progress toward our goals varies. Given the distance from our goals, I could have supported the WAM extension in alternative A to increase the potency and efficiency of our current purchase path, but I also see the value of retaining this as an important option to return to in coming meetings. If financial conditions were to tighten prematurely, it would be important to extend maturities to keep borrowing costs low across the curve and demonstrate our resolve.

We're no longer looking at 10-year yields in the 50 and 60 basis point range. The 10-year yield is now closer to 1 percent, although, of course, the real yield has remained quite low. The modal estimate in the Desk survey for the 10-year yield indicates market participants expect those yields to rise to 1.3 percent by the end of '21, with some respondents projecting as high as 2 percent. If those rates were to continue climbing in a way that jeopardizes progress toward our goals, it would be important to undertake a WAM extension, which would bring the COVID purchase program more in line with previous LSAP programs and would be a more efficient approach to providing accommodation.

I also agree with President Rosengren that the demonstrated strong demand for credit by small and midsize Main Street businesses argues strongly against terminating the Main Street facility at the worst stage of the pandemic, and I hope there might be a solution that addresses that need ahead. With that, I support alternative B. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Kaplan, please.

MR. KAPLAN. I support alternative B as written. While we're in the teeth of this pandemic, I do believe we should be aggressively using our tools to support the economy. And,

in that regard, I would particularly support, if the Treasury agrees, reintroduction of certain 13(3) programs, particularly a new round of the Main Street program, with appropriate revisions.

Beyond that, once it becomes clear to this Committee that we've weathered or are weathering the pandemic and are making material or substantial progress toward our dual-mandate objectives, I do hope and I do believe we should begin the process of tapering our purchases. I am concerned that the more we artificially lower the cost of capital, the more we incentivize investors to take excessive risk. The longer we keep these asset purchases in place, the more financial markets become accustomed to these purchases and the greater the challenge of tapering and, eventually, eliminating these purchases will be. Thank you, Mr. Chairman.

CHAIR POWELL. Thank you. President George, please.

MS. GEORGE. Thank you, Mr. Chairman. For some time, we've highlighted two risks to the outlook: a resurgence of the virus and a waning of fiscal support. The first of these risks has clearly arrived as the virus surges, deaths rise, and hospitals reach capacity. I'm still optimistic that more fiscal policy support will be forthcoming, but how much and when remain a question.

Overall, I see the economy as entering dangerous territory. The vaccine provides a light at the end of the tunnel, but a substantial gap remains to be bridged before we actually get to the end of the tunnel. Without significant momentum, the danger is that standard recessionary dynamics could take hold before we reach the safety of widespread vaccination, including labor market scarring, spiking bankruptcy and business foreclosure, or financial market distress.

Clearly, our accommodative policy stance remains appropriate, and I agree with others that the pullback of credit facilities such as the Main Street lending facility is most unfortunate. At the same time, I would not advocate today for further accommodation—either a shift in the

maturity of our balance sheet or an acceleration in the pace of purchases. With all of the uncertainty about the outlook, I believe there's benefit in taking a wait-and-see approach.

Part of the problem I see is a split in the risk profile pre- and postvaccine. Risks are weighted to the downside in the near term, but assuming a successful administration of the vaccine, the upside risks could be both a snapback in services consumption and a massive inventory rebuild. Any further accommodation we deliver might be needed for only a short period and present problems thereafter.

So, for today, I support alternative B, with its guidance on asset purchases. Transparency and accountability demand that we make clear the objectives for the expansion of our balance sheet. However, I do worry about the open-ended nature of the guidance. As I noted at our November meeting, I might have preferred guidance that tied the purchases more closely to the extraordinary circumstances of the pandemic than to the general achievement of our dual-mandate objectives. “Substantial further progress” is a subjective condition, providing us with some wiggle room even as it invites market speculation.

When it comes to achieving our mandate, I raise the possibility that our inflation objective might be closer than we anticipate. It's notable that durable goods inflation has turned positive for the first time in a quarter-century. Overall inflation continues to be held down by some particularly hard-hit services industries. However, in equity markets, these same sectors have recorded some of the largest gains on positive vaccine news, suggesting that these currently depressed prices could recover quickly following widespread vaccination.

To be clear, I do not see high inflation as a threat. Rather, I'm cognizant of an approaching policy dilemma as inflation arguably—with an emphasis on “arguably”—approaches our objective even as employment continues to lag. This is just to highlight that at

some point, although not for now, I see it as quite possible that our objectives could come into tension.

Finally, in the absence of inflationary pressures, I remain concerned about our imperfect understanding of the constraints on our policy actions, especially related to the pace and size of our asset purchases. We seem to lack a fully developed framework for articulating the cost of a large balance sheet, so further purchases are at risk of being assessed only by their diminishing, though still positive, marginal benefits. Indeed, past LSAPs did not result in higher inflation, the constraint that some feared. But I remain wary that there are no costs to further asset purchases against which the benefits should be weighed—assuming, of course, that free lunches still don't exist. Thank you, Mr. Chairman.

CHAIR POWELL. Thank you. Governor Bowman, please.

MS. BOWMAN. Thank you, Mr. Chair. I also support alternative B as currently written. This seems to be an appropriate time to enhance our forward guidance on asset purchases. And I appreciate the discussions during our recent meetings, which, together with the current economic outlook, support our consideration of changes to asset purchase guidance. Despite the news on COVID-19 vaccine availability, there are still substantial risks and uncertainty associated with the economic recovery. Providing greater visibility on the likely path of our purchases might help reduce some uncertainty and support accommodative financial conditions for households and businesses.

I see the qualitative outcome-based guidance on asset purchases proposed in alternative B as consistent with our discussions in November. The reference to substantial further progress strikes a reasonable balance between specificity and flexibility. This balance is something that we will need to keep in mind for our communications with the public, and it will almost certainly

be a term that will need clarification to explain how the Committee defines and determines the point at which we have arrived at substantial further progress. The flexibility embedded in the language is particularly useful in the current environment of elevated uncertainty. Greater specificity could make it more difficult for us to respond to unanticipated developments ahead. And that's why I'm supportive of keeping the "at least" language in the new guidance in particular.

I see the risks to the recovery as tilted to the downside, and I'm hopeful that this language will help reinforce that we remain ready to provide additional monetary policy accommodation if it is needed. That said, should additional accommodation be needed, I would prefer to maintain the current pace of purchases while shifting the composition toward longer-dated-maturity Treasuries. 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 $\frac{1}{4}$ percent and continuing our Treasury security and MBS asset purchases at the current pace. Maintaining the current pace should help avoid upward pressure on longer-term yields that could occur if activity picks up in the second half of the year, as expected.

I'm comfortable with the alternative B statement as written, which provides some clarification that our asset purchase program will continue until substantial further progress has been made toward our policy goals. I suspect that as the recovery progresses, a consensus will form among us about what constitutes "substantial further progress," even if we might have different views today. Our discussions over coming meetings will help foster an emerging consensus.

My expectation is that we will need to keep monetary policy very accommodative for some time to come. Looking at the current volume of asset purchases relative to the expected amount of Treasury security issuance suggests that there is scope to increase purchases if the outlook deteriorates materially. Shifting the composition of purchases to longer-run Treasuries, as recommended by President Rosengren, would also be an option if more accommodation is needed. However, the effects of a given amount of purchases are likely to be smaller than in past asset purchase programs, in part because of the low level of longer-term yields.

Moreover, monetary policy is not a substitute for fiscal policy. Rather, they're complements, and they can work very effectively together, as we saw earlier this year. Fiscal policy's job is to create that bridge that could buoy affected households, businesses, and state and local governments until we get to the better economic conditions once vaccines are widely deployed and could help avoid some of the longer-term damage to the economy that might result without fiscal action. Monetary policy's role is to keep financial conditions very accommodative and to ensure financial markets continue to function well so that credit flows to households and businesses. Reinstatement of a revised Main Street Lending Program and the other 13(3) programs would be very helpful.

Now, perhaps the most powerful policy tool we have is managing the public's policy expectations. To do that, we need to make sure they understand our outlook for the economy and the policy rate path we view as appropriate, given the outlook and our policy goals. This puts even more burden than usual on our policy communications. So let me talk about two challenges, a nearer-term challenge and a longer-term one. One challenge is presented by the expected path of the economy over the next year. There continues to be a lot of uncertainty associated with the forecasts, but in most of them, economic activity is expected to slow

considerably this winter but then pick up markedly in the second half of next year as vaccines are widely deployed. Our policy rate path is likely to be much more stable but remain patiently accommodative, in contrast to the expected trajectory of the economy over the year.

The current language in paragraphs 2 and 3 in our statement describing the economy and outlook is very flexible. But I think it would be useful in January to consider changes that would clarify our outlook to the public and financial market participants and the risks to the outlook. My concern is that if the public doesn't understand our outlook, they may think that the near-term slowdown will call for an increase in policy accommodation—for example, an increase in asset purchases—and that the rebound in activity later this year will call for a tightening of policy. Providing more information on our outlook should help align the public's policy expectations with our own. It will also help reinforce the statement language that ties the stance of policy to progress on our employment and inflation goals rather than shorter-run moves in the economy, and it will help us avoid looking like we were caught off guard as the weaker data come in.

A longer-run communications challenge is presented by the fact that we expect that it will take several years to achieve our monetary policy goals, especially our inflation goal. It will be important for us to explain this to the public so that they won't view the failure to move inflation quickly above 2 percent as a failure of the FOMC to execute on its new monetary policy strategy. Rather, it's a reflection of the economy's intrinsic dynamics.

I thought the comments Chair Powell made yesterday were quite good on this point, and the SEP reinforces the idea that this is going to be a long journey and not a sprint. We'll need to continue to reinforce this message over time. Otherwise, the public may become skeptical about our commitment to the new policy strategy. Our credibility could suffer, and this would

undermine the efficacy of our policy, making our policy goals even harder to achieve. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. Governor Quarles, please.

MR. QUARLES. Thank you, Mr. Chair. As we discussed yesterday, although I expect a strong recovery in 2021 as vaccines and treatments are deployed and the perception of safety grows, current economic conditions remain far from satisfactory. The labor market remains impaired by any measure. Unemployment is high and might move higher in the near term, labor force participation is well below its recent peaks, wage growth has dipped, and joblessness is even more concentrated than usual in low-income occupations. Price inflation will end the year near 1 percent, and even the staff's more elevated forecast alternatives see it remaining below 2 percent for the foreseeable future. So it's appropriate for us to remain highly accommodative, and I support alternative B as written.

I appreciate that we've kept a focus on market functioning in stating the rationale for asset purchases, given the risk of a renewed bout of market volatility if we receive a string of bad economic news over the next eight weeks or so or if Brexit negotiations take a destabilizing turn. And the changes to the communication of asset purchases strike me as primarily serving to increase the clarity and transparency regarding the current consensus of the FOMC and put this aspect of our communications on a more durable footing.

In particular, the change in forward guidance on asset purchases from "over coming months" to "until substantial further progress has been made" is a better description of the reaction function we're actually using and provides ample flexibility—maybe increased flexibility—to react to incoming data during the next few meetings. However, as we communicate this change to markets and to the public, I'd hope we'd emphasize that these

changes are not a material change in the Committee's views about the most likely path of asset purchases or motivated by a desire to necessarily be more accommodative in the near term.

Looking at what's already baked into the dealer survey, I wouldn't view it as a favorable development if this change resulted in a further increase in the amount of asset purchases that financial markets were expecting. Indeed, as President Bullard reminded us yesterday, monetary policy works with a considerable lag. So any increase in stimulus put in place now or later this winter would be reaching its peak effectiveness at exactly the point when the staff expects stronger tailwinds to be moving the economy quickly toward normalization.

And my own forecast is even more optimistic than the staff's. If the economy recovers as quickly as I believe it will, I see this change in language as potentially setting us up to begin tapering as soon as the fourth quarter of 2021, which is what I built into my forecast. And the juxtaposition of the near-term downside risks we face with the medium-term upside risks also causes me to favor alternative B over alternative A.

The increased flexibility of changing from calendar-based guidance to an outcome-based framework at this meeting allows us to wait and see how much damage is done over coming months by the reimposition of mandatory social distancing and also whether the mass production and distribution of the vaccines and treatments progress smoothly before taking a stand on whether and how much additional accommodation is necessary. If, as I believe we will be, we're in a significantly better place by March, then an increase in the amount of accommodation and locking in a larger balance sheet for a longer time will not be warranted.

Relatedly, as the level of uncertainty and likelihood of sudden disruptions to market functioning recede in coming months, I still favor exploring a reduction in the pace of purchases—combined with an extension of duration, as Governor Brainard has discussed—that

could provide what we view to be the appropriate level of accommodation. This reduced pace of purchases would, however modestly, reduce the upward pressure on bank balance sheets from reserve balances at a time when loan demand and risk appetite likely will be expanding. But changing to longer duration now in a statement in which we would be enshrining the existing level of purchases, as in alternative A, would increase the communications challenges associated with a later move to a different combination of purchase pace and maturity composition, at least somewhat.

One reservation that I have is that this forward guidance on asset purchases, like the guidance on the federal funds rate, invokes the notion that we won't change this policy until both employment and inflation have improved substantially. I was moderately uncomfortable with that framing of the rate guidance but became convinced that we had sufficient off-ramps to manage contingencies. And although those off-ramps also can apply here, having that formulation in the asset purchases guidance strikes me as doubling down—somewhat more risky.

We've been consistent in stating that the federal funds rate is our primary means of adjusting the stance of monetary policy, and that forward guidance and asset purchases are supplemental tools when we're at the effective lower bound. One of the reasons we rank the tools in that order is that forward guidance and asset purchases have higher degrees of uncertainty in their effectiveness and it's harder to course-correct if we fall "behind the curve" with those tools than it is with interest rates. For instance, the process of communicating a taper or cessation of asset purchases is substantially more complex than preparing the public for a change in the path of the funds rate.

So at the point that we're clearly converging toward our current best estimate of maximum employment and inflation expectations are not deteriorating, then I think the costs and benefits of asset purchases are such that we'd be justified in relying only on the federal funds rate to address any remaining perceived shortfalls in actual inflation. Thinking about the current situation and the discussion at the end of the day yesterday, I would surely define us as having made substantial progress toward our inflation goal if the 12-month trailing PCE inflation rate stabilizes within a range of the staff's 2021 forecast of 1.8 percent.

A couple of words on the 13(3) facilities. I'd certainly be open to reinstating the facilities should we experience another significant downturn in the near term such that unusual and exigent circumstances reemerged. And, of course, the 13(3) framework would allow us to do that even with the actions that have been taken at the end of the year. I'd also hope that, if that situation obtained, we could work with the Administration to change the Main Street facility in ways that would boost take-up in that program.

That said, given my current outlook and the Tealbook baseline, I'm uncomfortable thinking about new or renewed 13(3) facilities as part of our current monetary policy toolkit. Using them outside conditions that can reasonably be considered "exigent," in addition to being likely inconsistent with the Federal Reserve Act, strikes me as not meeting the cost-benefit test for blurring the lines between fiscal policy and monetary policy.

And each decision about which facilities to keep in place, as well as the decisions we make about eligibility for those facilities, places us in the middle of public debates about appropriate credit allocation. The more those lines become blurred, the greater the risk that our judgments about the need for support during significant or unusual economic downturns will be

supplanted by the normal ebb and flow of spending priorities in the Congress. Thank you, Mr. Chair.

CHAIR POWELL. Thank you. President Kashkari, please.

MR. KASHKARI. Thank you, Mr. Chair. I support alternative B. As I outlined yesterday in my economy go-round, I think the surge in COVID is going to translate into an economic contraction in the first quarter. I do think there's going to be a recovery starting in the summer, but that we'll still be in a deep hole, with unemployment significantly below its pre-pandemic level and inflation likely well below target.

Given a very weak near-term outlook and a medium-term outlook in which employment is depressed and inflation below target, I think substantial monetary accommodation seems appropriate. Therefore, I support today essentially putting a floor on our purchases of Treasury securities and MBS, and I like the fact that it leaves open the possibility that if conditions change, we could always increase the purchases from here, we could “Twist,” or we could do both. If we see evidence of rising long-term rates or falling inflation expectations or both, I would support doing more, and I would welcome any analysis by the staff of such options and what they could look like in advance of our needing them.

One last comment. Just to return briefly to comments I made yesterday, I asked rhetorically, “What are the conditions for us to meet again in person, or what are the conditions that we'd have all of our employees back?” I didn't actually know the answer to that, so I asked my staff. We had a little debate over email last night, and we came up, essentially, with a two-part test: We would want to see herd immunity—so, say, 60 percent vaccine penetration—in the community and roughly 100 percent for of staff. Both of those tests would be important to hit.

And the reason is—and I just checked this last night with one of the health experts again—that with both the Pfizer and Moderna vaccines, they still don't know whether it prevents you from getting the disease or just getting symptoms of the disease. It may well be that even if 100 percent of our staff are vaccinated but we still get the disease and we still transmit the disease, that's a big problem.

So the health experts should know the answers to those questions in the next couple of months, and that will really influence what, postvaccine, the world looks like. Do we still need to socially distance—and do we still need to wear a mask—even if most of us have been vaccinated? So I just wanted to share that with you. And thank you.

CHAIR POWELL. Thank you. President Daly, please.

MS. DALY. Thank you, Mr. Chair. I support alternative B as written. I see policy as being in a really good place with the addition of the forward guidance on asset purchases, which I completely support. Our policy stance appropriately supports the economy through the shock of COVID and remains supportive until we have fully achieved our goals of full employment and price stability as laid out in our new framework statement.

Now, I did go back and forth a bit on whether extending the maturity of our asset purchases, as alternative A does, would be more appropriate at this time and a better signal of our full commitment. I settled on the language in alt-B largely because it provides the greatest flexibility—which seems especially valuable in these highly uncertain times. Should the Congress come through with fiscal stimulus, the vaccine be quickly and effectively deployed, and the labor market make a rapid recovery along the lines given in the Tealbook, our current stance may be sufficient. On the other hand, if one or more of these conditions fail to materialize, as President Bullard outlined, or if yields on long-duration bonds start to move up,

we can do maturity extension, as in alt-A, or even be more specific about the conditions under which we would taper or cease purchases. But, for now, I see policy as in a good place.

I'd like to conclude by returning to our discussion yesterday, particularly the Hall and Kudlyak paper and the importance of persistent labor market damage. I thought that discussion was quite useful. As I mentioned yesterday, Hall and Kudlyak find that, on average, the unemployment rate declines 1 percentage point per year during the past eight recoveries. So they took all eight, and that's the average. But, as President Evans highlighted and rightly noted, they did not adjust this for possible differences in policy, including monetary policy. Theirs is simply an unconditional summary of history, and it's not a natural law, so we can do better or worse based on the policy decisions we make. Maintaining our accommodative posture until we have fully reached our stated objectives and credibly communicating this stance to businesses, households, and market participants greatly improve the odds we will do better than what Hall and Kudlyak put down as their historical average.

In contrast, standing back and relying on "this time is different because we're in a pandemic" will likely have the opposite effect. With our policies constrained by the effective lower bound, a risk-management approach would argue for hoping this time is different but basing policy on historical experience, at least until more optimistic projections become our reality.

In terms of the labor market, I also wanted to note that words like "damage," "scarring," and "search-and-matching challenges" are big words, and they often suggest a sense of permanence. But they're not always or even usually permanent. The spike is clear in almost every recession and gradually subsides over the course of the recovery. Here again, monetary policy matters. If policy is aggressive, as we have been, at fighting the recession and sustained

in its accommodative stance, as we have in our current statement, the damage is less, and the time to recovery simply faster. History tells us that repairing the labor market takes time but is well within our power, although, as many others have said, we cannot do it alone.

And this leads me to my final point. I want to second and double-underline President Mester's reminder yesterday that patience is a virtue in the current context. We need to be patient in allowing our tools to work even when the progress of achieving our goals is slow. And, of course, as she said today, we need to communicate that to the public. This is what using all of our tools until the job is fully and truly done means. 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. Encouraging developments on the vaccine front, together with the signs of the U.S. economy's resilience in the face of repeated waves of infections, have increased my optimism for a strong recovery next year.

I'm also encouraged by the evidence in surveys of market participants that our outcome-based forward guidance on rates is working well to align market expectations of future policy actions with our own and by the gradual rise in market-based measures of inflation expectations. Indeed, as noted yesterday by Trevor, the recent rise in nominal 10-year yields has been more than accounted for by rising inflation compensation and, actually, a small decline in real 10-year yields. If you look at Trevor's chart of the 10-year yields, if you go back to April, you can see that although the nominal yields have moved up slightly since April, you've seen a significant rise in inflation compensation and a decline in real 10-year yields over that longer period.

So I really think that our policy stance, in both our forward guidance and our asset purchases, has accomplished exactly what we want: very accommodative financial conditions.

And I don't want to overreact to movements in the nominal yields when, in fact, they show exactly what we want—which is low real yields and rising inflation expectations. Just something that I think we should keep in mind as we look at financial conditions.

Our accommodative stance of policy is clearly providing meaningful support to interest-sensitive sectors. As we discussed yesterday, we're seeing that, obviously, in durable goods and in housing.

One remark responding to, I think, remarks by President Bullard and Governor Quarles. I agree completely that we want to keep in this “market functioning,” at least for the time being. We are in the midst of what, unfortunately, is the worst wave—I hope it will be the worst wave, and that we won't have more of these—of the pandemic. And I wouldn't take for granted that financial conditions will remain, under all circumstances, calm and functioning well. So I think that keeping that language—at least for the time being, given the situation that we're in—does make sense just as an assurance that we are very focused on the possibility of disruptions to financial markets.

As I said yesterday, the economic outlook remains highly uncertain. Our outcome-based guidance on rates—and now asset purchases—puts us in a good position for a wide range of scenarios both on the upside and on the downside, which we've discussed quite a bit over the past two days. The changes in the statement language in alternative B effectively link our asset purchases to achieving our goals and allow us to adapt to changing circumstances as appropriate.

We often discuss this outcome-based forward guidance as kind of like an automatic stabilizer. But, given my experience of driving up to the Hudson Valley every week, I think of it as more akin to cruise control. When the conditions are tougher, it puts more gas in, and you

keep the pace going. And as things get easier, at least on my cruise control, it puts on the brake a bit. So I think that this is exactly what we want, given the high degree of uncertainty.

Finally, this is the last scheduled FOMC meeting for the year, and I thought I'd just make a brief remark about that. Now, 2020 has been a terribly challenging year for the country and the world, as we all know. And I'm proud to say that it's also been a year when the Federal Reserve has risen to the occasion. I'd like to take this opportunity to recognize the extraordinary efforts of all of my colleagues in the Federal Reserve and their outstanding accomplishments under very trying circumstances. And I'd like to especially acknowledge and thank you, Mr. Chair, for your exemplary leadership, calm during the crisis, and steadfast determination to do everything in our powers to bring stability to financial markets and to support a strong and inclusive economic recovery.

We talked a lot before the meeting this morning about binge-watching TV shows, and I wish everyone the best for the holidays—an opportunity to catch up on that binge-watching. And let's all hope that 2021 will be a far less eventful year. Thank you.

CHAIR POWELL. Thank you. And thanks, everyone, for your comments here today. I wanted to make three quick points on communications on the asset purchase guidance. And the first just is, as we discussed in the previous meeting, really, we're following a playbook that is quite similar to QE3, and we actually laid it out in some detail in the minutes. So markets are getting that it consists of asset purchases followed by a taper and then followed by a period in which the size of the balance sheet is held in place by reinvestment before liftoff and that, ultimately, before, if we go that way—actually shrinking the balance sheet would be way out there. So I think people get that, and that's a good thing. They recognize that, it's in the

minutes, and I think that's healthy. Of course, we're not bound by any specific aspect of that, but it's a good thing to have it out there.

In that same context, the second thing is, this guidance, the words "substantial further progress"—the word "substantial" will ring a bell for QE3 followers and fans. The words there were "substantial improvement in the outlook for the labor market." So you're right—there's an element of subjectivity in that. And the market will see that, and they will understand what we mean by that is, it has a meaning of "substantial"—which is to say, not small or trivial—and it does clearly apply to each of our two goals, separately and together.

The other thing the market will understand is that we're going to tell them what we mean. When we think we are—and we are—on track, we're going to say so. And if the market gets out of kilter with that, then we'll say something about that, too.

So they'll look to us for guidance, because there is an element of subjectivity there, which brings me to the third thing. And I think we all know this, but I think it's worth recalling that when we talk about qualitative outcome-based guidance, what markets really want to hear is a date. They want to hear a specific date on which you will begin to taper. And I'll use an example to really drive this point home. It's not unlike the situation with your dog—and I want this to be reflected as the comments of someone who is fond of most dogs, let's say. You can read Shakespeare to your dog, and your dog will listen carefully. But what the dog is waiting to hear is just a few words: "walk," "leash," maybe "car ride," and, above all, the dog's name. So it is with qualitative outcome-based guidance and dates. Markets will listen really carefully to our explanations and carefully sculpted language, and they'll be saying to themselves, "Ah, they're saying December." I say that to myself as much as to you.

At today's press conference, I intend to avoid putting my hands too strongly on the most likely—you know, the modal path for the timing of a taper. And we'll see how I do. It's particularly challenging to do this, because at the moment, it appears that expectations are reasonably well aligned with what we're thinking.

But we know this: We know that if the market gets ahold of a specific date, bad things can happen if it becomes necessary to move market expectations. The more important point, and I really encourage everyone to hammer this through the middle of next year—the point we should be making is, the timing will depend on substantial further progress toward maximum employment and price stability, 2 percent inflation, and not on the arrival of a particular date. There will come a time at which we do start talking about dates, when we have a much better sense of the path ahead.

And I would also echo—and I will echo today if they give me any chance to do it—that it's still time for us to be patient. I really appreciate those comments. You know, we need to not have an itchy trigger finger on backing out of our commitment to support the economy. We're a long way from our goals. It just is going to be a time when I will be a strong advocate for staying at it until we really are there. And I think what happens is, if you pull back too quickly, you wind up having to do more later, because you trigger a tightening in financial conditions.

All right. Anyway, with that, let's move to the FOMC vote. Jim Clouse, 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	Yes
President Kashkari	Yes
President Mester	Yes
Governor Quarles	Yes

MR. CLOUSE. Thank you.

UNIDENTIFIED SPEAKER. You're muted.

CHAIR POWELL. I know—just testing you. [Laughter] Now we have 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 December 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. So before we wrap up, I just want to say a couple of words. This year, 2020, is finally about to end, or at least we think so. I'll

believe it when the date actually changes. [Laughter] And I just want to say how proud I am of the work that we've all been able to do together this year. There is no greater honor and no more important task than serving the public in a time of dire need.

And I think, on balance, we acquitted ourselves very well when this great task fell to us. We intervened to prevent a global health crisis from “morphing” into a financial crisis and perhaps a depression. And I hope everybody knows we all share in and I hope can take some satisfaction from what we've accomplished together. That's something to reflect on as we all take some time off, I hope, and relax a bit and get ready for what 2021 will throw at us.

And with that, our final agenda item is to note that the next meeting is January 26–27, 2021. I want to thank everybody very much. Have a great holiday, and the meeting is adjourned. Thank you.

PARTICIPANTS. [Chorus of thanks and holiday wishes]

END OF MEETING