Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assessments of projected appropriate monetary policy, June 2019

Percent

Variable	Median[1]				Central tendency[2]				Range[3]			
	2019	2020	2021	Longer run	2019	2020	2021	Longer run	2019	2020	2021	Longer run
Change in real GDP	2.1	2.0	1.8	1.9	2.0 – 2.2	1.8 – 2.2	1.8 – 2.0	1.8 – 2.0	2.0 – 2.4	1.5 – 2.3	1.5 – 2.1	1.7 – 2.1
March projection	2.1	1.9	1.8	1.9	1.9 – 2.2	1.8 – 2.0	1.7 – 2.0	1.8 – 2.0	1.6 – 2.4	1.7 – 2.2	1.5 – 2.2	1.7 – 2.2
Unemployment rate	3.6	3.7	3.8	4.2	3.6 – 3.7	3.5 – 3.9	3.6 – 4.0	4.0 – 4.4	3.5 – 3.8	3.3 – 4.0	3.3 – 4.2	3.6 – 4.5
March projection	3.7	3.8	3.9	4.3	3.6 – 3.8	3.6 – 3.9	3.7 – 4.1	4.1 – 4.5	3.5 – 4.0	3.4 – 4.1	3.4 – 4.2	4.0 – 4.6
PCE inflation	1.5	1.9	2.0	2.0	1.5 – 1.6	1.9 – 2.0	2.0 – 2.1	2.0	1.4 – 1.7	1.8 – 2.1	1.9 – 2.2	2.0
March projection	1.8	2.0	2.0	2.0	1.8 – 1.9	2.0 – 2.1	2.0 – 2.1	2.0	1.6 – 2.1	1.9 – 2.2	2.0 – 2.2	2.0
Core PCE inflation[4]	1.8	1.9	2.0		1.7 – 1.8	1.9 – 2.0	2.0 – 2.1		1.4 – 1.8	1.8 – 2.1	1.8 – 2.2	
March projection	2.0	2.0	2.0		1.9 – 2.0	2.0 – 2.1	2.0 – 2.1		1.8 – 2.2	1.8 – 2.2	1.9 – 2.2	
Memo: Projected appropriate policy path												
Federal funds rate	2.4	2.1	2.4	2.5	1.9 – 2.4	1.9 – 2.4	1.9 – 2.6	2.5 – 3.0	1.9 – 2.6	1.9 – 3.1	1.9 – 3.1	2.4 – 3.3
March projection	2.4	2.6	2.6	2.8	2.4 – 2.6	2.4 – 2.9	2.4 – 2.9	2.5 – 3.0	2.4 – 2.9	2.4 – 3.4	2.4 – 3.6	2.5 – 3.5

NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 19–20, 2019. One participant did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate in conjunction with the March 19–20, 2019, meeting, and one participant did not submit such projections in conjunction with the June 18–19, 2019, meeting.

1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable in each year.
3. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
4. Longer-run projections for core PCE inflation are not collected.

Authorized for Public Release

Table 1.A. Economic projections for the first half of 2019*
(in percent)

Medians, central tendencies, and ranges

	Median	Central tendency	Range
Change in real GDP	2.4	2.3 – 2.6	2.2 – 2.6
March projection	1.9	1.8 – 2.0	1.5 – 2.3
PCE inflation	1.4	1.4 – 1.5	1.3 – 1.5
March projection	1.8	1.6 – 1.8	1.3 – 1.9
Core PCE inflation	1.5	1.5 – 1.6	1.3 – 1.6
March projection	2.0	1.8 – 2.0	1.6 – 2.1

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	2.4	1.4	1.5
2	2.4	1.4	1.5
3	2.6	1.4	1.5
4	2.4	1.5	1.6
5	2.6	1.4	1.5
6	2.4	1.5	1.5
7	2.4	1.4	1.5
8	2.3	1.4	1.6
9	2.6	1.4	1.5
10	2.4	1.3	1.3
11	2.5	1.5	1.6
12	2.3	1.4	1.6
13	2.2	1.4	1.4
14	2.2	1.5	1.5
15	2.3	1.5	1.6
16	2.4	1.4	1.4
17	2.6	1.4	1.5

* Growth and inflation are reported at annualized rates.

Authorized for Public Release

Table 1.B. Economic projections for the second half of 2019*
(in percent)

Medians, central tendencies, and ranges

	Median	Central tendency	Range
Change in real GDP	1.8	1.6 – 2.0	1.4 – 2.2
March projection	2.2	2.1 – 2.4	1.6 – 2.8
PCE inflation	1.6	1.6 – 1.8	1.4 – 1.9
March projection	2.0	1.8 – 2.0	1.8 – 2.3
Core PCE inflation	2.0	1.9 – 2.1	1.5 – 2.1
March projection	2.0	1.9 – 2.0	1.8 – 2.4

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	1.6	1.8	1.9
2	1.6	1.6	1.9
3	2.0	1.6	2.1
4	1.8	1.5	1.8
5	1.4	1.6	2.1
6	2.0	1.7	2.1
7	1.8	1.6	2.1
8	2.1	1.8	2.0
9	2.2	1.6	2.1
10	1.6	1.5	1.5
11	1.9	1.9	2.0
12	1.7	1.8	2.0
13	2.0	1.6	1.6
14	2.0	1.7	2.1
15	1.9	1.9	2.0
16	1.8	1.4	2.0
17	1.8	1.6	2.1

* Projections for the second half of 2019 implied by participants' June projections for the first half of 2019 and for 2019 as a whole. Growth and inflation are reported at annualized rates.

Authorized for Public Release

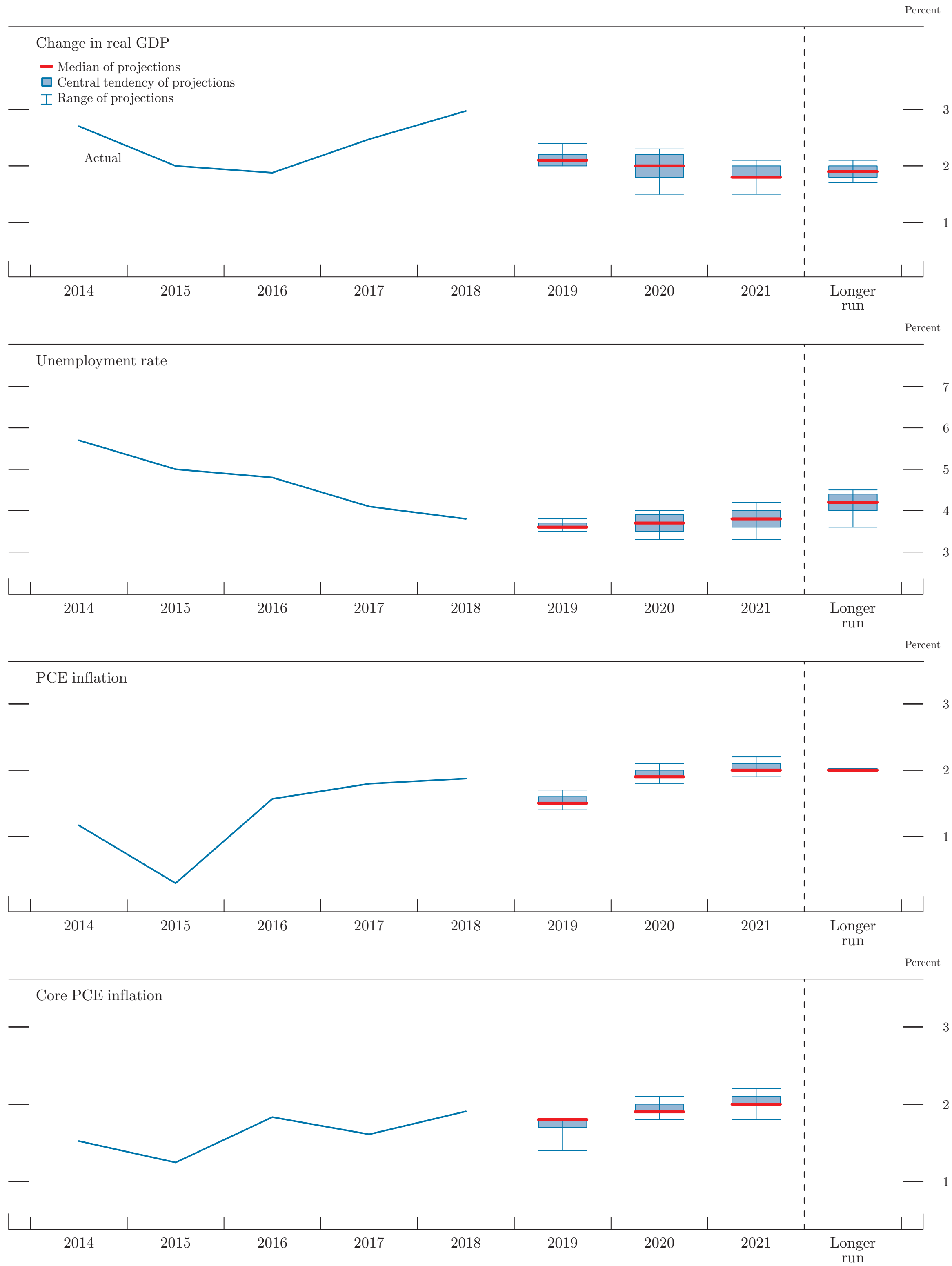
Table 2. June economic projections, 2019–21 and over the longer run (in percent)

Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2019	2.0	3.6	1.6	1.7	1.88
2	2019	2.0	3.7	1.5	1.7	1.88
3	2019	2.3	3.6	1.5	1.8	2.13
4	2019	2.1	3.6	1.5	1.7	1.88
5	2019	2.0	3.6	1.5	1.8	1.88
6	2019	2.2	3.6	1.6	1.8	2.38
7	2019	2.1	3.5	1.5	1.8	2.38
8	2019	2.2	3.7	1.6	1.8	2.38
9	2019	2.4	3.7	1.5	1.8	2.63
10	2019	2.0	3.6	1.4	1.4	2.38
11	2019	2.2	3.7	1.7	1.8	2.38
12	2019	2.0	3.8	1.6	1.8	1.88
13	2019	2.1	3.6	1.5	1.5	2.38
14	2019	2.1	3.7	1.6	1.8	2.38
15	2019	2.1	3.6	1.7	1.8	2.38
16	2019	2.1	3.6	1.4	1.7	1.88
17	2019	2.2	3.5	1.5	1.8	1.88
1	2020	2.0	3.5	1.9	1.9	2.13
2	2020	1.8	3.9	1.9	1.8	1.88
3	2020	2.3	3.5	2.0	2.0	1.88
4	2020	2.0	3.6	2.0	2.0	1.88
5	2020	2.0	3.7	1.9	1.9	1.88
6	2020	1.8	3.7	2.0	2.0	2.38
7	2020	1.9	3.5	2.1	2.1	2.63
8	2020	1.5	4.0	1.9	1.9	2.38
9	2020	2.2	3.7	2.1	2.1	3.13
10	2020	1.8	3.6	1.8	1.8	2.38
11	2020	2.1	3.9	1.8	1.9	2.38
12	2020	2.0	4.0	2.0	2.0	1.88
13	2020	2.2	3.6	1.9	1.9	2.63
14	2020	1.8	3.9	2.0	1.9	2.13
15	2020	2.0	3.7	2.0	2.0	2.38
16	2020	1.8	3.7	1.9	1.9	1.88
17	2020	2.3	3.3	1.9	1.9	1.88

Table 2. ***(continued)***

Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2021	1.8	3.6	2.0	2.0	2.38
2	2021	1.8	4.0	1.9	1.8	1.88
3	2021	2.0	3.4	2.1	2.1	1.88
4	2021	1.8	3.7	2.2	2.2	2.38
5	2021	2.0	3.7	1.9	1.9	1.88
6	2021	1.8	3.9	2.0	2.0	2.63
7	2021	1.5	3.6	2.2	2.2	2.63
8	2021	1.8	4.1	2.0	2.0	2.38
9	2021	2.1	3.8	2.1	2.1	3.13
10	2021	1.8	3.6	1.9	1.9	2.38
11	2021	1.9	4.0	2.0	2.0	2.63
12	2021	2.0	4.2	2.0	2.0	1.88
13	2021	2.0	3.8	2.0	2.0	2.88
14	2021	1.8	4.0	2.0	2.0	2.13
15	2021	1.9	3.9	2.0	2.0	2.38
16	2021	1.7	3.8	2.0	2.0	2.13
17	2021	1.9	3.3	2.0	2.0	1.88
1	LR	1.8	4.0	2.0		2.50
2	LR	2.1	4.0	2.0		2.50
3	LR	1.9	4.3	2.0		2.75
4	LR	1.8	4.3	2.0		2.75
5	LR	2.0	4.0	2.0		2.50
6	LR	1.8	4.2	2.0		2.75
7	LR	1.7	4.2	2.0		2.50
8	LR	2.0	4.5	2.0		3.25
9	LR	2.1	4.2	2.0		3.25
10	LR	1.8	4.4	2.0		3.00
11	LR	2.1	4.0	2.0		2.50
12	LR			2.0		
13	LR	2.0	4.3	2.0		3.00
14	LR	1.8	4.5	2.0		2.38
15	LR	1.9	4.5	2.0		2.50
16	LR	1.7	4.2	2.0		2.50
17	LR	1.7	3.6	2.0		2.50

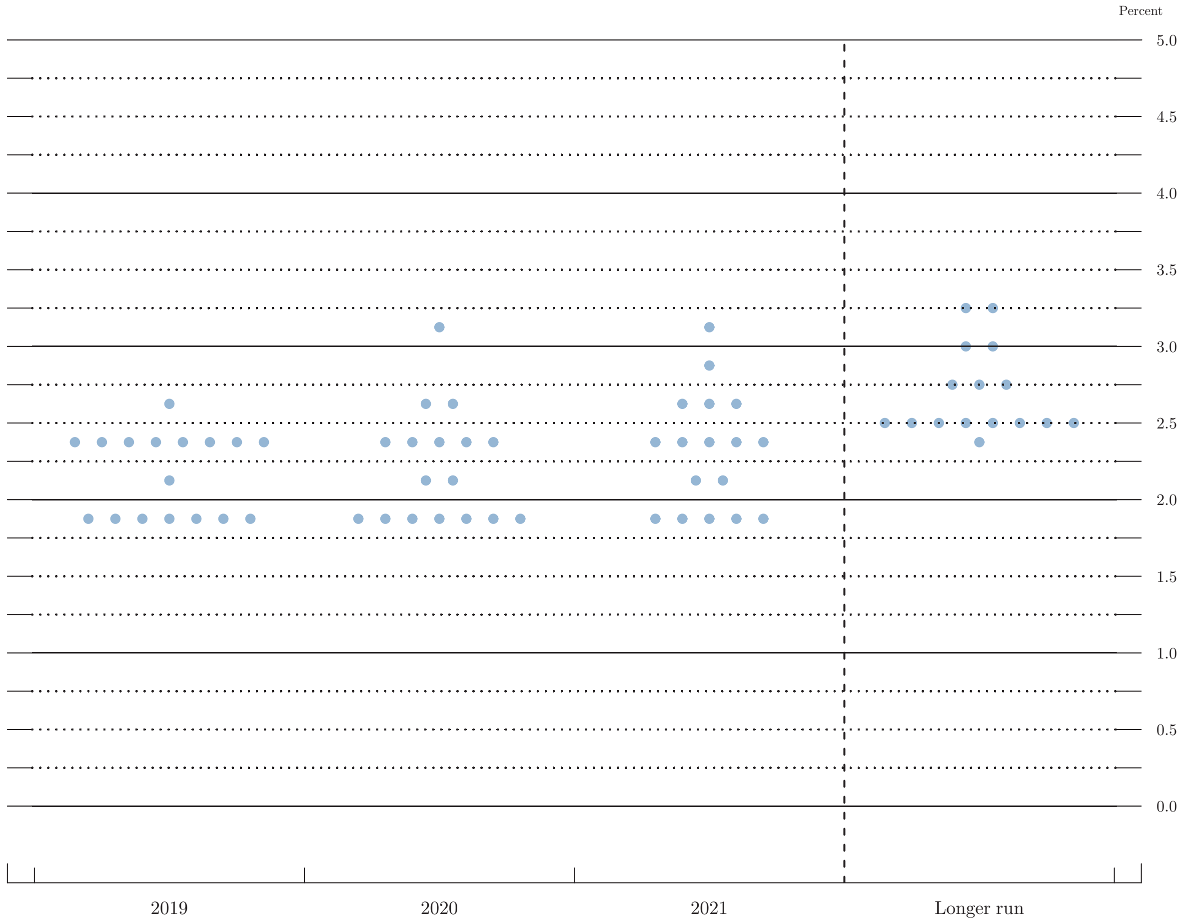
Figure 1. Medians, central tendencies, and ranges of economic projections, 2019–21 and over the longer run



NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

Authorized for Public Release

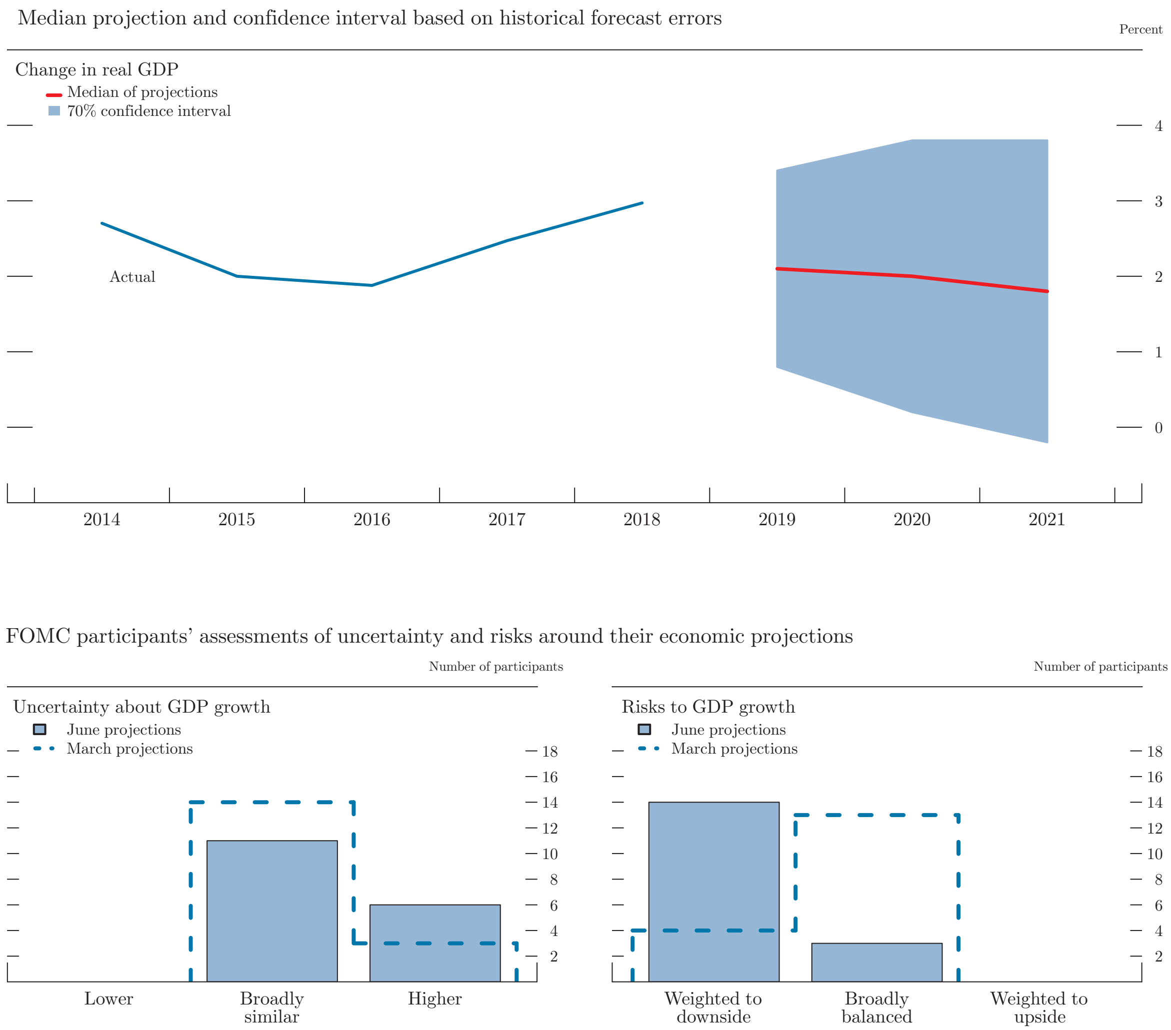
Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate.

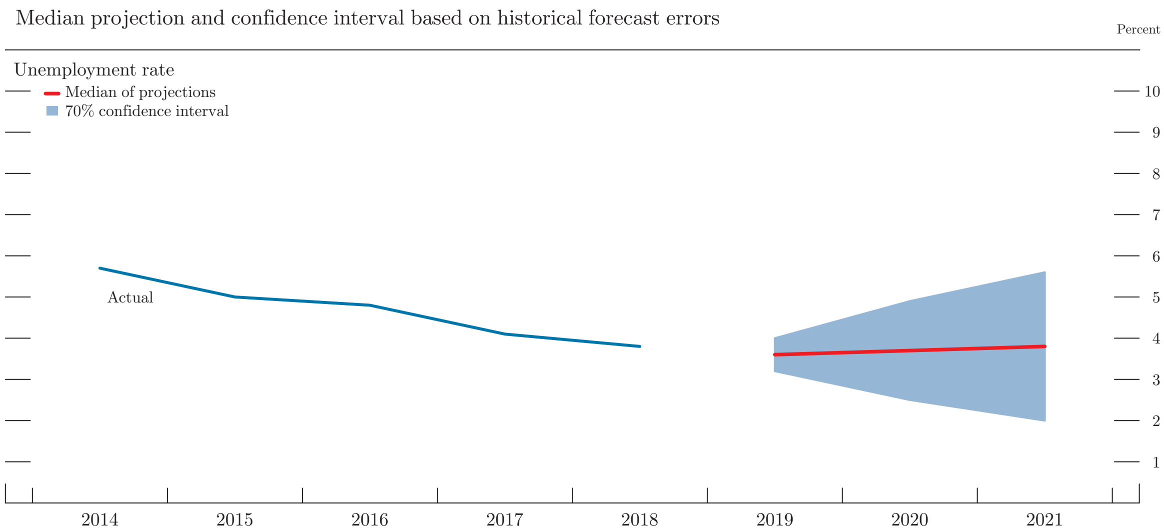
Authorized for Public Release

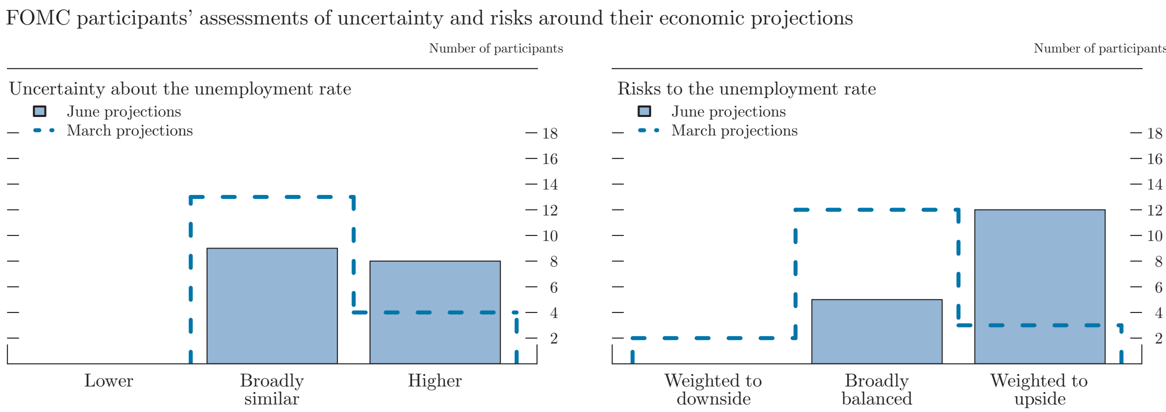
Figure 4.A. Uncertainty and risks in projections of GDP growth



Note: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in real gross domestic product (GDP) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 4.B. Uncertainty and risks in projections of the unemployment rate



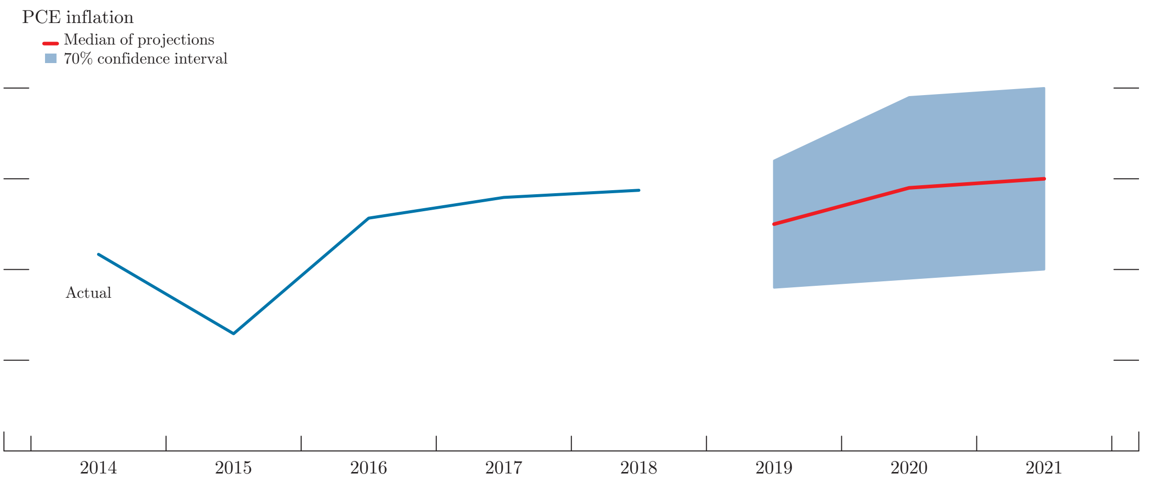


Note: The blue and red lines in the top panel show actual values and median projected values, respectively, of the average civilian unemployment rate in the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

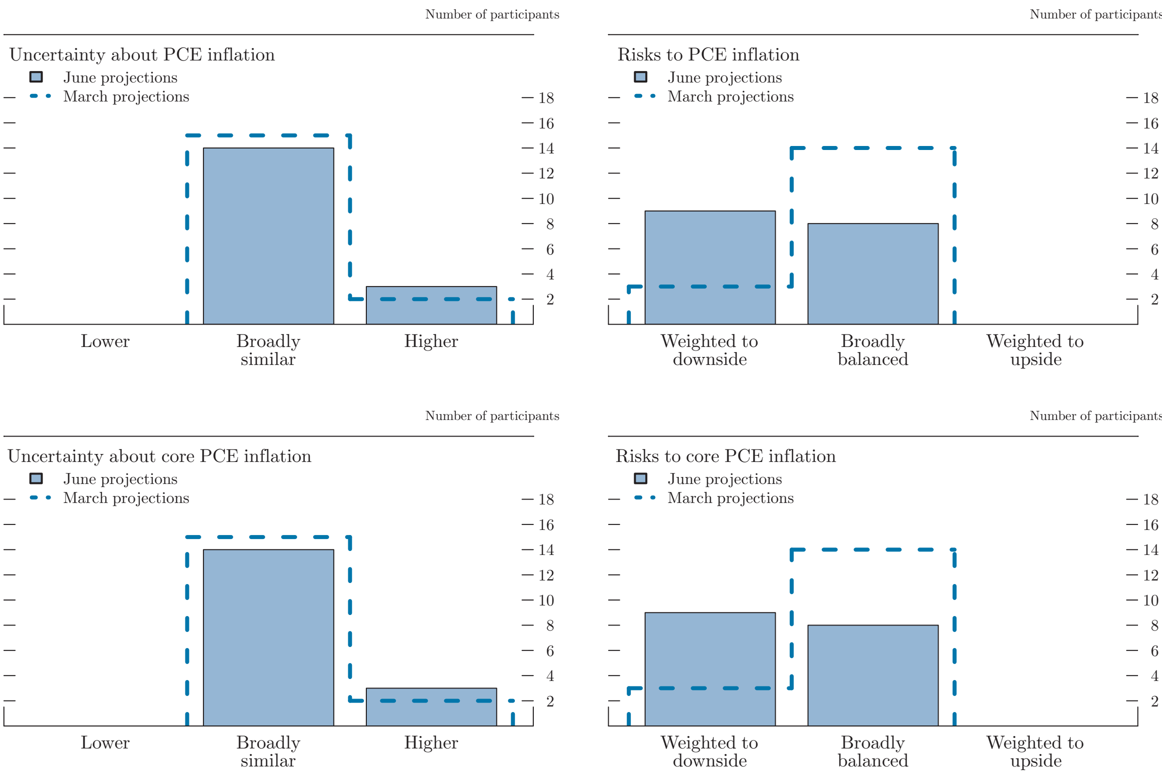
Authorized for Public Release

Figure 4.C. Uncertainty and risks in projections of PCE inflation

Median projection and confidence interval based on historical forecast errors



FOMC participants' assessments of uncertainty and risks around their economic projections



NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in the price index for personal consumption expenditures (PCE) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Authorized for Public Release

Table 3. Uncertainty and risks

Question 2(a): Please indicate your judgment of the uncertainty attached to your projections relative to levels of uncertainty over the past 20 years.

Individual responses

Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Change in real GDP	B	B	A	B	B	B	A	B	A	B	B	A	B	A	A	B	B
Unemployment rate	B	A	A	B	B	B	A	B	A	B	A	A	B	A	A	B	B
PCE Inflation	B	A	B	B	B	B	A	B	B	B	A	B	B	B	B	B	B
Core PCE Inflation	B	A	B	B	B	B	A	B	B	B	A	B	B	B	B	B	B

A = Higher B = Broadly similar C = Lower

Question 2(b): Please indicate your judgment of the risk weighting around your projections.

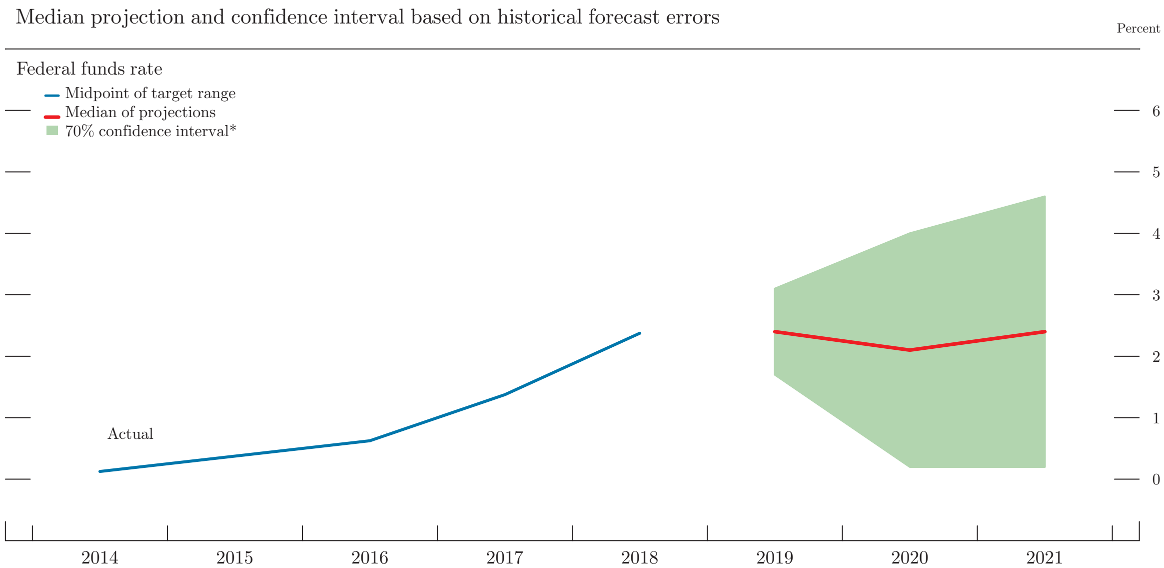
Individual responses

Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Change in real GDP	C	C	C	B	C	C	C	C	C	C	C	C	C	C	B	B	C
Unemployment rate	A	A	A	B	A	A	A	A	B	A	A	A	B	A	B	B	A
PCE Inflation	C	C	B	B	C	C	C	B	B	C	C	C	B	B	B	B	C
Core PCE Inflation	C	C	B	B	C	C	C	B	B	C	C	C	B	B	B	B	C

A = Weighted to upside B = Broadly balanced C = Weighted to downside

Authorized for Public Release

Figure 5. Uncertainty in projections of the federal funds rate



Note: The blue and red lines are based on actual values and median projected values, respectively, of the Committee's target for the federal funds rate at the end of the year indicated. The actual values are the midpoint of the target range; the median projected values are based on either the midpoint of the target range or the target level. The confidence interval around the median projected values is based on root mean squared errors of various private and government forecasts made over the previous 20 years. The confidence interval is not strictly consistent with the projections for the federal funds rate, primarily because these projections are not forecasts of the likeliest outcomes for the federal funds rate, but rather projections of participants' individual assessments of appropriate monetary policy. Still, historical forecast errors provide a broad sense of the uncertainty around the future path of the federal funds rate generated by the uncertainty about the macroeconomic variables as well as additional adjustments to monetary policy that may be appropriate to offset the effects of shocks to the economy.

The confidence interval is assumed to be symmetric except when it is truncated at zero—the bottom of the lowest target range for the federal funds rate that has been adopted in the past by the Committee. This truncation would not be intended to indicate the likelihood of the use of negative interest rates to provide additional monetary policy accommodation if doing so was judged appropriate. In such situations, the Committee could also employ other tools, including forward guidance and large-scale asset purchases, to provide additional accommodation. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections.

* The confidence interval is derived from forecasts of the average level of short-term interest rates in the fourth quarter of the year indicated; more information about these data is available in table 2. The shaded area encompasses less than a 70 percent confidence interval if the confidence interval has been truncated at zero.

Longer-run Projections

Question 1(c). If you anticipate that the convergence process will take SHORTER OR LONGER than about five or six years, please indicate below your best estimate of the duration of the convergence process. You may also include below any other explanatory comments that you think would be helpful.

Respondent 1: Recent evidence, including the Holston, Laubach, and Williams model estimate of trend growth and the Fernald estimate of utilization-adjusted TFP growth, indicate that the potential growth rate over short- and medium-term horizons has increased modestly. At the same time, the probability from the Kahn-Rich model of the U.S. economy remaining in a low-trend-productivity-growth regime is still near 1. For now, my overall assessment of this evidence is that longer-run (5 – 6 years ahead) real GDP growth has not changed much. I thus have maintained my estimate of 1 3/4 percent. I will revisit my assessment following the annual revisions to the GDP and productivity data.

As for u*, the revised estimates from the recent Brookings paper by NY Fed economists and alumni (consistent with inflation expectations anchored near 2 percent) are centered around 4.0 percent. Accordingly, I have reduced my estimate of the longer-run normal rate of unemployment from 4.1 percent to 4.0 percent.

My assessment of appropriate monetary policy is consistent with an undershooting of the longer-run normal unemployment rate for the next several years that will help to pull inflation up to 2 percent by 2021. I expect that real GDP growth, unemployment and inflation all to be at their longer-run levels by the mid-2020s.

Respondent 2: N/A

Respondent 3: N/A

Respondent 4: N/A

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: While we have lowered the estimate of the equilibrium unemployment rate, the modestly restrictive stance of monetary policy assumed in this projection still implies that the convergence process will take longer than five years. The prolonged growth recession implicit in this scenario leaves the economy vulnerable to adverse shocks. As a result, there are considerable downside risks to our long-term real outlook.

Respondent 8: N/A

Respondent 9: N/A

Respondent 10: Real GDP growth will likely converge to its longer-run level this year and remain at that level throughout the forecast horizon. 12-month measures of PCE inflation will likely remain a bit below two percent throughout the forecast horizon, reflecting persistent disinflationary global factors. Whether the unemployment rate will eventually converge toward my estimate of its longer-run level is uncertain. Although I see the unemployment rate remaining below my estimate of its longer-run level over the forecast horizon, there is substantial uncertainty around estimates of the longer-run unemployment rate. Should the unemployment rate stabilize at a low level without signs of building inflationary pressures that would suggest that such a level may be consistent with sustainable growth over the medium term.

Respondent 11: N/A

Authorized for Public Release

Respondent 12: We expect small deviations from target of headline and core inflation in 2019. GDP growth is not expected to deviate from its long-run value conditional on the current regime; however, unemployment is. This regime, characterized by low productivity growth and a low real interest rate on short-term government debt, features GDP growth of 2.0 percent, an unemployment rate of 4.5 percent, and inflation of 2.0 percent. Assuming appropriate monetary policy, all projected deviations are expected to be temporary. We project inflation to be on target in 2020, while the undershooting of unemployment will end in 2022. Because there are multiple potential medium-term outcomes, we cannot provide a single set of longer-run projections for GDP growth and unemployment. Calculating an average of these variables based on outcomes in multiple regimes is potentially misleading. We do provide a 2.0 percent longer-run inflation projection that is independent of the regime.

Respondent 13: N/A

Respondent 14: We are at or past full employment. However, we continue to run below our inflation target. I believe that structural forces of technology and globalization are likely to continue to mute inflation pressures, offsetting the cyclical pressures. In all, I expect headline PCE inflation to gradually move back to the 2-percent goal. With fiscal stimulus fading and monetary policy in a roughly neutral stance, I believe that growth will slow toward a sustainable pace over the next few years, and that that slowing will be sufficient to stabilize and then gradually reduce the unemployment gap. As growth slows, it is possible that we will be more vulnerable to adverse shocks and policy missteps. But in the absence of new shocks and with appropriate policy, I would expect convergence in about 5 years.

Respondent 15: I anticipate that the economy will converge to my longer run forecast within five years.

Respondent 16: Despite the unemployment rate being below its natural rate, inflation remains below target and it will take some time to achieve sustained convergence to longer-run levels. The (waning) fiscal stimulus and accommodative monetary policy will keep the unemployment rate below the natural rate for several years before it returns to a longer-run sustainable level. This overshooting of full employment is accompanied by inflation gradually returning to target from below.

Respondent 17: N/A

Uncertainty and Risks

Question 2(a). (Optional) If you have any explanatory comments regarding your judgment of the uncertainty attached to your projections relative to levels of uncertainty over the past 20 years, you may enter them below.

Respondent 1: Uncertainty around my projections for economic activity and inflation has increased since the March SEP. Nevertheless, because the historical level of uncertainty as defined in the SEP–the average levels over the past 20 years–is quite high, the current level of uncertainty can arguably still be considered broadly similar to that standard. Further trade tensions, volatile financial markets, slower global growth, significant political tensions in Europe, the future path of fiscal policy, the possible lack of policy space in some foreign economies, and the possibility of "too low" U.S. and global inflation expectations are sources of uncertainty.

Respondent 2: Uncertainty about u* and underlying inflation remains elevated. An important implication of this is that if u* is say 4 or less, the output gap is much smaller than staff estimates which means that the projected upside cyclical pressure on inflation will be much less than projected which means it is more likely inflation does not reach and remain at 2% target.

Respondent 3: Uncertainty is likely to be greater than average owing to heightened uncertainty about trade policy.

Respondent 4: Trade policy–and the reaction of household and business sentiment to it–continue to be important sources of uncertainty to the outlook, and appear to have increased since the March SEP. Uncertainty over the growth prospects of our major trading partners and domestic fiscal policy continue, but are broadly similar to March. On balance, we do not feel the changes have been sufficient to boost our assessment of the uncertainty over our growth and unemployment forecasts into the "higher than historical average" bucket.

There is substantial uncertainty over how much of the decline in core inflation earlier this year reflects transitory factors as opposed to a softer underlying inflation trend. Furthermore, there has been a marked shift in our business contacts' commentary with regard to price and wage pressures, as the positive momentum that was emerging earlier in the year has dissipated. While these factors have increased the uncertainty around our inflation forecast, we do not think that it has risen to a degree that would alter our characterization as broadly similar to historical levels.

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: We judge that in the current environment there is more uncertainty than normal about the behavior of both nominal and real variables. As concerns inflation, there is uncertainty about the anchoring of inflation expectations, and uncertainty about the equilibrium unemployment rate that is exacerbated by a very small slope of the Phillips Curve. We have also little historical experience to draw from about inflation behavior when the unemployment rate is projected to stay low for a very prolonged period of time. As concerns the real side, guiding the economy through a prolonged growth recession will be challenging. In addition, trade related uncertainty is high, not just because the economic impact of tariffs is hard to assess in a world of global supply chains, but also because it is a function of political uncertainty.

Respondent 8: N/A

Respondent 9: N/A

Respondent 10: N/A

Respondent 11: N/A

Authorized for Public Release

Respondent 12: Heightened uncertainly associated with trade policy and the potential effects on supply chains, capital expenditures, and hiring combine to increase uncertainly concerning GDP growth and unemployment relative to prior years.

Respondent 13: N/A

Respondent 14: Political-economy risks in the U.S. and abroad have intensified. Those risks have the potential to spill over into economic results. The list of risks includes–but is by no means limited to–trade and tariff disputes, concerns about debt sustainability in Italy, the possibility of a hard Brexit, and domestic and trade decisions by China. I believe this heightened uncertainty has driven much of the recent "flight to safety" we have seen in financial markets and accounts for the further decline in yields on safe assets.

Respondent 15: Uncertainty surrounding output growth and unemployment remains elevated by heightened uncertainty about the effects of waning fiscal stimulus and the future course of trade and fiscal policies. The persistent low value of the real natural rate of interest raises uncertainty about the underlying rate of economic growth. The impact on inflation uncertainty is less pronounced given how flat the Phillips curve seems to be. However, I remain concerned about inflation that is persistently running below the Committee's target.

Respondent 16: Uncertainty about my projection for economic activity and inflation is similar to its average level over the past 20 years. Inflation remains anchored by stable longer-run inflation expectations at the FOMC's stated goal of 2 percent.

Respondent 17: The current level of uncertainty lies somewhere between the low levels experienced during the Great Moderation and the high levels experienced during the financial crisis and its immediate aftermath. Changes in trade policy and other financial and international developments have increased the uncertainty around my forecasts, but not significantly.

Authorized for Public Release

Uncertainty and Risks (continued)

Question 2(b). (Optional) If you have any explanatory comments regarding your judgment of the risk weighting around your projections, you may enter them below.

Respondent 1: Even with the change to my policy path assumption, the risks to real economic activity appear to be weighted to the downside, as risks that are most salient seem to be primarily in that direction. These include the possibility that escalating trade tensions, political events in Europe, and slower global growth could spillover and lead to slower growth for the U.S. economy. In addition, the renewed fragility in financial conditions seen over recent weeks also indicates a greater risk of a deterioration that has a substantial adverse impact on the economy. In contrast, the upside risks–a more positive impact from fiscal stimulus and renewed momentum associated with still-high household confidence–seem more aspirational than pertinent at the moment.

Although closer to balanced, the risks to inflation also appear to be weighted to the downside at this time. Significant downside risks, including those to real activity listed previously, particularly slower global growth, could weaken domestic inflationary pressures more than I have judged and leave inflation expectations below levels consistent with the FOMC objective. In addition, a stronger-than-anticipated foreign exchange value of the US dollar as well as subdued inflation and inflation expectations in many advanced economies pose downside risks. The recent decline in market-based measures of inflation expectations in Europe are notable in this regard. Partially offsetting the downside risks is the possible impact of continued tight resource constraints and of higher tariffs and trade restrictions.

Respondent 2: likelihood of modal case has diminished and of bearish case has increased.

Respondent 3: The recent escalation in trade conflict with China and threatened use of tariffs on Mexico for purposes of immigration policy implies some downside risk to the outlook. Recent months have not seen a corresponding upside risk of similar magnitude. Long-term interest rates are low relative to short-term rates, which, according to many models, implies an elevated recession risk. Additional sources of downside risk are further deceleration in Chinese growth and associated spillovers through financial channels, disorderly Brexit, and concern over Europe's commitment to provide policy support in response to weakening growth and inflation as well as risks associated with Italy.

Respondent 4: We see the risks to the outlook for growth, unemployment and inflation as broadly balanced.

The weak inflation readings and change in the anecdotes from our contacts are major concerns. While these developments may turn out to be temporary, the risk that inflation expectations are at undesirably low levels seems to be higher now than in March, posing a challenge to the attainment of our inflation goal. In response, we lowered our path for the federal funds rate. We feel this change in policy leaves the risks to our inflation forecast as broadly balanced.

The incoming data on activity have been broadly consistent with an economy slowing down from 3 percent to 2 percent growth. However, international developments pose a downside risk to growth; the trade war – and its adverse effects on sentiment and financial market conditions – are once again in the forefront. Risks to foreign growth also are still present. We continue to assess the risks from fiscal policy as balanced. There are upside risks as well: labor markets are healthy and could support stronger consumer spending than we expect; weak business sentiment could turn more positive if trade uncertainty abates; and our monetary policy changes could generate more demand than we are assuming. Overall, we feel the risks to our growth and unemployment forecasts are broadly balanced.

Respondent 5: N/A

Respondent 6: N/A

Authorized for Public Release

Respondent 7: Trade-related downside risks are material and continuously evolving. Our forecast is conditioned on tariffs staying at current levels, with no additional measures taking effect over the forecast horizon. This optimistic outlook could be challenged already this month at the G20 meeting. A partial offset to the downside risks from trade policies and foreign economic developments comes from the fact that underlying domestic fundamentals remain positive and consumer confidence is high. With fiscal policy still supportive and monetary policy near neutral, it is possible that domestic demand will be stronger than in our baseline forecast. Still, we judge that the potential for an adverse outcome from trade policy outweighs the possibility of faster growth. In the medium term, there are also downside risks to the real outlook associated with the difficulty of achieving a soft landing when the economy has already overshot full employment. There is a nontrivial chance that the projected slowdown will morph into a full-blown recession rather than yield the soft landing implicit in our baseline forecast. The risks to the inflation outlook largely mirror the risks to real activity.

Respondent 8: I have changed my assessment from broadly balanced to risks tilted to the downside for GDP growth and to the upside for unemployment. I believe that there is a higher likelihood of protracted trade disputes, possibly with multiple trading partners. That would increase uncertainty and could make businesses more hesitant to invest. I am also concerned about the possibility that Congress and the administration will fail to enact a budget and raise the debt ceiling in a timely manner.

Respondent 9: N/A

Respondent 10: N/A

Respondent 11: N/A

Respondent 12: With respect to GDP growth, the current productivity regime is in its low state. A higher productivity regime is possible, but we see no compelling reason to predict a switch at this time, Despite some upward movement, recent increases in productivity still leave productivity in its low regime. However, as changes in fiscal and regulatory policy continue to affect the economy, we see the possibility of more rapid GDP growth. On the other hand, we see US trade policy as generating substantial downward risk for growth. Weakening foreign economies are a related reason for concern. Finally, the inversion of the yield curve is an additional reason for concern that growth prospects are deteriorating. Thus, we view the risks on the variable as weighted to the downside.

Concerning unemployment, the current rate is on the low end for an economic expansion. If a recession were to occur, the unemployment rate would rise substantially and quickly. While we have no compelling reason to predict a recession during the forecast horizon, we do note that yield-curve-based recession probabilities are elevated. As suggested above, the interaction between US and foreign trade policies raises the possibility of trade and other disruptions that might increase unemployment. On the other hand, we also see the possibility of further declines in the unemployment rate, albeit small, if GDP surprises on the upside. Overall, consistent with our view about GDP growth, we see the risks as weighted to the upside.

For core PCE inflation, we place negligible weight on the prospect of Phillips Curve effects. However, there is a risk that such effects assert themselves and inflation moves higher as the unemployment rate falls. Trade policy changes might also put some upward (temporary) pressure on import prices. On the other hand, a weakening global economy could offset some or all of the price pressure. It is possible that inflation expectations drift even lower and become unanchored. Overall, we view risks on this variable as weighted to the downside.

For PCE inflation, the risks include those identified for core PCE inflation. In addition, PCE inflation depends on the behavior of energy prices. Energy prices have been volatile with concerns about supply disruption putting upward pressure on energy prices and concerns about a weakening global economy putting downward pressure on prices. Overall, we view the risks for PCE inflation as weighted to the downside.

Respondent 13: In my modal forecast, I have revised down my near-term inflation projections to reflect the recent softening in the data, which I expect to be temporary. I expect inflation to move back gradually to our goal of 2 percent. I view the risks around this lower projection to be broadly balanced.

I have made little change to my modal forecast for GDP growth and the unemployment rate. I have revised down my estimate of the longer-run unemployment rate by 25 basis points. My estimate has been about 4-1/2

Authorized for Public Release

percent, but given that inflation has remained stable and wages have not been accelerating very much, I now estimate the longer-run unemployment rate to be in the 4 to 4-1/2 percent range.

I see the risks around my GDP forecast as now being weighted to the downside compared to "balanced" as in my March projections. My modal outlook over the forecast horizon continues to be that output growth and employment growth will slow from last year's strong paces toward trend and that inflation will move up gradually to 2 percent. In this scenario, monetary policy remains on hold for an extended period to support the rise in underlying inflation, but moves up later in the forecast horizon.

However, the recent softness in business investment and manufacturing, slower growth abroad, and the uncertainty being caused by trade policy and threats of tariffs mean there is now materially higher weight on a weak-growth scenario in which the economy is slowing more than expected. The declines in longer-term Treasury yields and other sovereign debt yields are consistent with investors placing a higher likelihood on this scenario. If this scenario comes to pass, the short- to medium-term equilibrium interest rate would move down and the fed funds rate would need to move down as well in order to sustain the expansion and foster achievement of our longer-run goals of maximum employment and price stability.

At this point, I need to see some more months of data before concluding the economy is moving into that weak-growth scenario.

A key risk is the uncertainty around trade policy and the potential for further tariffs. While the direct effects of implemented tariffs may be modest, ongoing uncertainty surrounding trade policy may weigh on economic activity and cause a loss of consumer, business, and/or financial market confidence, posing downside risk to the outlook. Growth abroad is also weakening, and foreign central banks have been adding accommodation. This could lead to further appreciation of the dollar, which would be a headwind to U.S. growth and inflation. Recent declines in energy prices also pose a headwind to inflation in the near term.

The ultimate outcome of Brexit remains unclear and the need for a debt-limit extension looms later this year.

Some of the uncertainties could clear more quickly than expected, which would support growth and be an upside risk to my forecast.

Given that labor markets remain tight (even incorporating my reduction in the long-run unemployment rate to around 4-1/4 percent), if nonlinear Phillips curve dynamics begin to kick in, inflation could move higher than I anticipate. On the other hand, with inflation running at or below the 2 percent goal for some time and the recent readings of inflation and inflation expectations being soft, there is a risk that inflation could run below my forecast.

Risks to financial stability are somewhat elevated – leveraged lending is at high levels and underwriting standards on this debt have deteriorated; commercial real estate valuations continue to be high; and corporate debt levels are high. Financial vulnerabilities could amplify an economic slowdown.

Respondent 14: Any of a variety of trade and global political-economy risks, if realized, could adversely affect U.S. GDP and employment growth in 2019. The high level of marginal-quality corporate debt is likely to be an amplifier in the event of a downturn. Risks to GDP growth are, therefore, weighted to the downside, and risks to the unemployment rate are weighted to the upside.

Respondent 15: While I continue to see the risk weighting around my projections as broadly balanced, downside risks do seem somewhat higher compared to my last projection.

Respondent 16: Absent any increase in monetary accommodation, risks to projected economic activity appear somewhat skewed to the downside. Despite strong first-quarter growth and continued gains in consumer spending, recent readings on employment, investment spending, industrial production, and commodity prices suggest some loss of momentum which may be amplified by recent equity market declines. In addition, there has been elevated risk stemming from the ongoing tariff dispute, weak growth abroad, and an appreciating dollar. More broadly, tail risk for another recessionary/ELB episode has risen–as signaled by the inverted yield curve. My assessment is that risks appear broadly balanced after taking into consideration that appropriate monetary policy will ease this year and offset these negative effects.

Respondent 17: Downside risks stemming from the recent softness in business spending data, increased trade tensions, a downgraded outlook for foreign growth, and an inverted yield curve have increased. This has altered my assessment for the balance of risks for activity and inflation. Consequently, I now consider the risks to GDP and inflation to be weighted to the downside and unemployment to the upside.

Authorized for Public Release

Key Factors Informing Your Judgments regarding the Appropriate Path of the Federal Funds Rate

Question 3(b). Please describe the key factors informing your judgments regarding the appropriate path of the federal funds rate. If, in your projections for any year in the projection period, the unemployment rate for that year is close to or below your projection for its longer-run normal level and inflation for that year is close to or above 2 percent, and your assessment of the appropriate level of the federal funds rate for that year is still significantly below your assessment of its longer-run normal value, please describe the factor or factors that you anticipate will make the lower-than-normal funds rate appropriate. If you have revised your estimate of the longer-run normal value of the federal funds rate since the previous SEP, please indicate the factor or factors accounting for the change. You may include any other comments on appropriate monetary policy as well.

Respondent 1: The principal factors behind my assessment of the appropriate path for monetary policy are my estimate of the natural real rate of interest, my economic outlook, and the balance of risks around that outlook.

Most estimates for the natural rate have declined since the March SEP submission, but not enough to prompt me to change my estimate of 1/2 percent. I will continue to monitor future data and estimates to determine if an adjustment to my assumption is necessary.

While a patient approach to policy was warranted in the first half of this year, I see recent developments as reason to take a more active approach to policy over the coming months. Accordingly, my assessment of the appropriate federal funds rate path is below that of March; in particular, I believe that a 50 bps reduction in the policy rate over the second half of this year will be warranted. With inflation pressures remaining muted, longer-term inflation compensation having declined, and investment spending continuing to be weak, such a reduction should help promote real growth to remain at or above its potential rate and unemployment to remain below its long-run natural rate over the forecast horizon. In addition, this reduction will help mitigate the downside risks that I discussed earlier. As inflation moves up toward 2 percent, I anticipate that one of the policy rate reductions can be reversed at the end of 2020 and the other sometime in 2021, leaving the policy rate near my estimate of its longer-run level at the end of the forecast horizon. This path is below the suggestions of most simple policy rules, reflecting that inflation has remained persistently below the FOMC's longer-run objective.

Respondent 2: The rate path submitted is a close call and could well shift down at the next SEP round. I will be looking closely at upcoming data on the labor market, trade policy uncertainty, Q2 GDP, PCE inflation, and inflation expectations

Respondent 3: A shallow downward tilt to the funds rate path is appropriate to provide some insurance against the materialization of the downside risks to the economy associated with the escalation of trade conflict. In addition, the 25 basis point reduction in the estimate of the longer-run normal value of the federal funds rate reflects the deterioration in longer-run growth prospects due to the dampening in business investment associated with a deterioration in sentiment and earnings projections.

Respondent 4: As in the past submissions, our appropriate policy path is designed to move inflation modestly above 2 percent during the projection period. After years of underrunning target, we feel such overshooting is necessary to firmly establish the symmetry of our inflation objective.

However, we now think we need more policy accommodation to achieve this outcome. Importantly, it is unclear the degree to which transitory factors are responsible for the large decline in inflation this year–we cannot rule out that softer underlying trends and inflation expectations are at least partly to blame. To the degree that they are,

Authorized for Public Release

a visible demonstration of a stronger policy commitment is the best way to boost them to a level that is consistent with our symmetric inflation objective.

Accordingly, our appropriate policy path assumes two 25 basis point funds rate cuts in the second half of 2019, and then leaves the rate on hold into early 2021. We feel this policy path will buoy inflation expectations enough that, by 2021, inflation will be clearly heading above 2 percent. With the overshooting in train, our policy path begins to move rates up towards their long-run neutral level; we assume 50 basis points of tightening in 2021, leaving the funds rate in the range of 2-1/4 to 2-1/2 percent by the end of the year.

We feel our policy assumptions are well-designed from a risk-management perspective. First, the costs of being wrong about our reading of recent inflation developments are asymmetric. If more of the decline indeed reflects transitory developments, the 2019 rate cuts would simply move forward the timing of our desired inflation overshoot, and policy could react by increasing rates sooner than in our baseline path. In contrast, if transitory factors were less important and we did not lower rates, our commitment to a 2 percent objective would be called into question, inflation expectations would sag, and it would take even more accommodation to achieve our inflation objective. Second, the additional policy accommodation provides insurance against the downside risks to growth noted above.

Respondent 5: N/A

Respondent 6: I have revised down my estimate of the longer-run normal value of the federal funds rate by 25 basis points, in recognition that statistical estimates of r* have persisted in their current low range for the past five years. Given that, in my baseline view, we are only 25 basis points shy of a neutral target range and amid downside risks that may remain through most of 2020, appropriate monetary policy calls for a "wait-and-see" approach to further removal of accommodation.

Respondent 7: Optimal monetary policy under a symmetric loss function would call for much tighter policy than what we have penciled in as appropriate. The very modest tightening conditioning our baseline projection stems from the observation that it has proven exceedingly difficult to achieve a soft landing when the economy has already surpassed full employment. A more pronounced tightening of policy could increase the probability of a recession in ways that our linear models are unable to capture, especially under current circumstances where the external sector is a source of weakness, and monetary policy in the Euro area and in Japan is still constrained by the effective lower bound. Our estimate of the equilibrium federal funds rate has been revised down marginally, to reflect the fact that the interest sensitive components of demand have been relatively weak recently.

Respondent 8: I believe that if real GDP growth is near its trend rate and inflation moves toward 2 percent, it would be appropriate to leave the funds rate unchanged. Given the deterioration in the climate for productivity-enhancing business investment, I have lowered my estimate of the longer-run rate by a quarter point, leaving it above the current rate.

Respondent 9: N/A

Respondent 10: My judgment regarding the appropriate path of the federal funds rate is predicated on promoting sustainable economic growth and price stability. I anticipate that it will be appropriate to keep the federal funds rate unchanged throughout the forecast horizon. I view this path as most appropriate due, in part, to the uncertainty that surrounds estimates of the equilibrium real interest rate and the longer-run unemployment rate. In light of this uncertainty, I favor a monetary policy strategy that deemphasizes these unknown targets and instead predicates policy actions on the outlook for inflation and the evolution of labor market conditions. Given that my outlook calls for the unemployment rate to stabilize at its current low level and inflation to remain subdued, I anticipate that the funds rate will stabilize below my uncertain estimate of its longer-run normal rate. This policy path is broadly consistent with benchmark "first difference" policy rules that divorce that path of the policy rate from any particular model or estimate of natural rates.

However, under these benchmark "first difference" rules, my slightly weaker modal outlook for inflation would call for modest decreases in the federal funds rate over the next few years. Given the apparent flatness in the Phillips curve and the persistent disinflationary global factors, I worry that the costs of signaling additional policy accommodation at this time may outweigh the benefits of such a policy action given the historically low level of

Authorized for Public Release

the unemployment rate. Thus, under my modal outlook, I view a modest deviation from rules-based policy as appropriate at this time. If I observe a further decline in the outlook for the real economy or additional downside risks materialize, additional accommodation may be necessary to help sustain the economic expansion.

Respondent 11: N/A

Respondent 12: The appropriate path for the federal funds rate requires a cut of 50 basis points to 1.88 percent. The reduction in the policy rate will help to re-center inflation and inflation expectations at the inflation objective. The reduction will also provide some insurance against the economy entering recession. As the economy evolves, especially in the event of a regime change or a change in recession risk, our optimal path for the federal funds rate will change.

Respondent 13: With respect to our monetary policy goals of price stability and maximum employment, I continue to believe that the most likely scenario is that growth continues to slow from an above-trend to trend pace, labor markets remain strong, and inflation gradually moves back up to 2 percent. Given the behavior of inflation, I have revised down my longer-term unemployment rate by about 25 basis points, and now see it between 4 and 4.5 percent instead of 4.5 percent. With this revision, the labor market is somewhat less tight than I previously thought. This, combined with softer-than-expected inflation readings, suggests that the trajectory of the federal funds rate path over the forecast horizon will need to be shallower than I had in my prior forecast. This path reflects what might be called an opportunistic approach to inflation. We would be tolerant of the inflation undershoot we have been experiencing and not take deliberate action (i.e., cutting interest rates) to reinflate the economy so long as output is growing at trend and the labor market remains solid; allow the funds rate path to remain shallow to support rising inflation; and not take deliberate action to curtail an inflation overshoot so long as inflation doesn't rise too much above 2 percent. Given the level of the funds rate, which is low but appears to be near neutral, and the economic outlook, this type of strategy would seem to balance the risks to achieving our dual-mandate goals.

However, the downside risks to my modal forecast have risen. The recent softness in business investment and manufacturing, slower growth abroad, and the uncertainty being caused by trade policy and threats of tariffs mean there is now higher weight on a weak-growth scenario in which economic growth slows below trend, the unemployment rate rises, and inflation remains low for longer. The declines in longer-term Treasury yields and other sovereign debt yields are consistent with investors placing a higher likelihood on this scenario. In this scenario, the equilibrium interest rate would move down and the fed funds rate would need to move down as well in order to sustain the expansion and foster achievement of our longer-run goals of maximum employment and price stability.

I would prefer we gather more information on the economy and continue to assess our outlook and risks before making further adjustments in the policy rate.

Respondent 14: I believe that the level of long-term market interest rates–especially long-forward interest rates–conveys useful information about the neutral policy interest rate, and that a yield-curve inversion of any significant size or duration would signal that we've likely moved too far in efforts to remove policy accommodation. In my baseline outlook, maintaining a neutral stance requires a small downward adjustment to the fed funds rate sometime next year. But, in the near term, given that uncertainty has yet to translate into a material deterioration in the outlook and may resolve itself, I put a premium on maintaining optionality. Having policy roughly neutral puts us in a position where we can be nimble in responding to shifts in the outlook. I stand ready to make adjustments, as needed, in response to changes in the outlooks for real activity and inflation, and in the neutral rate, but it is important that we remain patient as recent heightened trade tensions may ultimately reverse themselves. That said, I believe that the recent weakening in the global outlook, coupled with tame inflation and our vulnerability to downside shocks, makes it more likely that policy rates will need to be adjusted downward.

Respondent 15: I have lowered my estimate of the longer run level of the funds rate as I have revised slightly my views on the balance between underlying growth, inflation, and interest rates.

Respondent 16: The headwinds to growth appear to have increased so far this year, notably, from the trade dispute and developments abroad. Slower growth and a lower natural rate of unemployment imply that the economy is closer to sustainable levels than previously anticipated. In addition, inflation remains stubbornly below target and pressures for higher inflation remain muted. Therefore, appropriate policy provides additional monetary

Authorized for Public Release

accommodation this year. This policy path takes into account the risks to financial stability, particularly those that could arise from increased corporate indebtedness due to lower borrowing costs, but weighs them against the risks of a downturn and a return to the ELB, which could also raise the risk of corporate defaults.

To be specific, my assessment of appropriate policy is generally informed by simple non-inertial policy rules that assume a longer-run natural rate of interest of 1/2 percent. Relative to the March SEP, my projection for core inflation this year has been revised down by .3 percentage point. Many policy rules would recommend lowering the funds rate by 50 basis points in response to such a change. Similarly, my projected unemployment gap is a .2 percentage point narrower given my reassessment of U*. This change also supports a lower funds rate path.

Respondent 17: Inflation has fallen below target again and inflation expectations have softened. While job gains remain solid and the unemployment rate is below 4 percent, it is not clear that we have reached maximum employment as the labor force participation rate for prime age persons has moved further below its pre-recession level, and wage growth remains moderate. Given the persistent undershooting of our inflation target, I believe that appropriate monetary policy implies reducing the funds rate now and committing to not raise it until core inflation has reached 2.0 percent in a sustainable manner.

Authorized for Public Release

Forecast Narratives

Question 4(a). Please describe the key factors, potentially including your assumptions about changes to government policies, shaping your central economic outlook and the uncertainty and risks around that outlook.

Respondent 1: With the change in my policy rate path assumption, my central outlook for the SEP variables has changed only modestly from that in my March SEP submission.

I project that real GDP growth in 2019 and 2020 will be 2 percent, slightly above my March submission. Although real GDP growth in 2019Q1 was well above my March projection, relatively sluggish growth in real final sales to private domestic purchasers (and in real GDI) indicate that the Q1 boost to real GDP growth is likely transitory. In addition, continued weakness in business fixed investment, manufacturing indicators, and some business survey measures signal softness in a number of areas of the economy, which may reflects some spillover from slower global growth. In contrast, a solid labor market and fairly high consumer confidence should support consumer spending after a soft first quarter and counteract the weakness in investment to maintain growth at 2 percent for the year.

I expect the unemployment rate to edge down gradually to 3.5 percent by next year, which is below my projection in the March SEP submission. Given the below-projection core PCE in Q1, continued muted inflation pressures, low inflation compensation, and little projected change in resource slack, I expect core PCE inflation to remain below 2 percent for the year, even with a pickup in the last 3 quarters.

The basic contours of my projection over the rest of the forecast horizon have changed modestly from my March projection. Fading fiscal stimulus contributes to a gradual slowdown of growth to near potential in 2021, a path that is slightly above that in March. As a result, the unemployment rate remains fairly flat and is below its longer-run natural rate at the end of 2021. Tight resource utilization leads to a gradual rise of inflation to the FOMC objective in 2021. A near-neutral monetary policy stance and minimal fiscal policy impetus thereafter contribute to bring inflation, growth, and unemployment to their longer-run normal levels by the middle of the next decade.

Respondent 2: Global growth marked down, policy uncertainty up, inflation and inflation expectations soft - risks are to downside

Respondent 3: The risks and uncertainty associated with trade policy have played an important role in shaping the modal outlook and the assessment of risks.

Respondent 4: The incoming data on activity have been consistent with growth slowing to a near-trend pace. The labor market is strong and consumer spending appears to have picked up from its tepid pace in the first quarter. Business fixed investment, though, is lackluster. International developments could be a headwind on activity, but to date have not left a strong imprint on the data. So, on balance, we continue to see the underlying fundamentals for domestic final demand as solid.

However, the recent low inflation readings and change in our business contact reports leave us concerned that underlying trends and inflation expectations are too low. Accordingly, as detailed in the appropriate policy section, we believe more monetary policy accommodation is necessary to put inflation on a trajectory consistent with our symmetric 2 percent objective.

More specifically, we see growth running a bit above potential this year and next, before it moves down to slightly below trend in 2021. We expect the unemployment rate to remain at current levels through the end of 2020 and then rise slightly to 3.7 percent in 2021, 0.6 percentage points below our estimate of the natural rate of unemployment. We think the maintenance of resource pressure and a policy path that strongly communicates our commitment to a symmetric 2 percent inflation target will lift inflation and inflation expectations. Core inflation is projected to rise from 1.7 percent in 2019 to 2 percent in 2020, and 2.2 percent by the end of 2021.

The key factors shaping uncertainty and the risks to the forecasts were discussed earlier in the risks and uncertainty sections.

Respondent 5: N/A

Authorized for Public Release

Respondent 6: The pace of real GDP growth remains modestly above trend in 2019, largely due to lasting effects from recent tax reform and fiscal stimulus. By 2020, my view is that growth will have settled to trend.

However, I see the risks to that outlook as tilted slightly to the downside amid elevated noise around trade policy.

Underlying inflation has been running close to target. Given the absence of slack in my modal projection, I project inflation returning to the FOMC's objective in 2020.

I judge the risks to my inflation outlook as slightly weighted to the downside as well. Disinflation could occur should the downside risks to my growth projections materialize.

Respondent 7: The pace of economic activity in the first half of the year has been somewhat stronger than we previously thought. The positive surprise is also reflected in lower readings for the unemployment rate. Some of the factors that have boosted growth so far this year, however, should prove transitory. Going forward, we expect a slowdown in activity to a pace closer to potential. With monetary policy near neutral, weakness in business investment and demand from abroad will likely offset lingering fiscal stimulus. Trade-related uncertainty weighs importantly on the outlook. Our forecast is conditioned on tariffs staying at current levels, with no additional measures taking effect over the forecast horizon. Even so, uncertainty about this outcome is expected to negatively impact spending decisions. Moreover, our assessment of the extent of pent-up demand for private consumption expenditures is now less favorable. Recently released data from the Flow of Funds Distributional Financial Accounts show that the share of wealth held by the bottom 90 percent remains at very low levels. As a result, the high savings rate vis-à-vis net worth prevailing currently may not signal pent-up demand, but rather that wealth gains are accruing to a segment of the population with a higher propensity to save than the general population. For all of these reasons, our forecast is conditioned on a lower federal funds rate path than before. The stance of monetary policy is now expected to turn only marginally restrictive in 2020 and beyond. With such a change in policy, the unemployment rate is projected to remain fairly close to its current level by the end of the forecast horizon. We have also revised our estimate of the equilibrium unemployment rate down to 4.2 percent. The revision reflects the fact that, even taking into account that some of the softness in recent inflation readings may prove temporary, inflation has yet to move above the 2 percent target after 2 years with an unemployment rate below 4 $^1/_2$ percent. Ultimately, we still expect that inflation will rise marginally above 2 percent over the forecast horizon, as the labor market continues to remain tight.

While our forecast is conditioned on no imposition of additional tariffs, there is the risk that trade policy and foreign developments will affect economic activity more negatively than what we are currently assuming. In this regard, we remain wary of the signal that the 10-year Treasury yield may be providing about the outlook. There are also downside risks associated with the possibility of another government shutdown and a debt ceiling standoff later this year. On the upside, while recent personal income data have been on the weak side, the projected rebound could be more pronounced and lead to stronger consumption demand and related multiplier effects. Still, we view the risks to the real outlook as skewed to the downside. In this context, risks to inflation are also tilted to the downside, the downward revision to the equilibrium unemployment rate notwithstanding.

Respondent 8: My submission assumes that most of the threatened tariffs are not imposed for a lengthy interval. It also assumes that Congress and the administration will enact a budget and raise the debt ceiling in a timely manner. There is a clear downside risk to GDP and unemployment if these assumptions are not met. Importantly, even if the assumptions prove valid, trade tensions can impede growth. The use of tariffs as a negotiating tool has created a climate of uncertainty for businesses that has led firms to pull back their investment plans investment. On inflation, I believe that the unexpected weakness of core inflation in the first quarter will not persist, and that core inflation will move toward 2 percent, a touch faster than in the Tealbook.

Respondent 9: I believe that the economy still has considerable underlying momentum. Strong growth will encourage workers to rejoin/remain in the labor force, increasing labor force participation and keeping the unemployment rate about flat. The buffering effect of higher potential growth, both in response to policy changes as well as increased investment and labor force participation, will limit the spillover of growth into inflation.

Respondent 10: Central economic outlook: My forecast for real GDP growth is characterized by near-trend growth throughout the forecast horizon supported by moderate household spending, a tight labor market, and the waning effects of past fiscal stimulus. I expect 12-month PCE inflation to remain modestly below 2 percent over the next few years, reflecting the effects of disinflationary global factors. As real GDP is expected to run near trend over the next few years, I expect the unemployment rate to stabilize at its current level throughout the forecast horizon.

Uncertainty and risks: I view uncertainty surrounding my projections as broadly similar to levels of uncertainty over the past 20 years, considering the magnitude of historical forecast errors and current economic and policy uncertainty at home and abroad. However, the risks to economic growth and inflation appear tilted to the downside, while risks to the unemployment rate are tilted to the upside. Moreover, these downside risks to real activity and employment seem to have increased over the last few months. Threats of more restrictive trade and immigration policies, additional signals of slowing global demand in an environment where many central banks have limited scope for easing policy, a sharper and more persistent slowdown in the domestic economy, and rising geopolitical uncertainty all pose downside risks to economic growth and inflation. Upside risks to my forecast stem from a recovery in momentum in the U.S. economy and the possibility that deregulation and elevated business confidence translate into sustained increases in investment and productivity.

Respondent 11: N/A

Respondent 12: Our forecast continues to use a regime-based conception of outcomes for the US economy. In our conception, there are multiple regimes and we appear to have nearly converged to one of them. The current regime is viewed as persistent, and we see no compelling reason to forecast a switch from the current regime over the forecast horizon. However, we are paying close attention to many factors, such as the effects of regulatory and tax policy changes that might move the economy to a high productivity state and trade policy uncertainty and actions that might adversely affect economic activity in the US and abroad. Longer term, the economy may visit other regimes, such as ones associated with higher productivity growth, a higher return to short-term government debt, or recession. If the economy transitions to any of these states, all variables are potentially affected and, in particular, the optimal regime-dependent monetary policy path may require adjustment. However, predicting when these transitions may occur is challenging, so we forecast that the economy will remain in the current regime over the forecast horizon.

Respondent 13: Incoming data on the economy have been mixed. The economy appears to be slowing toward trend as anticipated, but some of the data raise the possibility that the slowdown may be more significant. In my view, the most likely outcome is that output growth and employment growth will slow toward trend over the forecast horizon and that inflation will gradually rise to 2 percent. The monthly data have been volatile but overall suggest that consumer spending and sentiment remain solid. Consumer spending has been supported by the strength in the labor market. Looking through the ups and downs in the monthly payroll jobs numbers, the labor market remains strong and the unemployment rate is below my now lower estimate of its longer-run natural rate, which I now estimate to be between 4 and 4.5 percent. In my modal forecast, as output growth slows toward a more sustainable pace from the 3 percent pace seen last year, payroll employment growth will also slow to a more sustainable pace and be strong enough to absorb those entering the labor force, keeping the unemployment rate low.

Inflation readings have been held down by what are likely idiosyncratic, transitory factors, and declining energy prices will weigh on inflation in the near term. Recent inflation expectations readings have been mixed, but I view expectations as being relatively well anchored, and with the economy projected to remain in good shape in my modal forecast, I anticipate that inflation will be near 2 percent over the forecast horizon.

To achieve the outcomes in my modal forecast, my funds rate path is relatively flat, incorporating only a few more 25-basis point increases over the forecast horizon. This path is consist with a strategy that tolerates the inflation undershoot we have been experiencing; does not take deliberate action (i.e., cutting interest rates) to reinflate the economy so long as output is growing at trend and the labor market remains solid; allows the funds rate path to remain shallow to support rising inflation; and does not take deliberate action to curtail an inflation overshoot so long as inflation doesn't rise too much above 2 percent.

While this is my modal forecast, there is now more uncertainty around how much slowing we are seeing both in the U.S. and abroad and the downside risks to my modal forecast have risen. The recent softness in business investment and manufacturing, slower growth abroad, and the uncertainty being caused by trade policy and threats of tariffs mean there is now higher weight on a weak-growth scenario in which economic growth slows below trend, the unemployment rate rises, and inflation remains low for longer. The declines in longer-term Treasury yields and other sovereign debt yields are consistent with investors placing a higher likelihood on this scenario. In this

Authorized for Public Release

scenario, the short- to medium-term equilibrium interest rate would move down and the fed funds rate would need to move down as well in order to sustain the expansion and foster achievement of our longer-run goals of maximum employment and price stability.

Respondent 14: Heightened trade tensions and decelerating rates of global growth have increased risks to the downside. In the background, the economic outlook continues to be shaped by adverse demographic trends, technology enabled disruption (which is increasing the need for improved education and skill levels), education and skill levels that are not keeping pace with business needs and are contributing to sluggish productivity growth, and the likely unsustainable path of U.S. government debt. Weak trend U.S. growth, a fading fiscal stimulus, downside risks to already weak prospects abroad, and strong global demand for safe assets continue to hold down the equilibrium level of interest rates and the appropriate path for policy. Cyclical pressures on wage inflation remain strong, but appear more likely to squeeze margins than put upward pressure on price inflation. Elevated levels and rapid growth in BBB corporate, leveraged, and high-yield debt mean that we risk a rapid deterioration in financial conditions in the event of a negative economic shock. That deterioration could turn what would otherwise have been a mild growth slowdown into something more serious.

Respondent 15: My forecast for the real economy is unchanged from my March projection. I expect growth to be about flat and near its trend pace over the forecast horizon. and the unemployment rate to bottom out at 3.6 percent before edging up in 2020 and 2021. However, based on incoming data I have revised down my estimates for inflation over the near term. Weak inflation data in the first half of this year is likely due to transient factors. As those factors wane, I anticipate inflation will rise to the Committee's target next year. However, inflation has been running below target for some time and I see some downside risk to my inflation projection. While the unemployment rate stays below my estimate of the natural rate over the next three years I do not anticipate this will lead to significant inflationary pressures. I remain concerned about the course of fiscal policy and trade policy and their effect on the economy going forward.

Respondent 16: My forecast factors in a sizable, though waning, effect of the fiscal stimulus to the economic outlook. Ongoing strength in household disposable income coupled with past gains in household wealth and high consumer confidence should support continued consumption growth. However, recent data on investment and manufacturing have been somewhat weaker than expected. There is a risk that this deceleration could persist beyond 2019, especially given the heightened uncertainty regarding trade policy and declining prospects for global growth.

With the continued momentum in consumer spending and tight labor market conditions, I expect the continuing overshoot of full employment to lead to a very gradual pickup in inflation. I expect core inflation to reach our 2 percent target on a sustained basis by 2021.

Respondent 17: Core inflation has again fallen below target, inflation expectations have softened, and the economy continues to add jobs with only modest increases in wage growth. This reinforces my assessment that there is still some slack left in the economy and that steps need to be taken to move inflation expectations up. In addition, heightened trade tensions have increased the downside risks to the outlook.

Authorized for Public Release

Forecast Narratives (continued)

Question 4(b). Please describe the key factors, potentially including revisions to your assumptions about changes to government policies, causing your forecasts to change since the previous SEP.

Respondent 1: Real GDP growth in Q1 was above my projection in March, and thus I expect growth in the first half of this year to be above my March projection. However, a considerable amount of the economic activity data for the U.S. and major foreign economies released since the March SEP has been weaker than I had anticipated. Overall, these divergent factors contributed to only a slight markup of my growth projection for 2019. Because the unemployment rate in May was below my projection in March and I forecast near-potential growth over the forecast horizon, the path of my unemployment projections lies somewhat below the projected path in my March submission.

In addition, as noted in my response in question 1(c), I have lowered slightly my estimate of the longer-run normal rate of unemployment.

The inflation data since March were overall on the softer side, continuing the trend experienced for most of this expansion. Combined with my projection of near-potential growth, I have lowered slightly the profile of my inflation projections and I now anticipate that inflation will not overshoot the FOMC's longer-run objective of 2 percent over the projection horizon.

As noted earlier, my assessment of the risks to real GDP growth are now weighted to the downside (and risks to unemployment are to the upside) after being balanced in March. Escalating trade tensions, political events in Europe, and slower global growth are among the factors contributing to this shift. In addition, financial conditions have shown greater fragility in recent weeks and contributed to the shift. My assessment of inflation risks also has shifted to the downside: Beyond the factors cited above, a stronger dollar and declines in market-based inflation compensation in the U.S. and other advanced economies have contributed to the change.

To help support the return of inflation to the FOMC's objective on a sustainable basis and to help mitigate the downside risks to real economic activity and inflation in a fraught environment, my path for the policy rate is lower than it was in my March submission.

Respondent 2: trade policy uncertainty elevated and likely to remain so

Respondent 3: As noted above, the elevated risks and uncertainty associated with trade conflict have played an important role in the changes to my projection.

Respondent 4: With the stronger data on activity, we raised our forecast for GDP growth in 2019 by three-tenths percentage point, to 2.1 percent. Our growth forecasts for 2020 and 2021 are little changed from our last SEP. The unemployment rate has come down unexpectedly, and we are carrying forward a two-tenths lower path for the rate through the projection period. Taking on board some of the weakness in recent inflation data and our contacts' commentary, we revised down our projection for core inflation in 2019 three-tenths from our forecast in March. We continue to see inflation rising over the projection period, and our forecast for 2.2 percent core PCE inflation in 2021 is the same as in our last SEP.

Although our current economic forecast is not markedly different than our March SEP, the policy path underlying the projection is. In March, we assumed no change in rates in 2019, and then one 25 basis point hike in late 2020 and one in early 2021. In contrast, our current forecast assumes 50 basis points of rate cuts this year; no change in rates through early 2021; and then 50 basis points of rate increases later that year. On net, these changes put our current path 50–75 basis points below our March submission. As described in the appropriate policy section, we feel there is a good chance that the marked decline in core inflation so far this year at least partly reflects softer inflation expectations. The change in our policy path is a visible demonstration of a strong commitment to our symmetric inflation objective, which we feel is necessary to lift inflation expectations enough to produce 2-1/4 percent inflation before the end of the projection period. Such 1/4 percentage point overshooting has been a design feature of our SEP submissions for some time.

Respondent 5: N/A

Respondent 6: I have left my baseline outlook largely intact. Aside from some softness in the incoming investment numbers, first half growth has surprised to the upside. Information gleaned from survey work and face-to-face meetings with business decision makers over a cross-section of industries suggest that much of the agita felt on Wall Street is not being felt on Main Street. Business expectations for capital expenditures and sales revenue remain solid.

Respondent 7: Real and inflation outcomes over the forecast horizon are similar to our previous forecast. However, they are conditioned on a lower projected path for the federal funds rate. In other words, our assessment of the underlying strength of the economy is now somewhat less positive, reflecting uncertainty, less scope for pent up demand, and weakness from abroad.

Respondent 8: N/A

Respondent 9: My outlook is more or less unchanged, although I do acknowledge that the risk have increased and are weighted to the downside, particular in regard to GDP growth. I have lowered by headline PCE inflation forecast in response to the recent decline in oil prices. And have nudged down my forecast for core PCE inflation in response to recent weak data prints as well as spillovers from the decline in energy prices.

Respondent 10: Relative to my previous projections, I expect a slightly weaker outlook for real GDP growth and inflation. Several economic indicators for the real economy have been weaker-than-expected over the last few months, suggesting that the economy may be returning to trend at a much quicker pace than previously projected or possibly falling below trend during the middle of this year. Moreover, recent information on inflation continues to suggest some further weakness in the inflation outlook.

Respondent 11: Uncertainty about trade policy and global risks

Respondent 12: Recent data for the US and foreign economies have led us to decrease our projections for GDP growth in 2019.

Respondent 13: The weaker data on business investment and manufacturing, slower growth abroad, and the continuing and increasing uncertainties around trade policy and tariffs have raised the downside risks to my forecast. The recent lower readings on inflation suggest inflation may take longer to return to 2 percent than I anticipated, however, the median and trimmed-mean measures of inflation suggest that the return to 2 percent should remain the modal outlook. I have revised down my estimate of the longer-run unemployment rate by 25 basis points to 4 to 4.5 percent. To promote firmer inflation and continued expansion with strong labor markets, the funds rate path in my modal forecast is shallower than in my last SEP. I now put greater weight on a slow-growth scenario in which the funds rate would likely need to be cut in order to foster our monetary policy goals.

Respondent 14: My baseline path for GDP growth and unemployment are little changed since March, though they are supported by a slightly shallower path for the funds rate in 2020, 2021 and in the long run. I marked down my very-near-term projection for PCE inflation somewhat, given the unusually soft readings in Q1–a softness which I view as largely transitory in nature, given the relative stability of trimmed mean inflation. The most significant question about my forecast is whether recent heightening in trade tensions will be persistent or will be resolved in the weeks ahead.

Respondent 15: N/A

Respondent 16: My forecast has somewhat lower growth in the second half of 2019, reflecting recent weak business spending data amidst the heightened trade-policy uncertainty.

Authorized for Public Release

Respondent 17: Incoming data, especially softer inflation data, readings on inflation expectations, and increased uncertainty about trade, caused me to mark down my near-term inflation forecast and reassess the appropriate path for monetary policy. My forecasts for activity are somewhat stronger than in March in light of my reassessment of appropriate policy, especially with regard to what is necessary to return inflation and inflation expectations to target.

Authorized for Public Release

Forecast Narratives (continued)

Question 4(c). Please describe any important differences, potentially including those related to your assumptions about changes to government policies, between your current economic forecast and the Tealbook.

Respondent 1: My set of projections is broadly aligned with the Tealbook forecast for real growth and inflation. There are some differences regarding the unemployment projections. However, even though the Tealbook has revised considerably its path for the federal funds rate, there remain notable differences between the anticipated paths of the federal funds rate in the two forecasts.

In the Tealbook forecast, real growth is modestly above its potential rate in 2019 – 2020 whereas my forecast is closer to potential in those years. Both forecasts have growth near its potential rate in 2021. Both forecasts have the unemployment rate fairly flat through the projection horizon; however, because of my lower assessment of u*, labor market conditions are notably less tight in my projection than in the Tealbook forecast. Despite tighter resource constraints in the Tealbook forecast, core inflation in 2021 is slightly lower in the Tealbook forecast than in my projection. This difference means that inflation sustainably reaches the 2 percent objective earlier in my projection (2021) than it does in the Tealbook forecast (2023, based on the longer-term projection). Even though the Tealbook policy rate path has shifted down considerably since March with the change in the Board staff's policy rule, there is still a sizable gap (25 – 50 bps depending upon the horizon) between the policy rate paths in the two projections, most likely reflecting the Tealbook's assessment of tighter resource constraints than implied in my projection.

Respondent 2: N/A

Respondent 3: While my assessment of underlying aggregate demand is similar to that in Tealbook, I have written down a lower path for the federal funds rate to provide some insurance against the materialization of the downside risks associated with trade conflict and worsening business sentiment that could put at risk the sustained achievement of full employment and inflation around our target.

Respondent 4: With two rate cuts in 2019 and then no increases until 2021:H2, our federal funds rate path averages about 50 basis points lower than the Tealbook's over the course of the forecast period. In addition, our assessment of the long-run neutral funds rate 25 basis points higher than the Tealbook. So, all told, our policy path is a good deal more accommodative than the Tealbook's. Over the 2019-2021 period we assume roughly the same average impulses to growth from tax cuts and government spending as the Tealbook; however, we assume fiscal policy will be a slight negative in 2021.

Our projection for GDP growth is close to the Tealbook. So is our projection for the unemployment rate, but we have a lower natural rate (4.3 percent), so our unemployment rate gap at the end of 2021, at 0.6 percentage point, is 0.3 percentage point below the forecast in the Tealbook.

Our projection for core inflation in 2019 is slightly lower than the Tealbook, as we see a bit greater persistence to the drop in inflation that occurred earlier this year. Our outlook for inflation is slightly higher in 2020 and 0.3 percentage point higher in 2021. Our boost from resource pressure is a not quite as large, but our monetary policy path is more accommodative, which should lift underlying inflation trends and expectations more than in the Tealbook.

Respondent 5: N/A

Respondent 6: Relative to the Tealbook baseline, I have not allowed trade policy uncertainty to influence my near-term growth forecast as much, but beyond this year my outlook is similar to the Tealbook's over the medium term.

Respondent 7: The two forecasts are conditioned on the same path for the federal funds rate, and feature similar real outcomes. The outlook for inflation is more subdued in the Tealbook, in large part because inflation expectations in our model are anchored at 2.0 percent rather than 1.8 percent.

Authorized for Public Release

Respondent 8: N/A

Respondent 9: I have a stronger outlook for potential growth than the Tealbook. Consequently, I believe that the economy can grow faster than projected in the Tealbook without much additional upward impetus to price inflation. My more optimistic outlook for potential growth is consistent with a slightly higher long-run neutral interest rate compared to that in the Staff outlook.

Respondent 10: My assumptions and projections for real GDP, unemployment, and inflation are broadly similar to those in Tealbook over the forecast horizon, although I anticipate slightly weaker inflation in 2019. My projected path for the federal funds rate is slightly lower than the path in Tealbook over the next few years.

Respondent 11: N/A

Respondent 12: For GDP growth, our projection for 2021 is slightly higher than in the Tealbook. For unemployment, our projections are higher than those in the Tealbook. Our projections for inflation are similar to those in the Tealbook. Underlying the differences in projections is a differing view of the appropriate path for monetary policy. Our regime conception views monetary policy as regime-dependent and the current regime is viewed as persistent. We acknowledge that the economy may visit other regimes in the future, but switches to those regimes are difficult to forecast. Our path for monetary policy, after a cut of 50 basis points, is flat over the forecast horizon, while the Tealbook indicates some slight upward movement in the next few years from its current level, before declining to a long-run value close to the current federal funds rate.

Respondent 13: As in the Tealbook forecast, my modal forecast over the forecast horizon is that growth will slow from the strong pace seen over the past two years toward trend, labor market conditions will remain strong, and underlying inflation will rise from the recent low readings toward our 2 percent goal. My forecast calls for a somewhat steeper path for the federal funds rate than in the Tealbook because my estimate of the longer-run equilibrium real interest rate is higher than the Tealbook's, and compared to the Tealbook's new policy rule, I put somewhat more weight on the undershoot of the unemployment rate from its longer-run level in my reaction function to implement the balanced approach to achieving our policy goals.

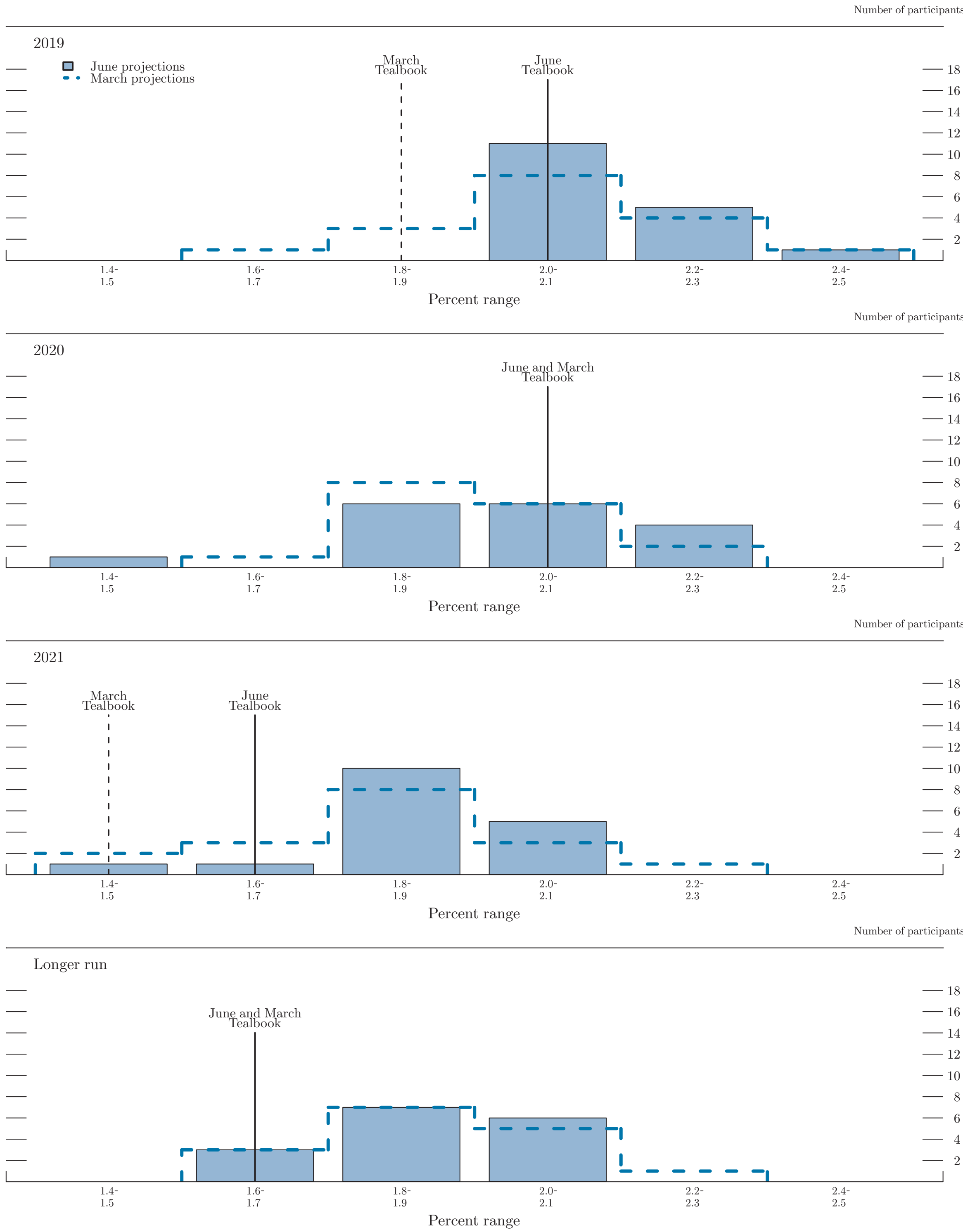
Respondent 14: My projections differ from the Tealbook baseline in their paths for the fed funds rate. My lower path reflects my belief that weak global growth prospects, geopolitical uncertainties, and corporate margin pressures are likely to dampen the outlook for economic performance over the next few years. My estimate of long-run r* is also slightly below that in the Tealbook.

Respondent 15: My forecast calls for the funds rate path to be flatter than that described in the Tealbook. My forecast for the real economy and inflation are similar to those in the Tealbook

Respondent 16: The two projections are largely in alignment, with the exception of the anticipated path for the federal funds rate. In both, the waning effects of the fiscal stimulus and the trade headwinds serve to slow growth while inflation reaches target. However, to achieve this outcome, my funds rate sits below the funds rate path in the Tealbook.

Respondent 17: Relative to the Tealbook, my forecast for economic activity is a touch stronger while my forecast for inflation is about the same. I now believe the long-run unemployment rate is even further below the staff's estimate and my forecast path for unemployment is lower than the staff's. I believe that it is appropriate to reduce the federal funds rate and commit to not raise it until core inflation has reached 2.0 percent in a sustainable manner rather than rise as in the Tealbook. My projection anticipates that inflation will be about the same as in the Tealbook, but will require lower rates to achieve that.

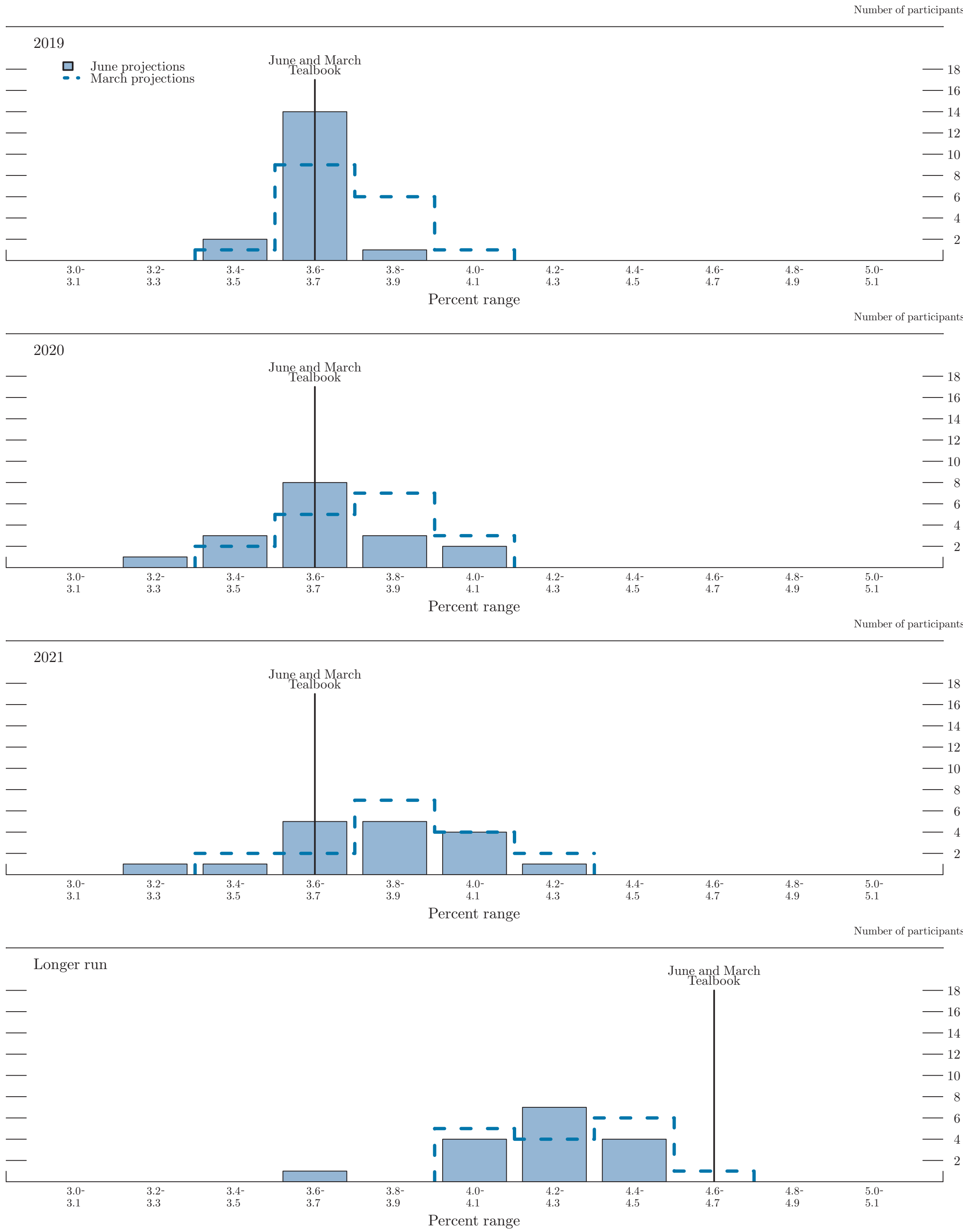
Figure 3.A. Distribution of participants' projections for the change in real GDP, 2019–21 and over the longer run



NOTE: Updated June Tealbook values are reported. Definitions of variables and other explanations are in the notes to table 1.

Authorized for Public Release

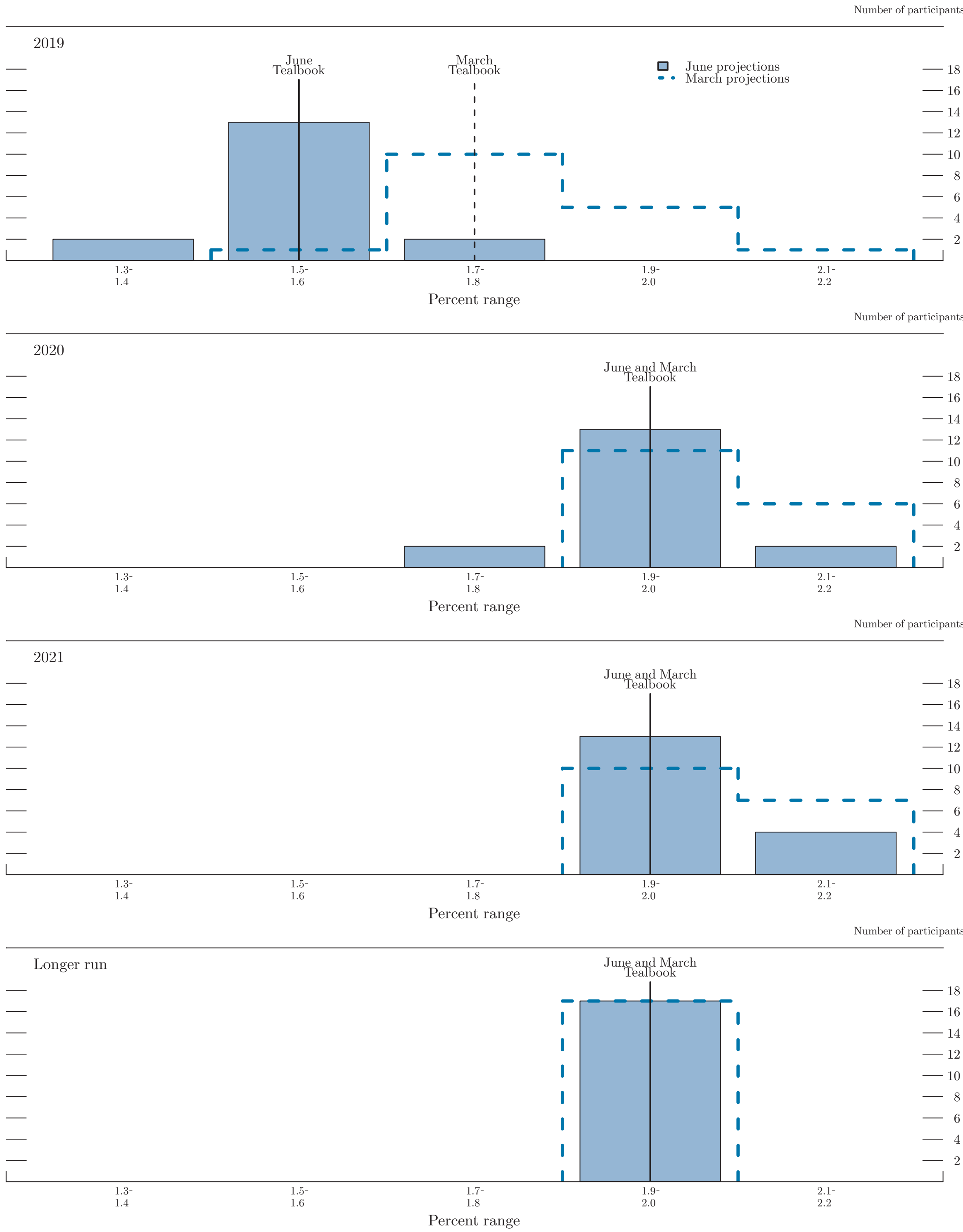
Figure 3.B. Distribution of participants' projections for the unemployment rate, 2019–21 and over the longer run



NOTE: Updated June Tealbook values are reported. Definitions of variables and other explanations are in the notes to table 1.

Authorized for Public Release

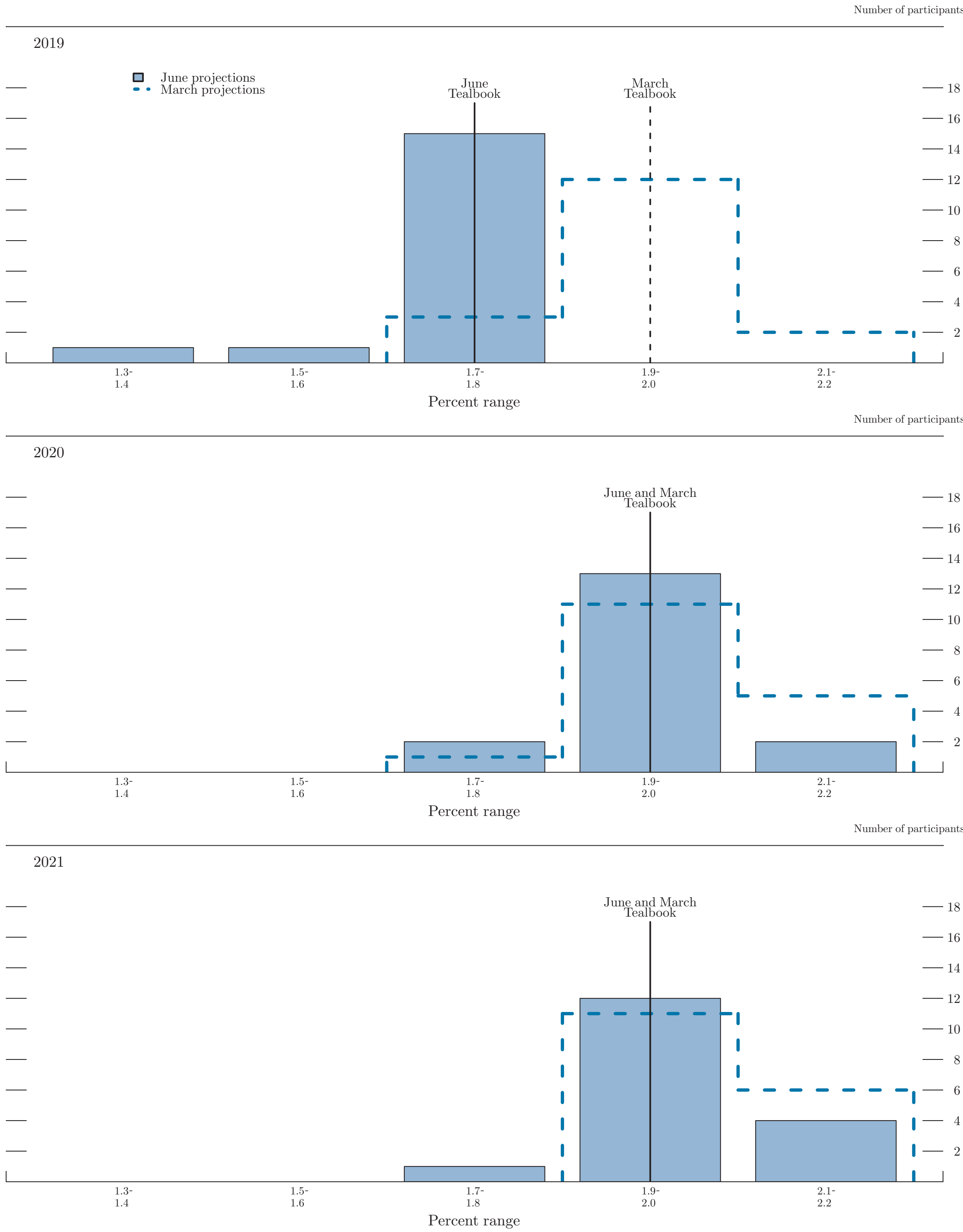
Figure 3.C. Distribution of participants' projections for PCE inflation, 2019–21 and over the longer run



NOTE: Updated June Tealbook values are reported. Definitions of variables and other explanations are in the notes to table 1.

Authorized for Public Release

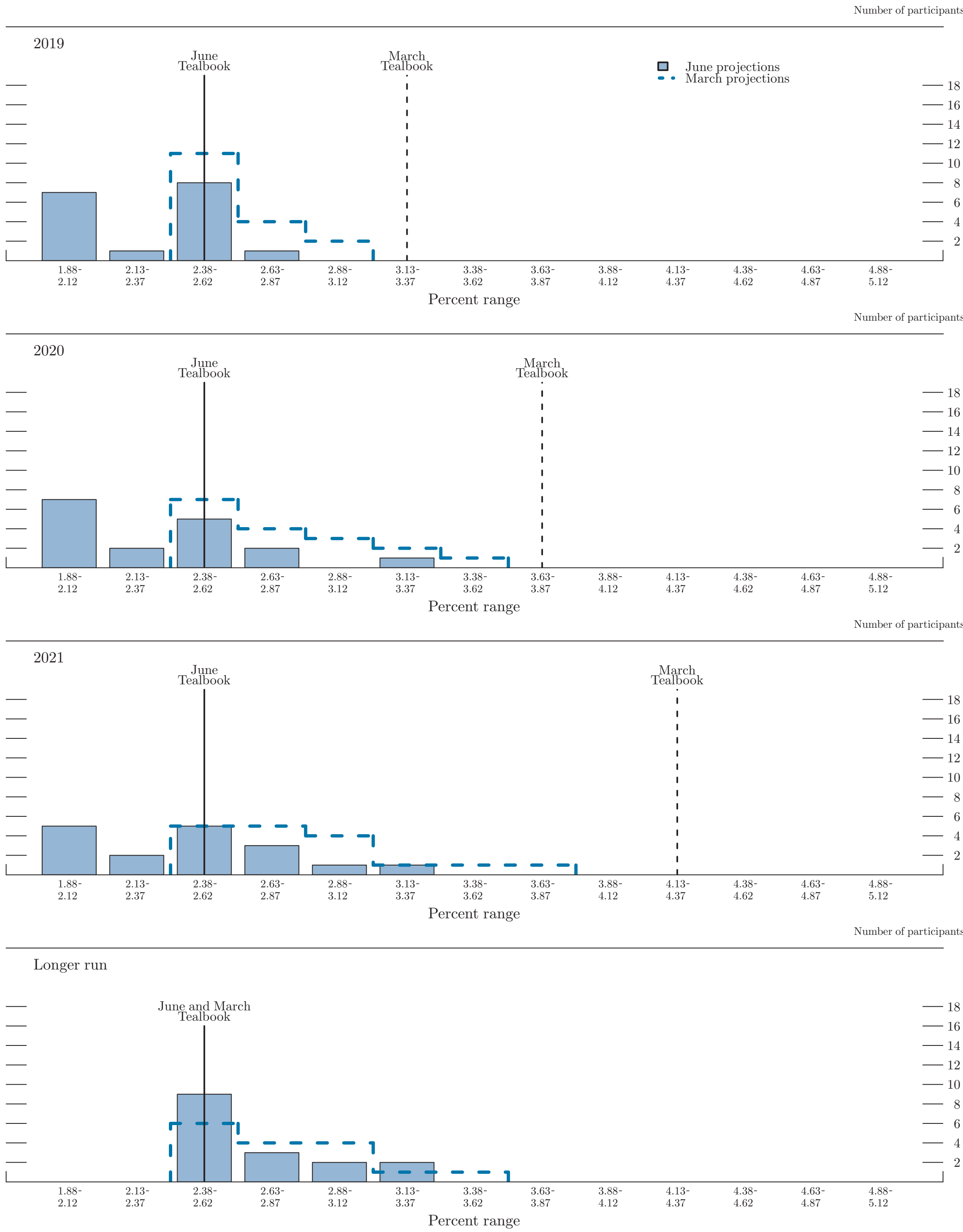
Figure 3.D. Distribution of participants' projections for core PCE inflation, 2019–21



Note: Updated June Tealbook values are reported. Definitions of variables and other explanations are in the notes to table 1.

Authorized for Public Release

Figure 3.E. Distribution of participants' judgments of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate, 2019–21 and over the longer run



NOTE: Updated June Tealbook values are reported. Definitions of variables and other explanations are in the notes to table 1.

Authorized for Public Release