Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assessments of projected appropriate monetary policy, June 2017

Percent

Variable	Median[1]				Central tendency[2]				Range[3]			
	2017	2018	2019	Longer run	2017	2018	2019	Longer run	2017	2018	2019	Longer run
Change in real GDP	2.2	2.1	1.9	1.8	$2.1-2.2$	$1.8-2.2$	$1.8-2.0$	$1.8-2.0$	$2.0-2.5$	$1.7-2.3$	$1.4-2.3$	$1.5-2.2$
March projection	2.1	2.1	1.9	1.8	$2.0-2.2$	$1.8-2.3$	$1.8-2.0$	$1.8-2.0$	$1.7-2.3$	$1.7-2.4$	$1.5-2.2$	$1.6-2.2$
Unemployment rate	4.3	4.2	4.2	4.6	$4.2-4.3$	$4.0-4.3$	$4.1-4.4$	$4.5-4.8$	$4.1-4.5$	$3.9-4.5$	$3.8-4.5$	$4.5-5.0$
March projection	4.5	4.5	4.5	4.7	$4.5-4.6$	$4.3-4.6$	$4.3-4.7$	$4.7-5.0$	$4.4-4.7$	$4.2-4.7$	$4.1-4.8$	$4.5-5.0$
PCE inflation	1.6	2.0	2.0	2.0	$1.6-1.7$	$1.8-2.0$	$2.0-2.1$	2.0	$1.5-1.8$	$1.7-2.1$	$1.8-2.2$	2.0
March projection	1.9	2.0	2.0	2.0	$1.8-2.0$	$1.9-2.0$	$2.0-2.1$	2.0	$1.7-2.1$	$1.8-2.1$	$1.8-2.2$	2.0
Core PCE inflation[4]	1.7	2.0	2.0		$1.6-1.7$	$1.8-2.0$	$2.0-2.1$		$1.6-1.8$	$1.7-2.1$	$1.8-2.2$	
March projection	1.9	2.0	2.0		$1.8-1.9$	$1.9-2.0$	$2.0-2.1$		$1.7-2.0$	$1.8-2.1$	$1.8-2.2$	
Memo: Projected appropriate policy path												
Federal funds rate	1.4	2.1	2.9	3.0	$1.1-1.6$	$1.9-2.6$	$2.6-3.1$	$2.8-3.0$	$1.1-1.6$	$1.1-3.1$	$1.1-4.1$	$2.5-3.5$
March projection	1.4	2.1	3.0	3.0	$1.4-1.6$	$2.1-2.9$	$2.6-3.3$	$2.8-3.0$	$0.9-2.1$	$0.9-3.4$	$0.9-3.9$	$2.5-3.8$

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 14–15, 2017. 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 14–15, 2017, meeting, and one participant did not submit such projections in conjunction with the June 13–14, 2017, 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.

Table 1.A. Economic projections for the first half of 2017*
(in percent)

Medians, central tendencies, and ranges

	Median	Central tendency	Range
Change in real GDP	2.0	1.9 – 2.0	1.9 – 2.2
March projection	1.9	1.7 – 2.0	1.6 – 2.2
PCE inflation	1.5	1.4 – 1.5	1.4 – 1.7
March projection	2.0	1.9 – 2.1	1.9 – 2.2
Core PCE inflation	1.6	1.6	1.5 – 1.7
March projection	2.0	1.9 – 2.0	1.8 – 2.1

Participants' projections

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

* Growth and inflation are reported at annualized rates.

Table 1.B. Economic projections for the second half of 2017*
(in percent)

Medians, central tendencies, and ranges

	Median	Central tendency	Range
Change in real GDP	2.3	2.1 – 2.5	2.0 – 3.1
March projection	2.3	2.0 – 2.4	1.8 – 2.7
PCE inflation	1.8	1.7 – 1.9	1.6 – 2.1
March projection	1.8	1.5 – 1.9	1.4 – 2.1
Core PCE inflation	1.8	1.6 – 1.9	1.6 – 2.0
March projection	1.8	1.6 – 1.9	1.6 – 2.1

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	2.5	1.8	1.6
2	2.2	1.8	1.6
3	2.5	1.9	1.9
4	2.2	2.1	1.8
5	2.3	1.8	1.6
6	2.5	1.8	1.8
7	2.4	1.7	1.9
8	2.1	1.6	1.6
9	2.1	1.9	1.8
10	2.0	1.7	1.8
11	2.1	1.9	1.8
12	2.0	2.0	2.0
13	2.8	1.7	1.8
14	2.9	1.8	1.6
15	2.2	1.8	1.9
16	3.1	1.8	1.6

* Projections for the second half of 2017 implied by participants' June projections for the first half of 2017 and for 2017 as a whole. Growth and inflation are reported at annualized rates.

Table 2. June economic projections, 2017–19 and over the longer run (in percent)

Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2017	2.2	4.2	1.6	1.6	1.13
2	2017	2.2	4.3	1.6	1.6	1.13
3	2017	2.2	4.3	1.7	1.7	1.38
4	2017	2.1	4.3	1.8	1.7	1.38
5	2017	2.1	4.2	1.6	1.6	1.38
6	2017	2.2	4.3	1.7	1.7	1.63
7	2017	2.2	4.2	1.6	1.8	1.38
8	2017	2.0	4.2	1.5	1.6	1.38
9	2017	2.1	4.2	1.7	1.7	1.38
10	2017	2.0	4.3	1.7	1.7	1.63
11	2017	2.1	4.3	1.7	1.7	1.38
12	2017	2.0	4.5	1.8	1.8	1.13
13	2017	2.4	4.2	1.6	1.7	1.38
14	2017	2.4	4.3	1.6	1.6	1.13
15	2017	2.1	4.2	1.6	1.7	1.63
16	2017	2.5	4.1	1.6	1.6	1.63
1	2018	2.2	4.0	1.7	1.7	1.88
2	2018	2.2	4.1	1.8	1.8	2.13
3	2018	2.3	4.3	2.0	2.0	2.75
4	2018	1.7	4.4	2.1	2.1	2.13
5	2018	1.8	4.1	1.8	1.8	1.88
6	2018	2.0	4.2	1.9	1.9	2.63
7	2018	2.1	4.0	2.0	2.0	2.38
8	2018	2.2	3.9	1.9	1.9	2.38
9	2018	2.1	4.1	2.0	2.0	2.13
10	2018	1.8	4.3	2.0	2.0	2.63
11	2018	2.1	4.3	2.0	2.0	2.13
12	2018	2.0	4.5	2.0	2.0	1.13
13	2018	2.3	4.0	2.0	1.9	2.13
14	2018	2.2	4.2	1.8	1.8	1.63
15	2018	1.7	4.2	1.9	1.9	2.63
16	2018	2.0	4.0	1.9	2.0	3.13

Table 2. *(continued)*

Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2019	1.9	4.1	1.8	1.8	2.63
2	2019	2.0	4.0	1.9	1.9	3.00
3	2019	2.1	4.5	2.0	2.0	3.25
4	2019	1.8	4.4	2.2	2.2	2.88
5	2019	1.7	4.1	2.0	2.0	2.38
6	2019	1.8	4.1	2.0	2.0	3.38
7	2019	2.1	4.2	2.0	2.0	3.13
8	2019	2.0	3.8	2.0	2.0	3.13
9	2019	1.8	4.1	2.1	2.1	2.63
10	2019	1.8	4.4	2.0	2.0	3.13
11	2019	2.0	4.4	2.0	2.0	2.63
12	2019	2.0	4.5	2.0	2.0	1.13
13	2019	2.3	4.0	2.0	2.0	2.88
14	2019	1.8	4.1	1.9	1.9	2.38
15	2019	1.4	4.4	2.1	2.1	3.00
16	2019	1.5	4.2	2.1	2.1	4.13
1	LR	1.9	4.5	2.0		2.75
2	LR	1.8	4.5	2.0		3.00
3	LR	2.0	4.8	2.0		3.00
4	LR	1.8	4.6	2.0		2.75
5	LR	1.7	4.5	2.0		2.75
6	LR	1.8	4.8	2.0		3.00
7	LR	2.0	4.7	2.0		3.00
8	LR	1.8	4.5	2.0		3.00
9	LR	1.8	4.7	2.0		2.75
10	LR	1.8	5.0	2.0		3.00
11	LR	2.0	4.6	2.0		3.00
12	LR			2.0		
13	LR	2.2	4.5	2.0		3.50
14	LR	1.7	4.5	2.0		2.75
15	LR	1.5	4.8	2.0		2.50
16	LR	1.8	4.7	2.0		3.00

Figure 1. Medians, central tendencies, and ranges of economic projections, 2017–19 and over the longer run
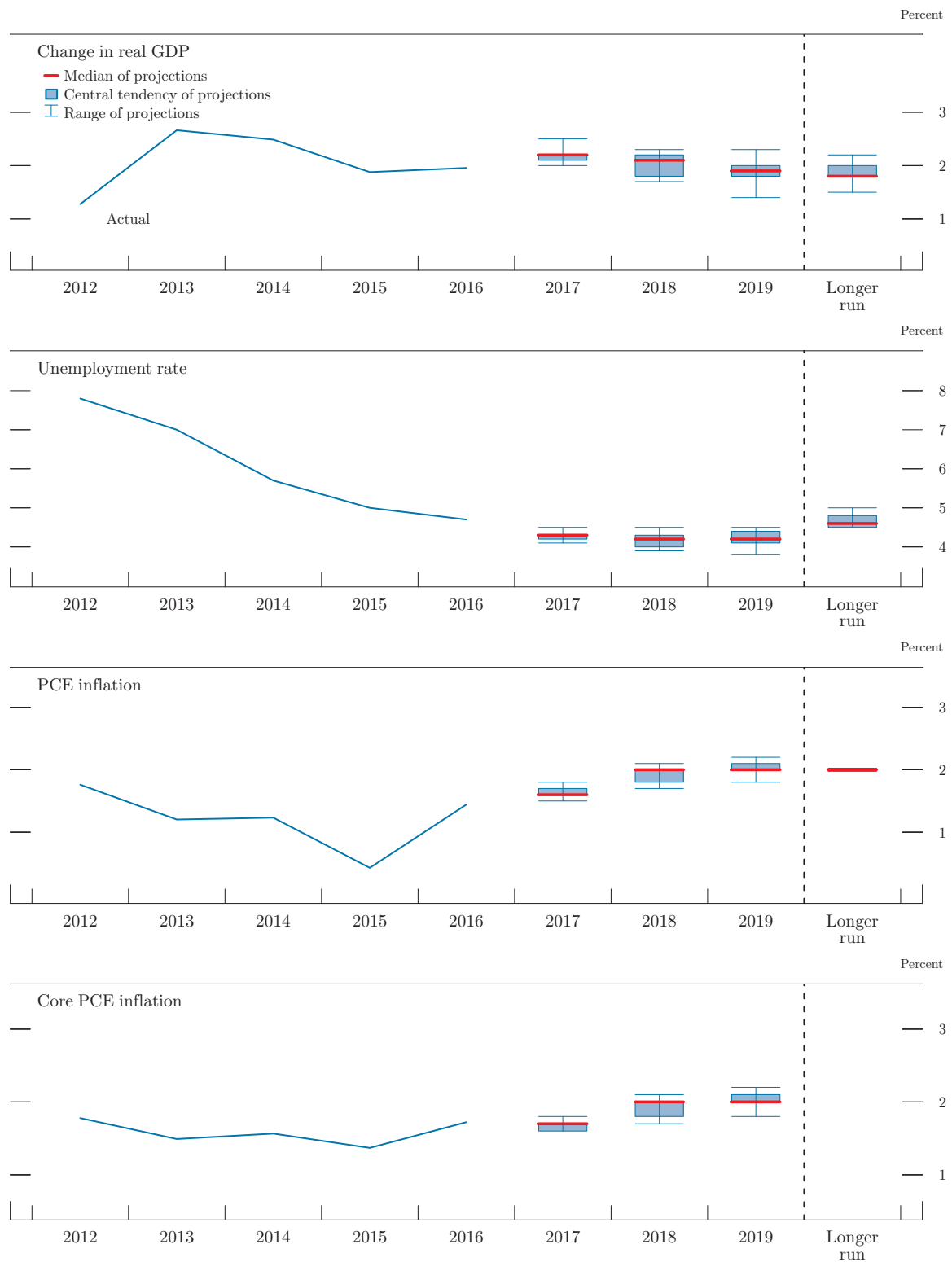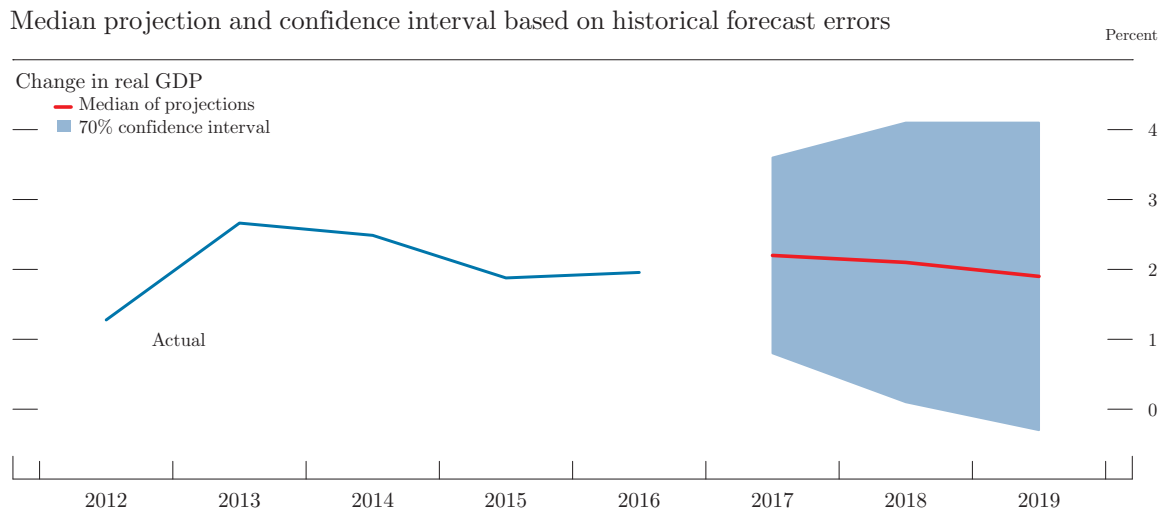

NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

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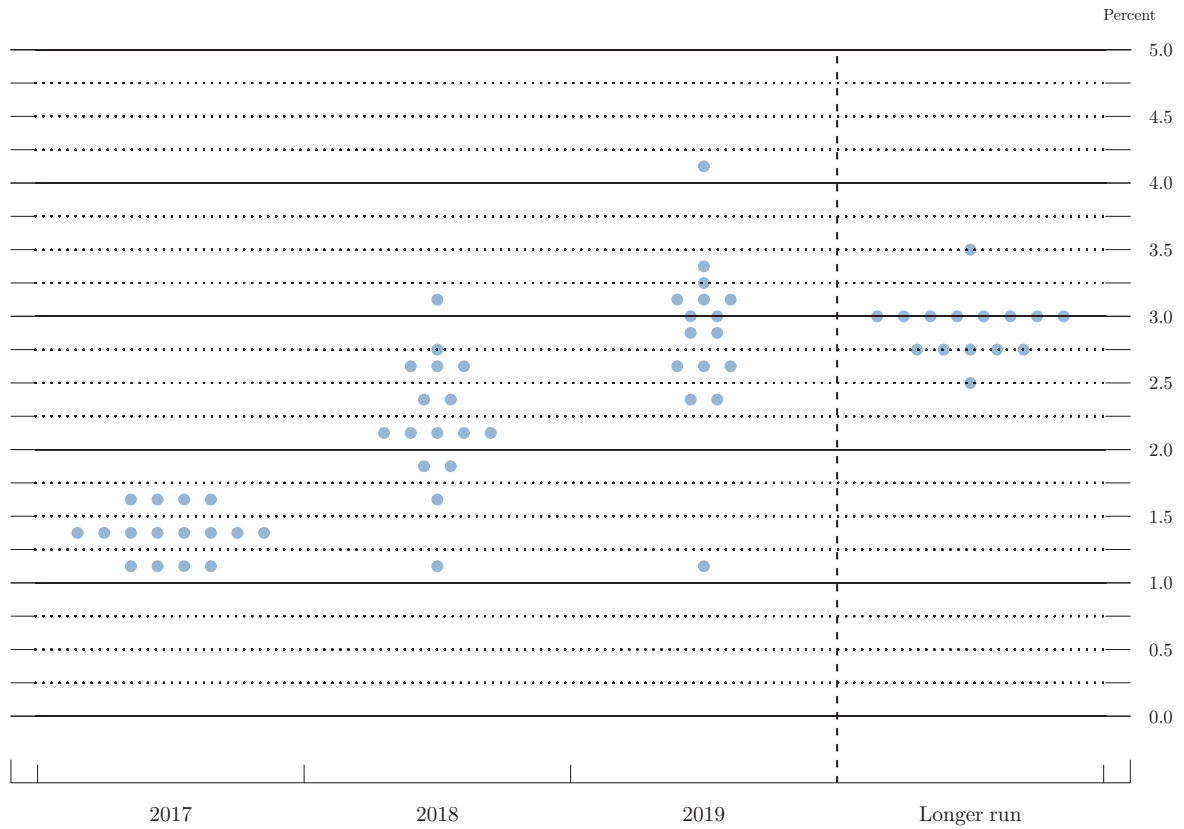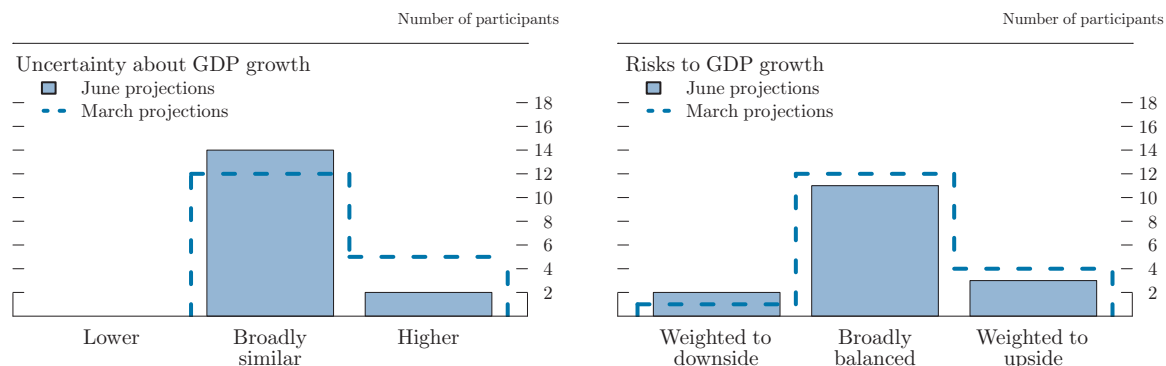

NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar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

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

Median projection and confidence interval based on historical forecast errors

Percent

Change in real GDP
— Median of projections
— ▉ 70% confidence interval

Actual

2012   2013   2014   2015   2016   2017   2018   2019

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

Number of participants

Uncertainty about GDP growth
☐ June projections
‐ ‐ March projections

Lower   Broadly   Higher
         similar

Number of participants

Risks to GDP growth
☐ June projections
‐ ‐ March projections

Weighted to   Broadly   Weighted to
downside   balanced   upside

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 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."

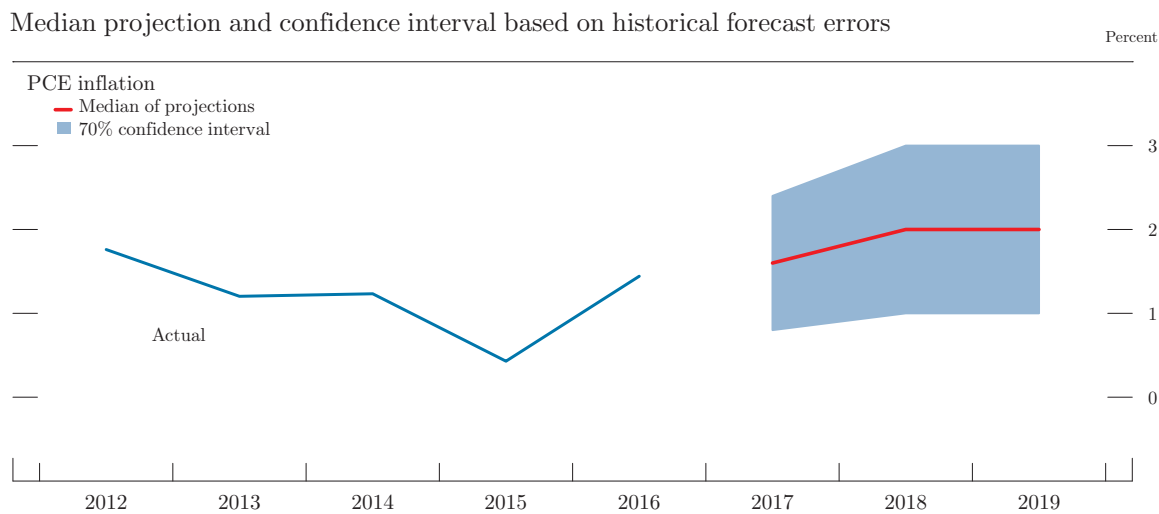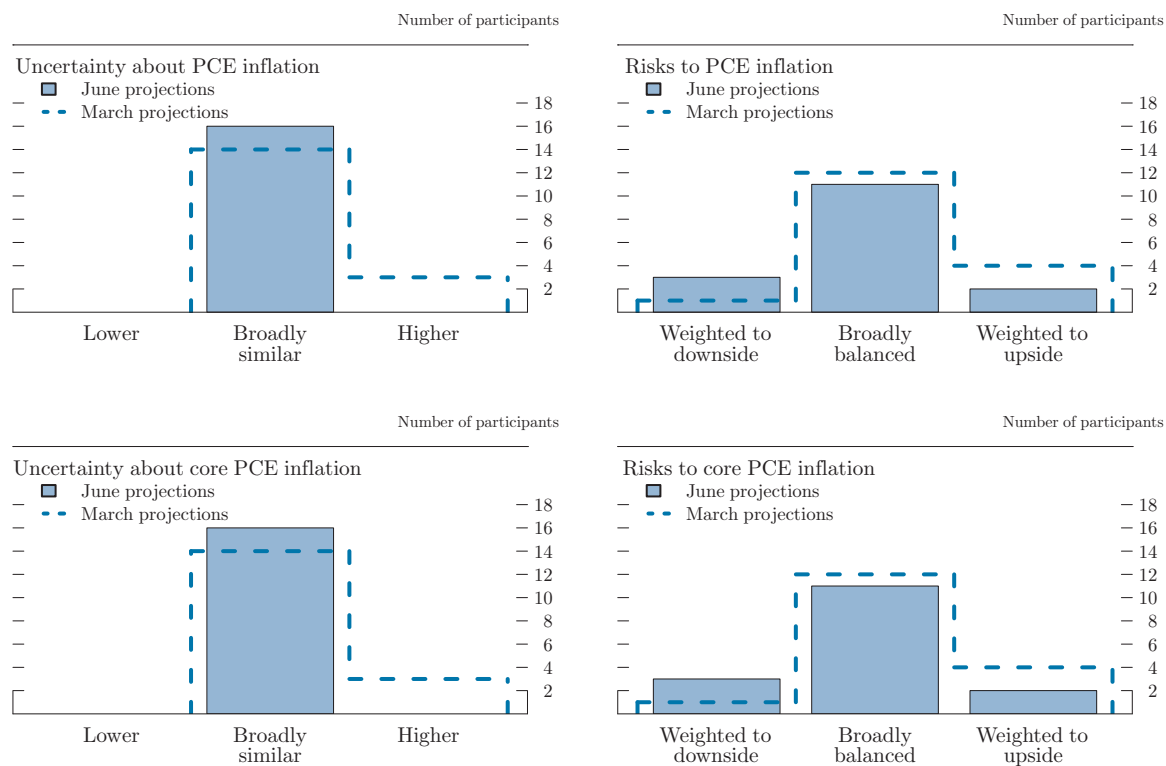Figure 4.B. Uncertainty and risks in projections of the unemployment rate
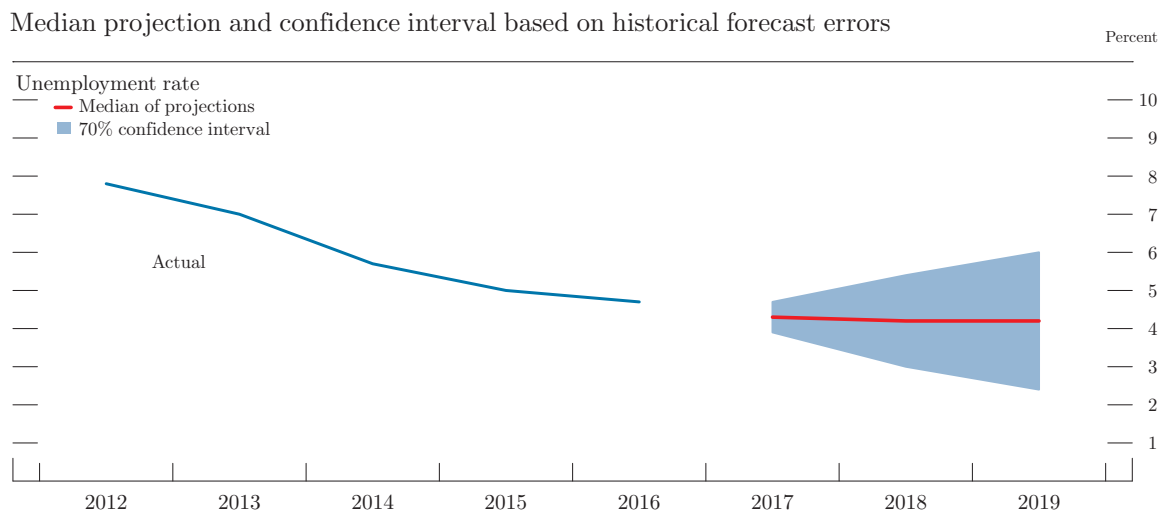
Median projection and confidence interval based on historical forecast errors

Percent

Unemployment rate
— Median of projections
■ 70% confidence interval

Actual

10
9
8
7
6
5
4
3
2
1

2012   2013   2014   2015   2016   2017   2018   2019

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

Number of participants

Uncertainty about the unemployment rate
■ June projections
- - March projections

18
16
14
12
10
8
6
4
2

Lower   Broadly   Higher
         similar

Number of participants

Risks to the unemployment rate
■ June projections
- - March projections

18
16
14
12
10
8
6
4
2

Weighted to   Broadly   Weighted to
downside   balanced   upside
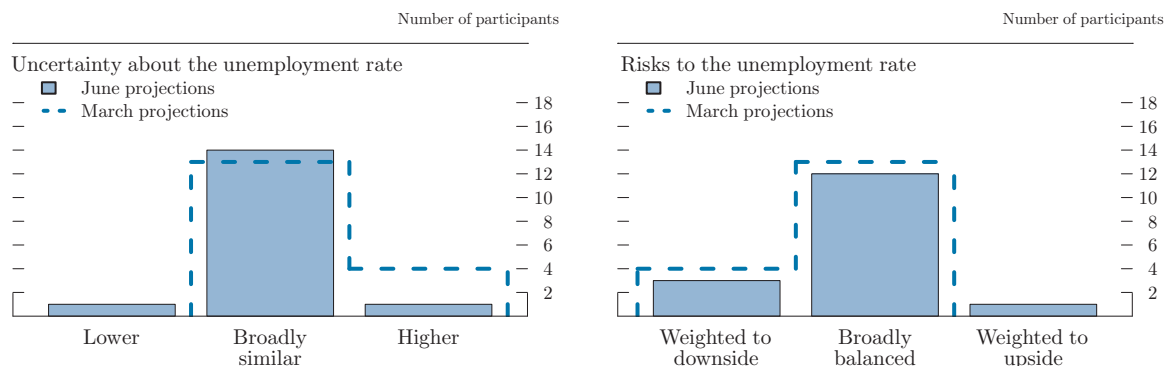
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the average civilian unemployment rate in the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root 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."

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

Median projection and confidence interval based on historical forecast errors

Percent

PCE inflation
— Median of projections
■ 70% confidence interval

Actual

2012   2013   2014   2015   2016   2017   2018   2019

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

Number of participants

Uncertainty about PCE inflation
■ June projections
-- March projections

Lower   Broadly   Higher
             similar

Number of participants

Risks to PCE inflation
■ June projections
-- March projections

Weighted to   Broadly   Weighted to
downside   balanced   upside

Number of participants

Uncertainty about core PCE inflation
■ June projections
-- March projections

Lower   Broadly   Higher
             similar

Number of participants

Risks to core PCE inflation
■ June projections
-- March projections

Weighted to   Broadly   Weighted to
downside   balanced   upside

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."

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
Change in real GDP	B	B	B	B	B	B	A	B	B	B	B	B	A	B	B	B
Unemployment rate	B	B	B	B	B	B	A	B	B	B	B	B	C	B	B	B
PCE Inflation	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Core PCE Inflation	B	B	B	B	B	B	B	B	B	B	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
Change in real GDP	B	B	B	B	B	A	A	B	B	B	B	A	C	C	B	B
Unemployment rate	B	B	B	B	B	C	C	B	B	B	B	B	A	B	B	C
PCE Inflation	B	B	B	B	B	A	B	C	B	B	B	A	C	C	B	B
Core PCE Inflation	B	B	B	B	B	A	B	C	B	B	B	A	C	C	B	B

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

Figure 5. Uncertainty in projections of the federal funds rate

Median projection and confidence interval based on historical forecast errors

Percent

Federal funds rate
— Midpoint of target range
— Median of projections
  70% confidence interval*
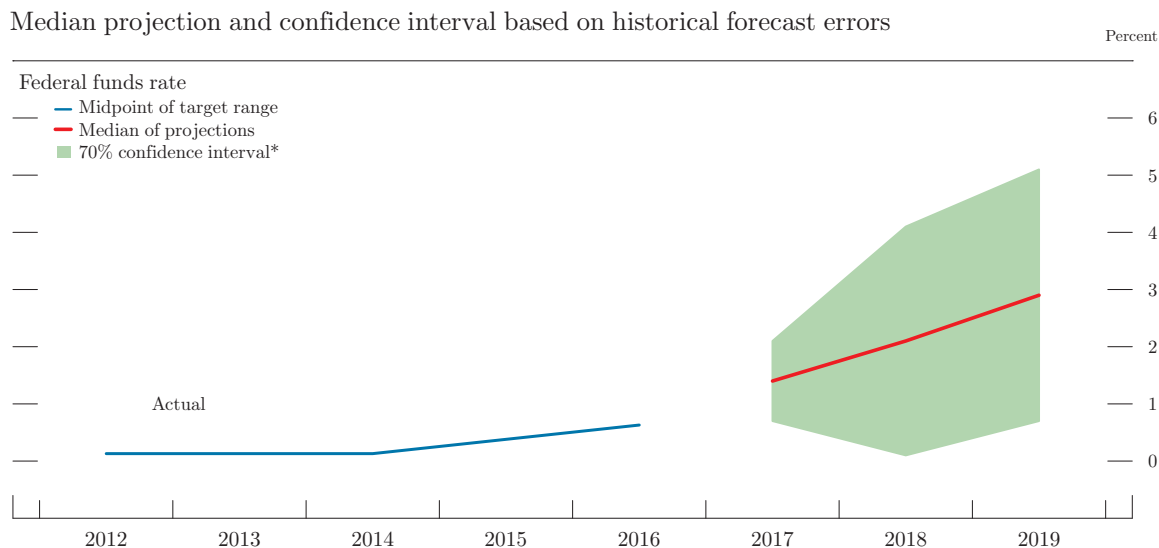
Actual

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: N/A

Respondent 2: We believe convergence of the federal funds rate to its long-run level is likely to take about 2 $^1/_2$ years.

Respondent 3: At this point, convergence is likely in four years.

Respondent 4: Our assumption for potential GDP growth is 1.8 percent, unchanged from March. As in recent submissions, we judge that the longer-run normal rate of unemployment is within the range of 4 to 6 percent, with the mode of that distribution between 4.5 and 5 percent. Given the recent trends in labor market conditions, we have nudged down our point estimate from the middle of that range to 4.6 percent.

We project that the current unemployment rate will remain below its longer-run normal level through the projection horizon. Our scenario analysis of labor flows and the historical behavior of the unemployment rate in long expansions indicate that there is significant probability that the unemployment rate will fall somewhat further below its longer-run normal level.

We assume that long-term inflation expectations will remain anchored at levels consistent with the FOMC longer-run objective. Under these conditions and with some undershooting of the longer-run normal unemployment rate over the forecast horizon, we expect inflation as measured by the PCE deflator to be mildly above the FOMC's longer-run objective in 2018-19, before returning to that level afterwards.

Respondent 5: Full convergence of GDP growth, the unemployment rate, inflation and interest rates to their longer-run values will likely take six years or so, for two reasons. First, I expect a gradual rise in the neutral federal funds rate through 2019 and beyond as productivity growth slowly picks up and international conditions (including the dollar) improve. Second, my projection has the unemployment rate running almost 1/2 percentage point below its longer-run sustainable level through 2019, and I anticipate that a modest and gradual tightening in policy over the following two or three years will succeed in holding inflation around 2 percent while gradually getting the unemployment rate back to the natural rate by 2022.

Respondent 6: N/A

Respondent 7: I anticipate that the economy will converge to my longer-run projection within five years.

Respondent 8: N/A

Respondent 9: Labor-force participation is near its demographic trend and the unemployment rate is now below its longer-run sustainable level, but inflation remains marginally below our 2-percent longer-run objective. With the labor market tight and monetary policy still accommodative, I expect inflation to reach 2 percent by the end of next year. The labor market will be stretched at that point, and a soft landing will be difficult to engineer. If we are successful, full convergence to maximum sustainable employment with price stability will likely take 5 years.

Respondent 10: I expect real GDP growth and PCE inflation to converge to their longer-run rates next year, while the unemployment rate will likely reach its longer-run rate only later. I view the recent weakness in consumer price data as transitory and expect inflation to settle at two percent from next year onward. The unemployment rate has declined below my estimate of its longer-run rate, and I expect the convergence process for the unemployment rate to last five or six years.

Respondent 11:   N/A

Respondent 12:   Reflecting recent data, we project a temporary undershooting of inflation for 2017. GDP growth and the unemployment rate have converged to a regime characterized by low productivity growth and a low real interest rate on short-term government debt. This regime features GDP growth of 2.0%, an unemployment rate of 4.5%, and inflation of 2.0%. Because there are multiple medium term outcomes, we cannot provide a single set of projections for GDP growth and unemployment. Calculating an average for these variables based on multiple outcomes is potentially misleading. We do provide a 2.0% longer-run inflation projection that is independent of the regime.

Respondent 13:   N/A

Respondent 14:   N/A

Respondent 15:   Our dual mandate goals are reached or exceeded by the end of 2018. However, it will take at least a couple more years to achieve complete convergence to our longer-run projections. The effects from accommodative monetary policy will generate some overshooting of inflation and undershooting of unemployment before dissipating over the longer run.

Respondent 16:   Given our current estimate of the equilibrium unemployment rate, the economy is now operating above potential and the underlying pace of activity suggests a significant risk of further undesirable overshooting of full employment in the near term. In order to converge back to full employment, a prolonged period of growth below potential will be needed. The historical record, however, places a significant probability on a "growth recession" eventually morphing into a full-blown recession. In sum, while a purely model-driven forecast would suggest convergence to the equilibrium unemployment rate from below around 2021-22, there is a nontrivial risk that the projected soft landing will not materialize in practice.

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: N/A

Respondent 2: We think uncertainty about the growth forecast has diminished since March, while uncertainty over the inflation outlook has increased. Still, on balance, we continue to judge that the levels of uncertainty for both forecasts fall into the "broadly similar" bucket. The size and timing of new fiscal, trade, immigration, and regulatory policies, and their corresponding impact on household and business spending, continue to be unresolved. However, at least in the near term, the odds of large changes in policy appear to have diminished. Volatility in financial markets continues to be very low. Concerns over foreign economic growth appear to have fallen further since March. The labor market has tightened while the inflation data have been disappointing; the lack of clarity about how these opposing factors will net out boosts the uncertainty surrounding the inflation forecast.

Respondent 3: N/A

Respondent 4: Ours is a quantitative judgment based on the width of the probability intervals from the FRBNY forecast distribution for real GDP growth and core PCE inflation. The widths of these intervals are somewhat narrower than in our March SEP submission, as economic data have been roughly consistent with our central projection and geopolitical uncertainty has diminished (notwithstanding the results of the June 8 election in the U.K.). As some of the uncertainty surrounding our forecasts has dissipated, the probability intervals for real activity and core PCE inflation forecasts are now broadly in line with the SEP standard (for inflation, this assessment takes into rough account the differences between forecast errors for overall consumer inflation and core PCE inflation).

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: Uncertainty surrounding output growth and unemployment remains elevated by heightened uncertainty about the course of fiscal policy, regulatory reform, and trade policy. The impact on inflation uncertainty is small given how flat the Phillips curve seems to be.

Respondent 8: N/A

Respondent 9: While I see possible upside from potential fiscal policy and structural reforms, I am not unduly optimistic about the sustainable positive impact of these actions. Regulatory review, if thoughtfully done, as well as appropriate infrastructure spending decisions could be helpful to GDP growth. However, I am concerned about the potential negative impacts of healthcare reform and immigration policies, and about tax policies which create a short term bump in GDP growth but ultimately do not create sustained improvement in GDP, and leave us with a higher level of debt to GDP at a time when the US government is already highly leveraged. I am hopeful that trade policy, despite recent rhetoric, will be done in a way that doesn't dismantle logistics and other integrated supply chain arrangements which I believe help US competiveness and help job growth in the US.

Uncertainty about the appropriate path for the federal funds rate over the next few years is unusually high.

Respondent 10: N/A

Respondent 11: N/A

Respondent 12: N/A

Respondent 13: N/A

Respondent 14: 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.

Respondent 15: 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 16: N/A

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: N/A

Respondent 2: Our forecast assumes a very modest impetus to growth arising from fiscal policy. These and other potential legislative or administrative policy changes remain quite speculative. Nonetheless, given the current legislative environment, we feel the likelihood of an outsized boost to growth from large fiscal actions appears to have diminished. The same can be said for the downside risks posed by other potential policies. Changes in other risk factors have been small, and we continue see the overall risks to the growth outlook as roughly in balance.

The recent low inflation data are disconcerting, as are the continued low levels of financial market inflation compensation and household measures of inflation expectations. We believe changes in these factors are only partially offset by the lower unemployment rate, and accordingly we marked down both our core and total inflation forecasts by 0.2 percentage point in 2017 and 0.1 percentage point in 2018 and 2019. These revisions allow us to continue to characterize the risks to our inflation forecast as balanced, although this was a close call. In the end we "rounded up" to a balanced risk assessment for the inflation forecast.

Respondent 3: I continue to view the risks around my forecast as broadly balanced. However, this view continues to be based on a monetary policy path that is a bit steeper than the median path in the March SEPs.

Over the forecast horizon, I continue to expect some changes to fiscal and other economic policies, pertaining to some combination of infrastructure spending, the tax code, immigration, trade, healthcare, and regulation. However, there continues to be uncertainty about what, if anything, will be passed and the timing. My baseline forecast incorporates fiscal stimulus in line with the size and timing of the package assumed in the Tealbook, but there is considerable uncertainty. The fiscal policy assumptions lead to only a modest increase in output growth and inflation in 2018 and 2019 in my projections. While a larger package could pose upside risks to growth and inflation, depending on how it is financed, a larger fiscal policy package could also pose some downside risks over the longer run because of the implications for the budget deficit and, therefore, for long-term interest rates. A fiscal package that doesn't meet investors' expectations could generate financial market volatility and poses a downside risk. Failure to pass legislation in line with expectations also has the potential to increase uncertainty more generally. If political uncertainty continues to rise more generally, this could lead consumers and businesses to delay activity, and thus, poses a downside risk. Policies that constrain immigration and trade would have negative effects for the U.S. economy over the longer run, but I have not incorporated these into my projections.

The global outlook has improved over the last year. Some risks remain, including the weak banking system in Italy, uncertainty around the outcomes of the elections in European countries, the continued rebalancing of the Chinese economy, vulnerabilities in emerging market economies, and geopolitical risks. Accommodative monetary policy in many countries will continue to help support their economies.

At this point, I continue to see inflation risks as roughly balanced and I continue to expect that inflation will gradually return to our goal of 2 percent over time. The recent weaker readings on inflation suggest it may take slightly longer to achieve a sustained return to 2 percent inflation than in my March forecast, however I still expect this goal to be met by the end of 2018.

Because price and wage inflation have remained moderate even as labor markets continue to tighten, in this projection I've reduced my estimate of the long-run unemployment rate to 4.75 percent from 5 percent. Even so, I expect the unemployment rate to remain below this longer-run level over the forecast horizon. If labor markets tighten more than I've assumed and nonlinear Phillips curve dynamics kick in, then this could translate into higher inflation, especially if the withdrawal of monetary accommodation is slower than I've assumed. Even absent a change in the slope of the Phillips curve, a slower withdrawal of monetary accommodation than I've assumed poses an upside risk to my inflation forecast.

The risks to inflation from oil prices appear balanced, as geopolitical risks have increased while domestic oil supply has responded strongly to higher prices over the past year.

A larger appreciation of the dollar than I'm expecting poses a downside risk to my inflation forecast.

Risks to financial stability from very low interest rates appear to be contained so far, but given the outlook and the low level of interest rates, should we fail to remove monetary policy accommodation at an appropriate pace, these risks would rise. Indeed, the low level of market volatility coupled with the low equity premium suggests that these risks may be building.

Respondent 4: Ours is a quantitative judgment based on the difference between the central projection and the expected value from the FRBNY forecast distribution. With little resolution concerning U.S. fiscal, regulatory, and trade policy changes, risks remain significant on both sides of the real activity outlook. Overall, as in March, they are roughly balanced over the forecast horizon.

Inflation risks also remain roughly balanced throughout the forecast horizon. Longer-term inflation compensation has declined moderately and the Michigan long-run survey inflation expectations have been stable–both are at low levels, consistent with continued downside risks. In addition, our SCE 3-year inflation expectations and some measures of underlying inflation have moved down since March. By contrast, global disinflationary forces appear to have somewhat abated and financial conditions have eased, indicating still-significant upside risks.

Respondent 5: Continued high readings on consumer and business sentiment since the election and rising equity valuations may signal stronger consumption and investment than I expect; real activity could also be boosted by expansionary fiscal policy. These upside risks to real activity are roughly balanced by the potential for a stock market correction as well as the asymmetries created by the effective lower bound on interest rates. Inflation risks remain broadly balanced: Although recent soft monthly readings on various price measures suggest a slight shift to the downside, this shift is balanced by an upward revision to the projected level of labor utilization.

Respondent 6: Monetary policy is currently highly accommodative, as evidenced by a negative real federal funds rate. The unemployment rate is below most estimates of the natural rate. While my modal forecast is for a soft landing with inflation on target, there is an elevated risk that shocks could lead to overheating.

Respondent 7: Fiscal uncertainty remains high. Some stimulus may be forthcoming that would boost demand, raise output growth, and lower the unemployment rate further. The magnitude and timing of any such stimulus remains uncertain.

Respondent 8: N/A

Respondent 9: N/A

Respondent 10: N/A

Respondent 11: N/A

Respondent 12: We are answering this question variable by variable as they may be affected by important regime shifts.

With respect to GDP growth, the current productivity regime is low. A higher productivity growth regime is possible, but we see no compelling reason to predict a switch as this time. We do not see the fiscal and deregulation proposals of the administration as sufficiently concrete or close enough to enactment to forecast a high productivity regime. Such a possible switch, however, leads us to weight to the upside more rapid GDP growth.

Concerning unemployment, the current unemployment rate is at the low end for an economic expansion. If a recession were to occur, the unemployment rate would rise substantially. We have no compelling reason to predict a recession during the forecast horizon; however, such a possibility leads us to allow for a higher unemployment rate. On the other hand, we also see the possibility of further declines in the unemployment rate. We see the risks as broadly balanced.

For core PCE inflation, we place negligible weight on the prospects of Phillips Curve effects. There is, however, a risk that Phillips Curve effects reassert themselves and that inflation moves higher as the unemployment rate falls. It is also possible that inflation expectations could drift higher and become unanchored. Thus, we see the risks on this variable to be weighted to the upside.

For PCE inflation, the risks are the same as for core PCE inflation. In addition, this variable also depends on the behavior of energy prices. Overall, we see the risks as weighted to the upside.

Respondent 13: N/A

Respondent 14: Risks for output and inflation are weighted to the downside because the effective lower bound limits the ability of monetary policy to respond to adverse shocks. For the unemployment rate, there is a countervailing risk that it will fall more rapidly if the labor force participation rate resumes its downward trend. Therefore I see the risks to unemployment as broadly balanced.

Respondent 15: Risks to economic activity appear broadly balanced. We have reached our objective of maximum sustainable employment according to a variety of labor market measures and will be beyond full employment for the next couple of years. The main uncertainty is by how much and for how long. Despite some Q1 softness, consumer spending is on track for solid growth this year, bolstered by a stronger labor market and equity wealth gains.

I continue to expect some fiscal policy impetus in 2018 and 2019. However, there is significant uncertainty about the size, composition, timing, and effect of future fiscal and other government policy initiatives.

Uncertainty about growth in foreign economies appears to have subsided somewhat in recent months, but some risks to the foreign outlook remain.

Although the effective lower bound somewhat constrains our ability to respond to adverse shocks, this constraint is becoming less important given that appropriate policy calls for steady increases in the target funds rate over the next two years.

Inflation risks are also balanced. A tightening of resource utilization supports the continued movement of inflation towards 2 percent and a slight overshooting some time afterwards. In recent months, the dollar has declined, which should put upward pressure on import prices in the near term. On the other hand, oil prices have declined somewhat and, if sustained, could lead to lower inflation for some time. The size, scope, and impact of expected fiscal and other government policy measures are a contributing factor to inflation risk.

Respondent 16: Our forecast for GDP growth in the second half is fairly upbeat, and we view the near-term risks around the real outlook as roughly balanced. The recent behavior of the unemployment rate continues to be consistent with a low estimate of the potential growth rate of the economy. In this context, if our real growth forecast materializes, that would entail a notable risk that the unemployment rate would fall by more than what we are envisioning absent an improvement in potential GDP growth.

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: Progress toward the Committee's inflation objective appears to have stalled, with trailing twelve-month core PCE inflation at 1.5 percent, little different from a year earlier. In addition, it now appears that fiscal stimulus is likely to be of smaller magnitude and delayed relative to my earlier assessment. For these reasons, and taking into account the expected change in reinvestment policy, after the June meeting, my federal funds rate path holds steady for the remainder of 2017. With inflation projected to rise gradually toward target in 2018 and 2019, interest rates rise again. However, the increase in rates is only gradually. In particular, with inflation still below target by 2019, the federal funds rate is below my estimate of its long-run level, despite an unemployment rate that is below its longer-run level.

Respondent 2: Our assumed appropriate policy path has the funds rate increasing twice in 2017, 4 times in 2018, and then reaching its long-run neutral rate of 3 percent in the second half of 2019. We anticipate raising the funds rate 25 bps in June and then putting rate hikes on a hiatus for the rest of 2017. We assume balance sheet normalization begins in September of this year. We believe this policy package represents a balanced approach to achieving both of our dual mandate objectives. In particular, we think the fourth-quarter rate pause will be appropriate to avoid the credibility risks that would be presented by further tightening in the presence of the continued low inflation we are projecting. Risk management considerations also continue to argue in favor of tempering policy moves. If growth proceeds along our forecast path and inflation solidifies as expected, then by next year we believe rate increases will be able to proceed at a somewhat faster pace.

Respondent 3: I continue to view a gradual upward path in the funds rate as appropriate. Given the changes in my outlook for inflation, my path is slightly flatter in 2017 and 2018 than in my March projection. I anticipate that we will change our reinvestment policy later this year to begin normalizing the balance sheet and I view this as appropriate.

In 2017 and 2018, I project that growth will be somewhat above and the unemployment rate will be below my estimates of their longer-run levels. I anticipate that labor compensation measures will firm moderately, in line with anecdotal reports of increasing wage pressures across a range of skill groups and a variety of data showing that wage and compensation gains have been picking up over time. However, these gains will likely be slower than in past expansions reflecting slower growth in productivity.

The recent weaker readings in inflation partly reflect transitory factors. Reasonably stable inflation expectations coupled with continued strength in labor markets and ongoing economic growth suggest that inflation will gradually increase to our goal of 2 percent over the forecast horizon.

Given that monetary policy affects the economy with a lag, I believe appropriate monetary policy should reflect both actual and projected progress toward the Committee's goals. Based on the outlook, I believe it will be

appropriate for the FOMC to move rates up over the course of the forecast horizon. I assume that the funds rate will end 2019 at a level slightly higher than my longer-run estimate of 3 percent.

Respondent 4:   The principal factors behind our assessment of the appropriate path for monetary policy are the current state of the economy, our central economic outlook, and our balance of risks around the outlook. The steepness of the policy path also depends on how overall financial conditions respond to our policy actions.

Because our projections are largely unchanged, our current projections of the appropriate policy path are the same as in the March submission. The target FFR ranges at the end of 2017, 2018, and 2019 are $1\,^1/_4 - 1\,^1/_2$ percent, $2 - 2\,^1/_4$ percent, and $2\,^3/_4 - 3$ percent respectively. Our policy path remains fairly shallow and is consistent with the gradual rising path of the natural interest rate as projected by the staff DSGE model.

Our estimate of the longer-run equilibrium real short-term interest rate remains in the range of $0 - 2$ percent, consistent with the estimates and forecasts from a variety of models. Adding the objective for inflation (2 percent) gives our estimated range for the nominal equilibrium rate as $2 - 4$ percent. Our modal projection is in the lower half of this range due to the combination of continued subdued productivity growth, still-low longer-term sovereign yields, continued indications of a global "saving glut," and demographic factors. Relative to the March submission, however, as reported in the response to question 3(a) we raised our point estimate of the nominal equilibrium rate to $2\,^3/_4$ percent, reflecting primarily the easing of financial conditions since the beginning of the year. Despite this increase, our appropriate policy path temporarily slightly overshoots the longer-run FFR.

As for the balance sheet policy, we assume that under our central projection the conditions for starting the phase-out of reinvestment will be met by end-2017Q3.

Respondent 5:   My assessment of appropriate policy rests on three assumptions. First, keeping the unemployment rate near 4 percent for the next two or three years will facilitate the return of inflation to our 2 percent objective by 2019. Second, the federal funds rate is currently somewhat below its neutral rate, implying that a few additional hikes will be needed in the next few quarters to prevent the unemployment rate from falling below 4 percent. And third, the neutral rate is likely to slowly rise over time as productivity growth and global demand for US products pick up. As a result, additional gradual increases in the federal funds rate will likely be required over the next six years or so, first to keep the unemployment rate near 4 percent through 2019, and then to gradually move it back up to its longer-run sustainable level of 4-1/2 percent . Under this strategy, the federal funds rate would still be somewhat below its longer-run level at the end of 2019 even though inflation would be back to 2 percent and the unemployment rate would be below the natural rate.

Respondent 6:   Inflation has been below 2 percent for a lengthy period. Leading indicators for inflation are not signaling any material increase. We have examined several forecasting models that predict that inflation will remain under 2 percent for a considerable period. Under these circumstances, I believe that we can remove monetary accommodation at a modest pace without undue risk of significantly overshooting our inflation target of 2 percent. I also believe that under appropriate policy we will begin reducing our security holdings this year.

Respondent 7:   My projection for the appropriate path for the federal funds rate is unchanged from last time. My view is that policy should adjust at a gradual pace given low productivity growth, uncertainty about the future path of the labor force participation rate, and inflation that has been running below target for some time.

Respondent 8:   N/A

Respondent 9:   Prospects for meaningful policies that might grow the workforce or improve productivity have dimmed somewhat, reducing upward pressure on the neutral real funds rate, r*. In response I've lowered my estimate of the longer-run value of the funds rate by 25 basis points and assumed a shallower path for the funds rate over the projections horizon. Risks to my funds-rate projections are balanced, in my view. However, my confidence that the funds-rate path I have specified will, in fact, prove to be appropriate is lower than usual. I am cognizant that the 10 year treasury yield now stands at approximately 2.15 percent. I believe that if this rate stays as is, our operating flexibility in raising the fed funds rate will be more limited.

I expect it will be appropriate to begin scaling back reinvestment of funds from maturing Treasury and MBS securities in our portfolio sometime later this year–probably in September. I do not expect the exact timing of the change in reinvestment policy to influence on my thinking on the appropriate path for the funds rate.

Respondent 10: My judgment regarding the appropriate path of the federal funds rate is predicated on promoting sustainable economic growth and price stability. My forecast calls for the unemployment rate to be below its longer-run level and inflation to be near two percent in 2017. Yet I view the appropriate level of the federal funds rate to be below my estimate of its longer-run level in 2017. In my view such a gradual path of the funds rate promotes economic and financial stability.

Respondent 11: My projection for the federal funds rate is informed by a simple policy rule with a gradual rise in the short-run equilibrium funds rate.

Respondent 12: To reflect additional upward movement in the low real interest rate on short-term government debt, we have one more 25 basis point increase in the federal funds rate in 2017, with no additional changes in 2018 and 2019. By 2018 all variables will have essentially converged to a regime characterized by low productivity growth and a still low rate on short-term government debt.

Respondent 13: The low level of the federal funds rate has been necessary to move inflation and unemployment back toward our targets. This is likely because r* is temporarily depressed by the low rate of productivity growth and other factors. Those factors are likely to dissipate only gradually, requiring a low federal funds rate for some time in order to deliver an appropriate amount of accommodation.

Respondent 14: Inflation continues to come in below our 2 percent target; in fact it has come down a bit over the past three months. Even though the labor market continues to strengthen, it is not clear that we have reached maximum employment as the labor force participation rate and employment-population ratio for prime age persons remain well below their pre-recession levels, and wage growth remains subdued. In addition, the neutral funds rate is expected to rise from its currently low level, but that adjustment is likely to take several years. As a result, the federal funds rate should increase very gradually.

Respondent 15: The labor market is beyond full employment according to various measures of slack. Labor markets will continue to tighten this year–with the unemployment rate falling further below its natural rate–before gradually returning to its long-run steady-state value. On inflation, despite some recent weakness due to transitory factors, I expect a continued gradual increase, reaching our 2 percent objective by the end of 2018 and overshooting it in 2019. Underpinning this path is my view that the economy will continue to improve, causing it to run above potential, and that this will contribute to upward pressure on inflation.

My assessment of appropriate policy is generally informed by looking at simple rules that adjust for the zero lower bound and assume a low natural rate of interest, as well as by my expectations of, and uncertainty about, the costs and benefits of continuing unconventional actions.

My fed funds path through the end of this year remains flatter than some simple rules would suggest. This reflects the fact that inflation has been rising only gradually to our objective from below. Beyond the near term, I envision a faster pace of fed funds rate normalization than predicted by fed funds futures. The fed funds rate will overshoot its long-run level a bit by the end of 2018 and in 2019 to unwind the overshooting in inflation and labor market conditions. In addition, I have revised down my estimate of the long-term equilibrium real interest rate, incorporating mounting evidence on this topic. Similarly to the Tealbook, I expect the SOMA portfolio to start to gradually decline before the end of this year with the reduction in reinvestments.

Respondent 16: The tightening of monetary policy is accompanied in this projection by a contraction in the SOMA portfolio starting early this summer. The projected increase in the federal funds rate balances the need to avoid overshooting full employment by a larger amount with the risk of destabilizing financial markets by raising rates at an even faster pace. The stance of monetary policy in this forecast pushes probing for a lower equilibrium unemployment rate to what is likely the limit before the probability that a soft landing will turn into a recession becomes too high. The projected path for the federal funds rate is conditioned on an equilibrium federal funds rate that stays below our longer-run estimate of 3 percent for most of the forecast horizon. Specifically, over the forecast horizon the average equilibrium federal funds rate is around 2.7 percent.

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: If fiscal stimulus is enacted, it now appears likely to be smaller and later than before. On the other hand, global growth projections have been revised up, downside risks from abroad have diminished, and financial conditions have eased on balance.

Respondent 2: We expect growth to run moderately above potential through 2019. The first quarter lull in consumer spending appears to have been transitory. Accommodative monetary policy, a healthy labor market, and improved household balance sheets should support solid gains in consumer spending. Business outlays appear at last to be growing at a healthier pace. We assume fiscal policy provides a small boost to growth, with higher defense spending in 2017:H2 adding 0.1 percentage point to GDP growth for the year as a whole and tax cuts raising GDP 0.1 percentage point in 2018. At 4.3 percent, the unemployment rate is below our estimate of the natural rate, and we expect it to continue to be modestly below the neutral rate as we move through the forecast period. We project the unemployment rate will be 4.0 percent in 2019, 0.6 percentage point below the natural rate we expect to prevail at that time. (We think the natural rate of unemployment averages 4.6 percent over the projection period, but will fall to 4.5 percent in the long run.)

Our forecast does not have core inflation returning to 2 percent until after the projection period. The incoming data on inflation were a setback. Eventually, overshooting in resource slack should provide some lift to inflation going forward. Furthermore, our assumption of a shallow path for policy normalization and a strongly communicated commitment to a symmetric 2 percent inflation target play critical roles in solidifying inflation expectations and help to bring actual inflation toward target. The inflation forecast has been marked down two tenths in 2017 and a tenth in 2018 and 2019 compared to our March forecast.

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

Respondent 3: The fundamentals supporting the expansion remain favorable, including accommodative monetary policy, household balance sheets that have improved greatly since the recession, continued improvement in labor markets, and relatively low oil prices. Business investment has strengthened. Consistent with the data, business contacts report further tightening in labor markets, more widespread difficulties in finding qualified workers, and some increased wage pressures across a range of skill groups and occupations. The global outlook has improved over the last year. Inflation rates here and abroad are fluctuating around a general upward trajectory, supported by accommodative monetary policy.

In the U.S., there will likely be some form of expansionary fiscal policy, although the details are still unknown. I've incorporated fiscal policy assumptions similar to those in the Tealbook. My modal forecast is not dependent on a sizable fiscal policy package; I expect that fiscal stimulus will provide a modest boost to growth and inflation over the forecast horizon. There is considerable uncertainty surrounding my fiscal policy assumptions. In addition, there is uncertainty about whether policies that constrain immigration and trade will be enacted. While I have not incorporated such effects into my baseline forecast, these would have negative effects for the U.S. economy over the longer run.

The U.S. economy has been growing at a moderate rate and labor market conditions have strengthened over the last year. From the perspective of what monetary policy can do, I believe we are at or slightly beyond maximum employment.

While recent readings on inflation have softened, transitory factors have played a role. Measured year-over-year, inflation is notably higher than it was in 2015 and most of 2016 and is not far from our 2 percent goal. I view inflation expectations as reasonably well-anchored. This, coupled with continued strengthening in labor market conditions and ongoing economic growth, suggests that inflation will gradually move to 2 percent on a sustained basis over the forecast horizon.

Although there is uncertainty surrounding fiscal and other government policies, I view overall uncertainty as roughly comparable to historical norms of the last 20 years. As described above, while there are a number of risks to my outlook, I view them as broadly balanced for both the real economy and inflation.

Respondent 4: The weakness of real GDP growth in 2017Q1 appears to have been a temporary phenomenon, and we expect growth to rebound to around 3 percent (annual rate) in the second quarter, and thus come in around 2 percent for 2017H1, the same as for 2016 (Q4/Q4). Growth is then projected to firm to around 2 1/4 percent over 2017H2, reflecting modestly stronger growth of final sales to domestic purchasers and somewhat less drag from both inventories and net exports. In 2018 we project growth to slow to around 1 3/4 percent, due largely to an anticipated tightening of financial conditions associated with the continued gradual normalization of monetary policy. Growth in 2019 is expected to be similar.

We project real PCE growth over 2017H2 to pick-up from 1.8 percent (annual rate) over 2017H1 to 2.4 percent, supported by steady income growth, further improvement in household net worth and high consumer confidence. PCE growth is then expected to slow to just above 2 percent by the end of 2018. We anticipate business fixed investment to grow moderately, and housing starts to remain on a gradual uptrend as the housing inventory is still quite low. Overall, we project growth of final sales to domestic purchasers to be slightly stronger in 2017 than in 2016, and then to slow somewhat in 2018.

As has been the case for the past few cycles, we continue to hold off on incorporating any fiscal stimulus into our forecast, so that we expect no growth contribution from the government sector.

These projections imply that for roughly the next six to twelve months we expect the economy to grow at a somewhat above its potential rate, further reducing slack. Any associated decline of the unemployment rate should be contained by firming of productivity growth and a gradual rise of the labor force participation rate. We expect the unemployment rate to average 4.3 percent in 2017Q4 and then rise slightly to 4.4 percent in 2018Q4 and 2019Q4.

Regarding inflation, we believe that many of the factors responsible for the recent slowdown of core inflation are temporary, and our models continue to project a gradual firming of underlying inflation. With the economy operating near or modestly beyond full employment and inflation expectations anchored at the FOMC's objective, core PCE inflation is projected to rise from 1.7 percent in 2017 to 2.1 percent in 2018 and 2.2 percent in 2019. Overall PCE inflation is similar in those latter two years.

Respondent 5: My forecast is conditioned on several key assumptions. First, the forces currently restraining growth (slow productivity growth, an elevated exchange rate, and restrictive mortgage credit) will abate only gradually. Second, no enactment of a major fiscal stimulus package. Third, the federal funds rate rises gradually over time, stabilizing the unemployment rate near 4 percent, roughly 1/2 percentage point below its longer-run level. And fourth, a moderately tight labor market and anchored inflation expectations allow actual inflation to move up to 2 percent over the next couple of years.

Key risks to the outlook include the possibility of major changes in federal economic policy (including ones with potentially adverse effects); the chance of a significant market correction given current valuations that are somewhat rich; the risk that high levels of consumer and business confidence will actually show through to stronger spending; and the chance that recent low monthly CPI readings signal a more persistent weakness in inflation.

Respondent 6: I expect real GDP to grow slightly more rapidly than its trend value of 1.8 percent in 2017 and 2018. In 2019, my best estimate is for trend growth. This forecast does not assume any significant change in fiscal policy, since the timing, size, and composition of any change is highly uncertain. For example, many analysts believe that fiscal policy changes will include a reduction in the corporate tax rate. However, we have been told that corporate executives who had earlier incorporated such a change in their internal plans are now concluding that no change will occur in this Congressional session.

Respondent 7: My forecast calls for output growth of about 2 percent over the forecast horizon. I continue to expect that some fiscal stimulus may be forthcoming over the next few years, but because the timing and magnitude is so uncertain it is not yet meaningfully affecting my point forecast. However, I see some upside risk to output growth over the medium term. I have revised down my projection for the unemployment rate in response to the incoming data. I expect the unemployment rate to fall below my estimate of the natural rate as the economy grows at about its trend pace and the labor force participation rate edges down. Headline inflation has been held down recently by transitory factors. As these factors wane headline inflation moves up the 2 percent target by the beginning of 2018. With inflation and output growth running near my longer-term trends and the unemployment rate below my estimate of the natural rate, monetary policy becomes less accommodative over the forecast horizon. However, accommodation is removed at a gradual pace in light of the economic uncertainties surrounding fiscal policy, regulatory and trade reform, productivity growth, and inflation dynamics.

Respondent 8:   N/A

Respondent 9:   Cutbacks in OPEC and Russian oil production are being offset by increases in U.S. output, which are a clear plus for the U.S. economy. Substantial oil inventories and the high price-elasticity of shale oil production reduce the danger that continued expansion of the world economy will be choked off by sharply higher energy prices anytime soon.

I expect U.S. GDP growth to be more balanced than has been the case in recent years, with a larger growth contribution from fixed investment and a reduced drag from net exports helping to complement the growth contribution from consumer spending.

Monetary policy remains accommodative, and with labor-market strains increasingly in evidence it is appropriate to continue withdrawing monetary stimulus. In light of aging demographics leading to slowing workforce growth, I believe that r* may stay lower for longer than is commonly recognized. While asset valuations are high by historical standards, corporate profits have firmed and the market may be taking into account lower interest rates for an extended period of time.

Transitions to sustainable, non-inflationary growth are always difficult, but this is especially so once the unemployment rate has fallen below the natural rate. The exact mechanisms are unclear, but probably revolve around levels of debt, physical capital, and staffing that suddenly become problematic–inducing sharp cutbacks in spending and hiring–when it becomes apparent that the growth outlook must be revised downward. (It sometimes seems that the economy has only two distinct modes–(1) growth above potential and (2) recession–with very different dynamics.) Substantial unemployment undershoot now seems all but inevitable, and it will take unusual skill and a good measure of luck to engineer a soft landing.

Respondent 10:   Modal forecast: My forecast for real GDP growth is characterized by growth near trend in the period from 2017 to 2019. As the stimulus from accommodative financing conditions and gains in household wealth gradually diminishes, I expect growth to become more self-sustaining, based on modest increases in the labor force and a moderate pace of productivity gains. I view the economy as at or beyond full capacity, and expect the unemployment rate to remain below its longer-run level in the next few years, before gradually moving back toward its longer-run rate. I see PCE inflation average 1.7 percent in 2017, and rise further to 2 percent next year, as labor market conditions tighten and the effects of past dollar appreciation and lower energy prices dissipate.

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 projection errors, the current debt-related economic problems in China and some European countries, and economic and policy uncertainty at home. The risks to economic growth, inflation, and unemployment appear broadly balanced. On the downside, China is the primary source of risk to the foreign outlook. A downside risk emanating from the U.S. is the possibility that an overly expansive monetary policy could lead the unemployment rate to significantly undershoot its natural level, as periods of overheating have historically often ended with a recession. Upside risks to my forecast are related to the resilience of the U.S. economy and the possibility of a more expansionary fiscal policy stance.

Government policies: My assumption for fiscal policy has not changed since March. My forecast does not assume major changes in fiscal policy because any possible changes in taxes, government spending, or regulations remain highly uncertain. The likelihood of a more accommodative fiscal policy stance, while diminished since earlier this year, still poses upside risk for growth and inflation and downside risk for the unemployment rate. I did not assume any major changes in trade policy or immigration policy either, but view them as posing downside risk to my forecast. Considering the risks related to government policies in the context of the array of global and domestic risks to the outlook, I view uncertainty as broadly similar to the past 20 years and the risks around my outlook as broadly balanced. Given that my assumptions about government policies do not imply changes in the modal outlook or in my assessment of uncertainty and risks, they did not alter my projection for the appropriate path of the federal funds rate.

Respondent 11:   My outlook consists of modestly above-trend growth over the next two years, supported by a moderate pace of consumption and investment spending.

Despite the recent soft readings, I see inflation converging to target next year.

I view the risks to my growth outlook as balanced. I have not incorporated any changes in either fiscal policy or other government policies into my baseline outlook. If there are eventual changes in fiscal policy, they are likely to be, on net, expansionary in the near-to-medium term. On the other hand, I am concerned about a scenario

similar to the Tealbook's "broad policy disappointment," that would have a sizeable negative impact on aggregate demand.

The risks to my inflation outlook are also balanced. The unemployment rate is below my assessment of its longer-run "normal" value. While recent history suggests that the response of inflation to resource slack is somewhat muted, it may be more pronounced at high rates of resource utilization.

On the other hand, after a number of years with below-target inflation, it is possible that inflation expectations are becoming entrenched at a level lower than is consistent with our mandate.

Respondent 12:   Our forecast continues to use a regime-based conception of outcomes for the U.S. economy. In our conception, there a multiple regimes and we appear to have nearly converged to one of them. The current regime is viewed as persistent, and we see no reason to forecast an exit from the current regime over the forecast horizon. Monetary policy is regime-dependent, and, with a 25 basis point increase, can be viewed as optimal given the current regime. Longer term, the economy may visit other regimes, such as ones associated with higher productivity growth, a higher real return to short-term government debt, or recession. If the economy transitions to any of these states, all variables may be affected and, in particular, the optimal regime-dependent policy rate may require adjustment. However, predicting when these transitions may occur is very challenging, so we forecast that we will remain in the current regime over the forecast horizon.

Respondent 13:   My central economic outlook is based on the performance of the economy in the past few years and my attempt to foresee future policies and disturbances.

Respondent 14:   The continued low level of inflation, the benefits to the economy of allowing further improvement in the labor market, and potential risks to the US economy from international policy divergence all suggest a gradual approach to normalizing the stance of monetary policy.

I have not assumed any changes to government policies.

Respondent 15:   The recovery from the housing collapse and the financial crisis is essentially complete, and incoming data indicate that the economy is expanding at a solid pace relative to the slow pace of growth in potential output, which has pushed the unemployment rate lower. Going forward, the strength in labor market hiring, faster wage growth, and gains in household wealth should support continued consumption growth. The climate for future fixed business investment appears to have improved given the continued expectation of higher after-tax corporate cash flow, lighter regulatory burdens, and improving prospects abroad.

Despite substantial uncertainty about the anticipated fiscal stimulus, its expected net impact on economic growth over the next few years is likely to be a small positive. Similar to the Tealbook, I continue to expect some new measures to be approved by the end of this year, contributing to growth in 2018 and 2019 of up to a $1/4$ percentage point, which is partly offset by less accommodative monetary policy. Due to the substantial uncertainty about the composition of the stimulus it is premature to adjust the longer-run outlook.

In this environment, I expect the economic recovery to proceed at a pace that is a bit above potential. Output and unemployment gaps were closed in 2016. With substantial monetary stimulus still in place and renewed fiscal stimulus, I expect these gaps to overshoot for the next few years. This overshooting should lead to faster inflation over the next few years. I expect inflation to reach our 2 percent target in the last quarter of 2018, and to overshoot slightly in 2019. Tighter monetary policy will raise the federal funds rate above its long-run level by the end of 2018 and in 2019 bringing inflation, growth, and unemployment back to their long-run sustainable levels by the following year or two.

Respondent 16:   Incoming spending and labor market data are consistent with a rebound in activity after a disappointing first quarter. The estimated pace of growth in the first half of this year now stands close to the 2 percent average growth rate that we have experienced over this recovery. Such a pace of growth, while not particularly fast by historical standards, should be enough to continue to put downward pressure on the unemployment rate. In this regard, it is important to highlight that we, as the Tealbook, project a pickup in the pace of growth in the second half of this year, to about 3 percent. The acceleration is at least in part predicated on conditioning assumptions that are even more favorable than what was envisioned at the time of the March SEP. Households' net worth is higher than anticipated, and despite the increase in the federal funds rate, long-term yields are now lower than in

March. These developments, coupled with ongoing gains in employment and high sentiment readings, should be consistent with solid gains in consumer spending in the near-term.

In 2018, fiscal policy is expected to provide further support to disposable income at a time when the effect on consumption from net worth appreciation is starting to wane. Uncertainty surrounding the timing, nature, and size of the Trump Administration's fiscal policy measures remains. For comparison purposes, we continue to work with the same assumptions as in the Tealbook. Overall, the upbeat outlook for consumption supports a forecast for GDP growth above potential this year and next. The unemployment rate is expected to reach a low of 4.0 percent by the end of 2018. This is only modestly below the current level of the unemployment rate, and there is the risk that the unemployment rate will fall by a larger amount if our assessment that the current reading overstates the degree of labor market tightness turns out to be wrong.

In 2019, the tightening of monetary policy brings the pace of GDP growth below potential, and thus the unemployment rate starts to rise. The current forecast is conditioned on four 25 bp increases in the federal funds rate this year, six in 2018, and four in 2019. Our federal funds rate assumption is coupled with a contraction in the SOMA portfolio starting early in the second half of this year. In all, the projected removal of policy accommodation is now less gradual than in previous forecasts. We continue to expect inflation to remain close to target over the forecast period.

The odds of a fiscal package larger than what we are envisioning have declined somewhat. While there are risks that the federal government fails to enact a fiscal stimulus, upbeat household and business sentiment could signal stronger demand than what we are currently envisioning. Downside risks emanating from abroad are still present but recent data has surprised on the upside. In all, we assess the risks around our GDP growth outlook as roughly balanced. As concerns prices, there is a risk of a nonlinear response of inflation associated with low levels of the unemployment rate. A countervailing risk is that the equilibrium unemployment rate is lower than what we are currently estimating. From a policy standpoint, it is worth mentioning that despite the recent increases in the federal funds rate, long-term yields remain very low by historical standards, even when taking into account a reduction in the equilibrium real rate of interest. If this pattern persists, the federal funds rate may need to increase by more than what we are currently assuming.

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:   A key change to my projection this round is a reduction in my assumption about the longer-run unemployment rate, to 4-1/2 percent. This change reflects downward surprises to both inflation and the unemployment rate. The recent disappointing news on inflation has also led me to revise down my path for inflation over the next two years.

I view the prospect of large deficit-financed tax cuts less likely than in March. My outlook for GDP growth is little changed, however, as my interest-rate forecast is slightly lower than in March, and the global economy is somewhat stronger.

Respondent 2:   The spending and production indicators since our March submission have come in pretty much in line with expectations and therefore we made only small changes to our GDP forecast in response to these data. Given the lack of legislative progress, this outlook incorporates slightly less fiscal stimulus in 2018 compared with our March forecast. The unemployment rate came down more than we had anticipated and we have lowered our unemployment rate forecast in response. The incoming inflation data have raised concerns that core inflation is not on the gradual path to target as we projected in March. As a result, we lowered our inflation projection as noted earlier.

Respondent 3:   The narrative of my forecast has changed little since March. Because price and wage inflation have remained moderate even as labor markets continue to tighten, I reduced my longer-run estimate of the unemployment rate and the path of the unemployment rate over the forecast horizon. Reflecting the recent weaker readings on inflation, my inflation forecast in 2017-2018 is slightly lower compared to March. (I note that in March it was the opposite: the inflation data had been a bit stronger than anticipated and my inflation forecast for 2017 was slightly higher compared to my December SEP.)

I have not made changes to my expectations for fiscal policy since the last SEP and continue to await further details on the composition, timing, and magnitude of any package. My modal forecast is not dependent on a sizable fiscal policy package. At this point, my fiscal policy assumptions remain similar to those in the Tealbook and I expect that expansionary fiscal policy will provide a modest boost to growth and inflation over the forecast horizon. I have not incorporated changes to other economic policies such as immigration policy and trade policy, but view these as risks to the outlook over the longer run.

I view an upward path of monetary policy as appropriate given that the unemployment rate is expected to remain below its longer-run level and inflation is projected to gradually move to our goal of 2 percent over the next year or so. My funds rate path is slightly flatter over the next two years compared to my March projection.

Respondent 4:   Even though our real GDP growth projections are largely unchanged, we now see a lower path of the unemployment rate in the near and medium term. This change reflects our current assessment of the implications of recent labor market dynamics for the near- and medium-term outlook. As we have marked down our assessment of the longer-run normal rate, we project a touch narrower unemployment gap than in our March submission.

The overall and core inflation forecasts for 2017 are a bit lower than they were in our March projections, reflecting the weak Q1 data. As we judge this weakness temporary, we maintain the small overshoot of the inflation objective in the medium term forecast we had in March. This overshoot helps to ensure that inflation expectations do not begin to fall below the FOMC's longer-run inflation objective and thus helps to achieve the Federal Reserve's mandated objectives over the longer run.

Our assessment of the appropriate policy path is unchanged, with a mild overshoot of the longer-term policy rate meant to ensure that the overshoot of inflation and undershoot of unemployment are temporary, and the longer-run objectives are met in the early 2020s. The recent easing of financial conditions leads us to assume that the announcement of the change in the reinvestment policy will occur in 2017Q3, somewhat earlier than we assumed in March.

Respondent 5:   I have made no change to my assumptions for government policies. I have, however, lowered my estimate of the longer-run unemployment rate two tenths, to 4-1/2 percent.

Respondent 6:   N/A

Respondent 7:   Incoming data on the labor market has led me to revise down my path for the unemployment rate.

Respondent 8:   N/A

Respondent 9:   My baseline projections assume a somewhat shallower path for r* than in March, based partly on scaled back expectations for policy actions which would either increase labor force growth and/or increase the rate of productivity growth.

I have modestly lowered my 2017 inflation and unemployment forecasts to reflect recent lower-than-expected realizations, without significant change to my economic forecasts for 2018 and beyond.

Respondent 10:   I have made small revisions to my forecasts of real GDP growth, headline inflation, and core inflation for 2017, based on the incoming data. I also revised down my projected path for the unemployment rate through 2019 to reflect recent improvements in labor market data. Consistent with the higher rate of resource utilization embedded in this revised unemployment rate path, I have raised slightly my view of the appropriate level of the federal funds rate in 2019.

Respondent 11:   N/A

Respondent 12:   Recent data has caused us to change our inflation projections for 2017 and our unemployment projections for 2017, 2018, and 2019.

Respondent 13:   Recent data have caused me to change my forecasts, particularly of unemployment and GDP growth.

Respondent 14:   Near-term core inflation has come in lower than I expected, so I decreased my 2017 forecast. The labor force participation rate has been moving sideways over the past year, but I continue to expect the labor market to be able to accommodate healthy employment gains, but at a slightly lower rate. I have lowered my forecast for the unemployment rate as well as my estimate of its long-run level given the declines we have seen in the unemployment rate without any step-up in wage growth.

I have not assumed any changes to government policies.

Respondent 15:   Since March I have become less confident that there will be meaningful fiscal stimulus or other government policy initiatives that will affect the economy. However, my modal projection still assumes that fiscal policy will not impact growth in this year but will push up growth by up to a tenth or two in each of the next two years after factoring in some offset from higher interest rates and a stronger dollar. Even without additional fiscal stimulus, stronger than expected equity and labor markets should boost consumption and investment through the remainder of the year. Additionally, the dollar has declined, reducing the drag from net exports. Therefore, my projection for growth in this year is higher compared to March.

My inflation projection is revised down a bit for this year due to weaker than expected data in the second quarter. I expect this to be mostly due to transitory factors with only a small impact on my projections for inflation in 2018 and none in 2019.

Respondent 16:   The real outlook in the near term is stronger than what we were forecasting in March. Moreover, the unemployment rate has declined by more than expected. As a result, our outlook now entails more policy tightening than in the previous forecast. The additional policy tightening, both in the form of a higher path for the federal funds rate and an earlier start for the contraction of the SOMA portfolio, is necessary to keep the unemployment rate from falling even further. By the end of 2019, the level of the unemployment rate is similar to

the level projected in March. The forecast for inflation this year has been revised down, but we interpret the recent soft readings as temporary. As a result, the inflation outlook is unchanged in 2018 and 2019.

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: N/A

Respondent 2:   Our Federal Funds rate path is about 60 – 70 bps below the Tealbook in 2018 and 2019, ending 2019 at 3 percent, which is our view of its long-run equilibrium level. Our boost to GDP from discretionary fiscal policy action is smaller than the Tealbook. Our projection for GDP growth over 2017-2019 averages the same as the Tealbook. However, given our slightly higher assumption for potential output growth, we do not expect output to overshoot potential as much as the Tealbook. In terms of labor market slack, our projection for the unemployment rate averages about 0.2 percentage point higher than the Tealbook; in addition, we assume the natural rate of unemployment is about 0.3 percentage point lower. Accordingly, our 4 percent unemployment rate projection for 2019:Q4 undershoots the natural rate by less. Our outlook for inflation is somewhat more pessimistic than the Tealbook's, as we feel that even with our more accommodative path for monetary policy, actual inflation will not return to target until after the projection period in 2020.

Respondent 3:   As in the Tealbook, I expect that the economy will grow at a moderate pace, labor market conditions will continue to strengthen, and inflation will gradually rise to our 2 percent goal. The labor market dynamics in my outlook differ from those in Tealbook, and I do not expect the unemployment rate to fall as much as in the Tealbook. At the same time, I see slightly greater inflationary pressures than in the Tealbook, with inflation expected to reach 2 percent in 2018 compared to 2019 in the Tealbook. On balance, my funds rate path over the next two years is similar to that in the Tealbook. My fiscal policy assumptions are similar to those in the Tealbook, but there is considerable uncertainty around these assumptions.

Respondent 4:   As in the March SEP, there are some notable differences between the Tealbook forecast and our projections for the key SEP variables. In part, these differences reflect divergences in some of the underlying assumptions in the two forecasts. In particular, the Tealbook forecast incorporates a substantial fiscal stimulus in the form of a personal income tax cut that commences in 2018Q1. As we said in our answer to 4(a), we do not attempt to incorporate changes in fiscal policy in our modal forecast as there still is not enough information regarding their nature, magnitude and timing.

The Tealbook projects faster growth in 2017-8 than in our outlook, as it did in March. Furthermore, based on its assessment of potential GDP growth, which is below our assumption in 2017-19, the Tealbook path of real GDP leads to a notably positive output gap in 2017-19. Even though we do not calculate precise estimates of the output gap, our assessment is that it is at most modestly positive at that time.

A major component behind the differences between the two real GDP growth projections is consumption. The Tealbook forecast has higher real PCE growth in 2017 – 19 than in our projection; this is a long-standing difference between the two forecasts, which has been exacerbated by the Tealbook fiscal policy assumption that helps to boost the Tealbook projection of consumption growth in 2018. Another effect of the Tealbook fiscal policy assumption is a higher projected saving rate that is appreciably above our projection in 2018.

Another notable difference between the projections is the underlying assumptions on the longer-run natural rate of unemployment, which the Tealbook has at 4.9 percent, while we notched it down to 4.6 percent. Combined with our growth projections, we anticipate that unemployment will modestly undershoot its natural rate over the projection period; in contrast, the Tealbook projects the unemployment to significantly undershoot the longer-run natural rate. This pattern is a counterpart of the sizable positive output gap that arises in the Tealbook forecast.

One other difference in the labor market projections concerns the paths for labor force participation: in our projection the participation rate picks up gradually from its current level to reach 63.1 percent by 2018, while in the Tealbook it declines to 62.5 percent at end-2018. This difference reflects our assumption of some positive cyclical effects on participation.

For inflation, the two forecasts differ notably on the dynamics over the projection period. We see inflation rising modestly above 2 percent in 2018 – 19 before returning to objective early in the next decade, whereas the Tealbook projects core inflation to reach 2 percent only in 2019, despite a sizable undershooting of unemployment. The

considerable persistence of inflation and the flat Phillips curve within the Tealbook framework appear to require a prolonged period of above-potential growth in order to induce inflation to rise toward the longer-run inflation goal. As mentioned previously, the overshoot of inflation in our projection occurs to prevent inflation expectations from falling below levels consistent with the FOMC's longer-run objective.

In terms of the uncertainty and risk assessment, both projections see uncertainty at near normal levels and risks broadly balanced.

Finally, our monetary policy path is below the Tealbook path for 2017-19. In addition, our assumption for the longer-run normal policy rate is 25bps below that of the Tealbook, as we take a somewhat stronger signal from the still-low sovereign yields and potential growth rate estimates across the advanced economies. Both policy paths have a mild overshooting of the longer-run FFR in 2019.

Respondent 5: Relative to my outlook, the Tealbook implicitly incorporates a much higher level of the neutral funds rate over the medium term (some of which reflects greater fiscal stimulus), a higher estimate of the natural rate, and a lower estimate of long-run inflation expectations. The latter two assumptions imply that the unemployment rate needs to more markedly undershoot its longer-run level in order for inflation to move back up to the 2 percent objective.

Respondent 6: My forecast has slightly less real growth and slightly higher unemployment than the Tealbook. As a result, my path for the federal funds rate is slightly lower.

Respondent 7: I have not included a fiscal stimulus package in my forecast due to uncertainties about timing and magnitude. My path for appropriate monetary policy remains more accommodative than the Tealbook over the forecast horizon.

Respondent 8: N/A

Respondent 9: I am projecting somewhat weaker GDP growth this year and next than does the Tealbook, and significantly less overshoot of the longer-run rate of unemployment. The weaker growth and smaller overshoot occur despite a more-gradual rise in the federal funds rate to a lower long-run level. Implicitly, I see a shallower path for r^* than does the Tealbook. Despite a higher unemployment path, I anticipate a slightly more rapid return to our 2-percent inflation objective than is forecasted by Board staff. In my view, the longer-term inflation expectations relevant to wage and price setting remain anchored at 2 percent, and inflation remains fairly responsive, albeit with a lag, to labor-market slack.

My views on prospective fiscal and other non-monetary government policies are outlined in my responses to 2(a) and 3(b), above.

Respondent 10: Unlike Tealbook, my forecast does not incorporate a change in the stance of fiscal policy. Consistently, my projection for real GDP growth in 2018 is lower and my projected path for the unemployment rate is flatter than in Tealbook.

Respondent 11: Despite some differences in assumptions, my growth forecast is similar to the Tealbook through 2019. I have not taken onboard any changes to government policies. My projection has a higher long-run growth trend owing to a somewhat stronger productivity assumption. The trajectory of my unemployment rate forecast is above the Tealbook's due to a somewhat lower projection for employment growth.

Respondent 12: For GDP growth and inflation, our projections are quite similar to those in the Tealbook. Differences arise because the Tealbook projections incorporate the idea of a longer-run steady state to which the economy is converging. Monetary policy has to be set appropriately as the economy transitions to the longer-run steady state. This tends to imply an upward-sloping policy rate path. The regime conception we use, in contrast, views monetary policy as regime-dependent and the current regime is viewed as persistent. It is acknowledged that the economy may visit other regimes in the future, but switches to those regimes are quite difficult to forecast. This suggests a flat path for the policy rate over the forecast horizon relative to that contained in the Tealbook. The Tealbook forecast also has a substantial undershooting of the unemployment rate before returning to its long-run value.

Respondent 13:   I believe, though lack total conviction, that there will be a reasonable (1 percent of GDP) fiscal impetus in 2018.

Respondent 14:   My forecast for economic activity and inflation is broadly similar to the Tealbook except that I believe the long-run unemployment rate is lower and the improving labor market will continue to keep the labor force participation rate from falling, minimizing the downward effects of healthy job growth on the unemployment rate. This would lead to less upward movement for wages and prices if monetary policy were to follow the path assumed in the Tealbook. Removing monetary accommodation more gradually, as in my projection, would produce a path for inflation similar to the Tealbook.

I have not assumed any changes to government policies.

Respondent 15:   The Tealbook projects a more substantial and protracted overshooting of full employment, with the unemployment rate declining to 3.8 percent at the end of 2019, and with inflation returning to the 2 percent target only very gradually. In my projection, there is more modest overshooting of unemployment and output through 2019, and those gaps close in the following year or two. I see the unemployment rate bottoming out at 4.1 percent by the second quarter of next year.

The Tealbook assumes that the effects of expected fiscal stimulus are fairly front-loaded in 2018 with some smaller impact to growth in 2019. Additionally, the Tealbook assumes that the permanent changes to fiscal policy lead to an increase of the long-run level of the fed funds rate. In my projections I assume that the expected fiscal policy stimulus is also somewhat concentrated in 2018 with a smaller contribution to growth in 2019, but I do not expect fiscal policy to lead to a change to the long-run level of the fed funds rate.

The gradual removal of monetary policy accommodation tightens financial conditions over time and slows growth to below potential in 2019. This pushes up the unemployment rate to 4.4 percent by the end of 2019. Finally, the persistent overshooting of full employment pushes inflation back to 2 percent by the end of 2018 and results in a slight overshooting of inflation for some time afterwards. Tighter monetary policy brings inflation back to target and unemployment back to its long-run sustainable level in 2020.

Respondent 16:   The main difference with the Tealbook forecast stems from different monetary policy assumptions. Our unemployment rate outlook would be closer to the Tealbook if we had adopted the same monetary policy assumptions as in the Tealbook. However, the Tealbook outlook for the unemployment rate implies a sizable overshooting of full employment. Such an overshooting substantially raises the odds of a recession as monetary policy tries to bring the unemployment back up to a level consistent with full employment. We thus have opted for a tighter path of monetary policy, which we deem is more appropriate to achieve stabilization of activity and inflation over time.

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2017–19 and over the longer run
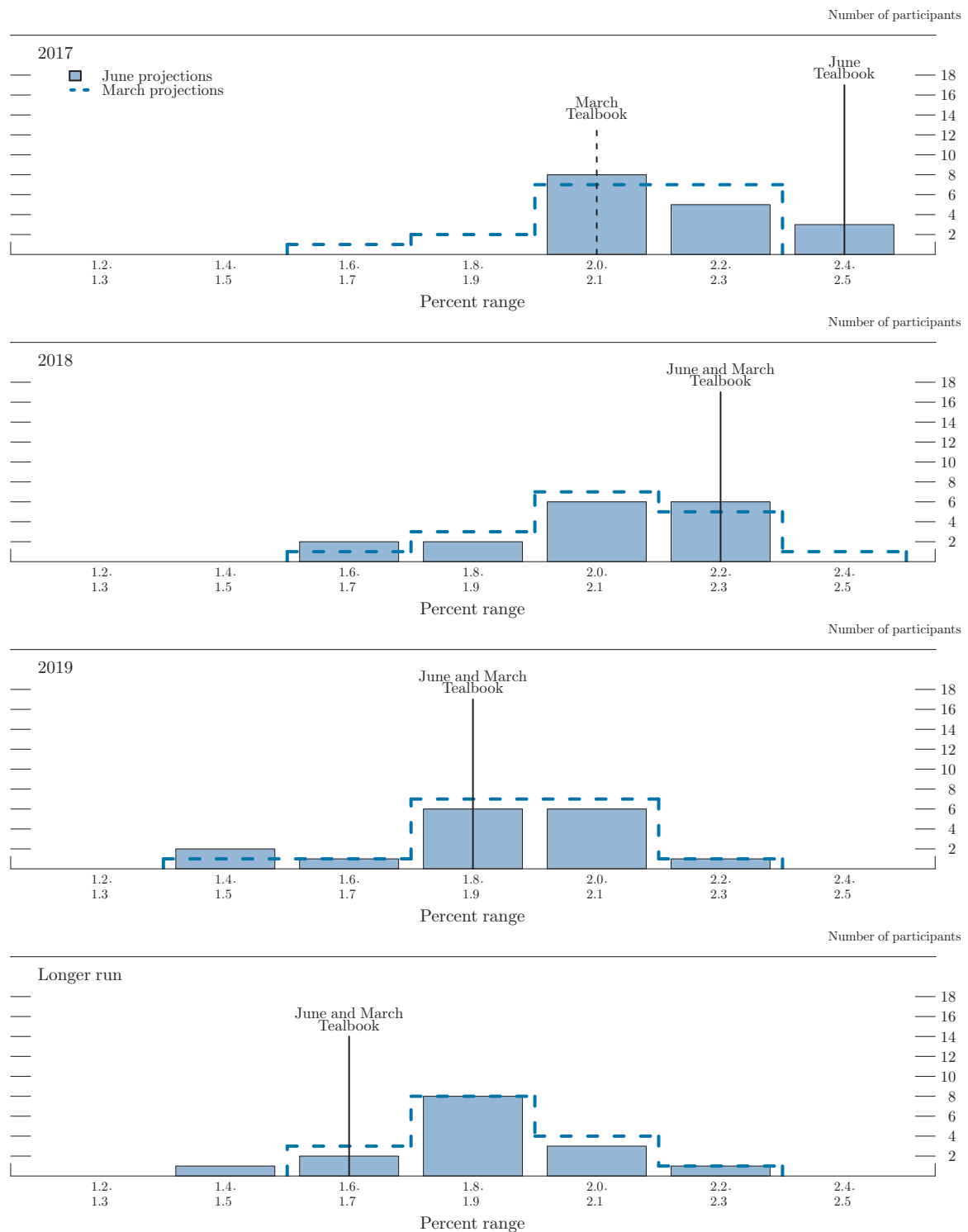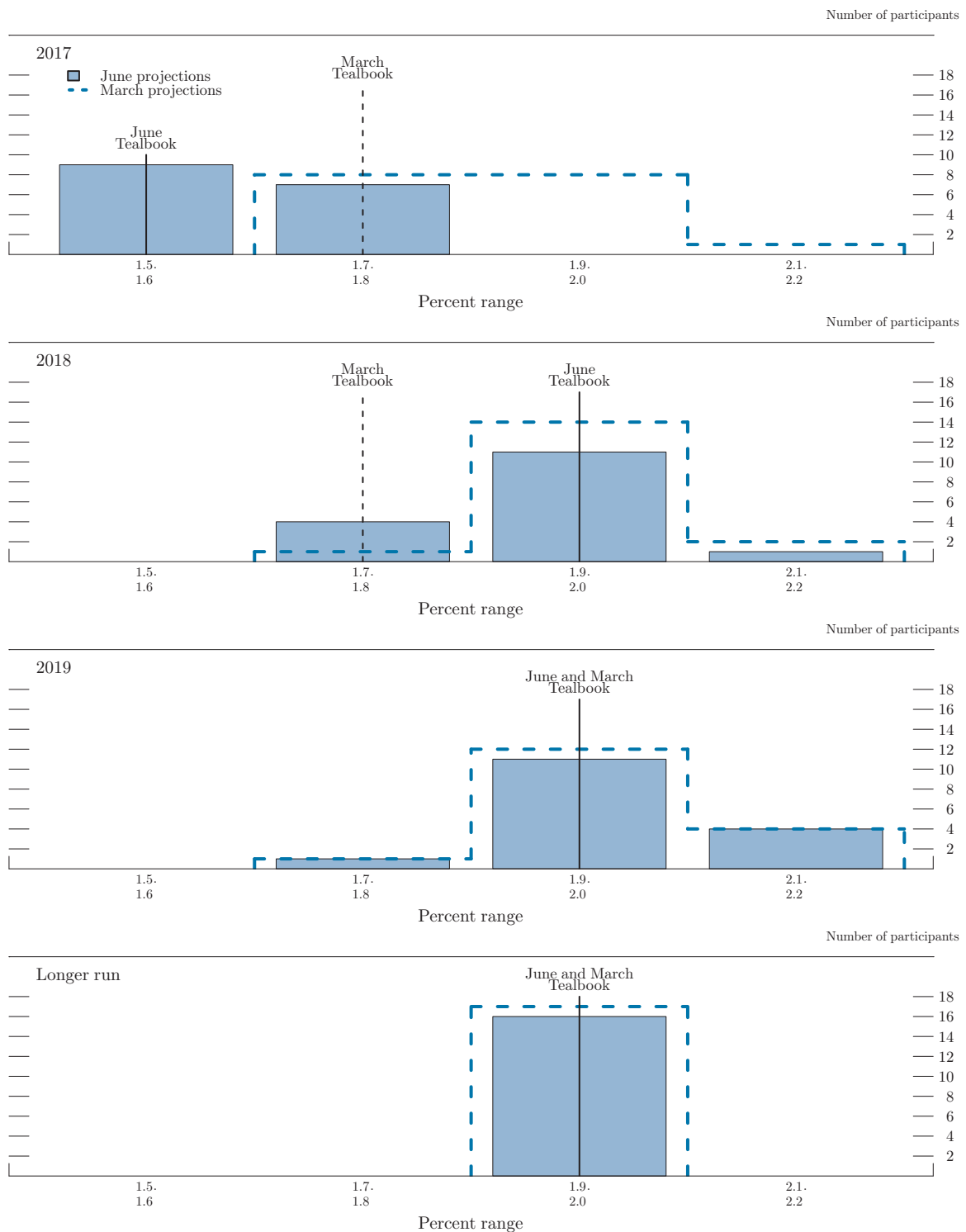

NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2017–19 and over the longer run
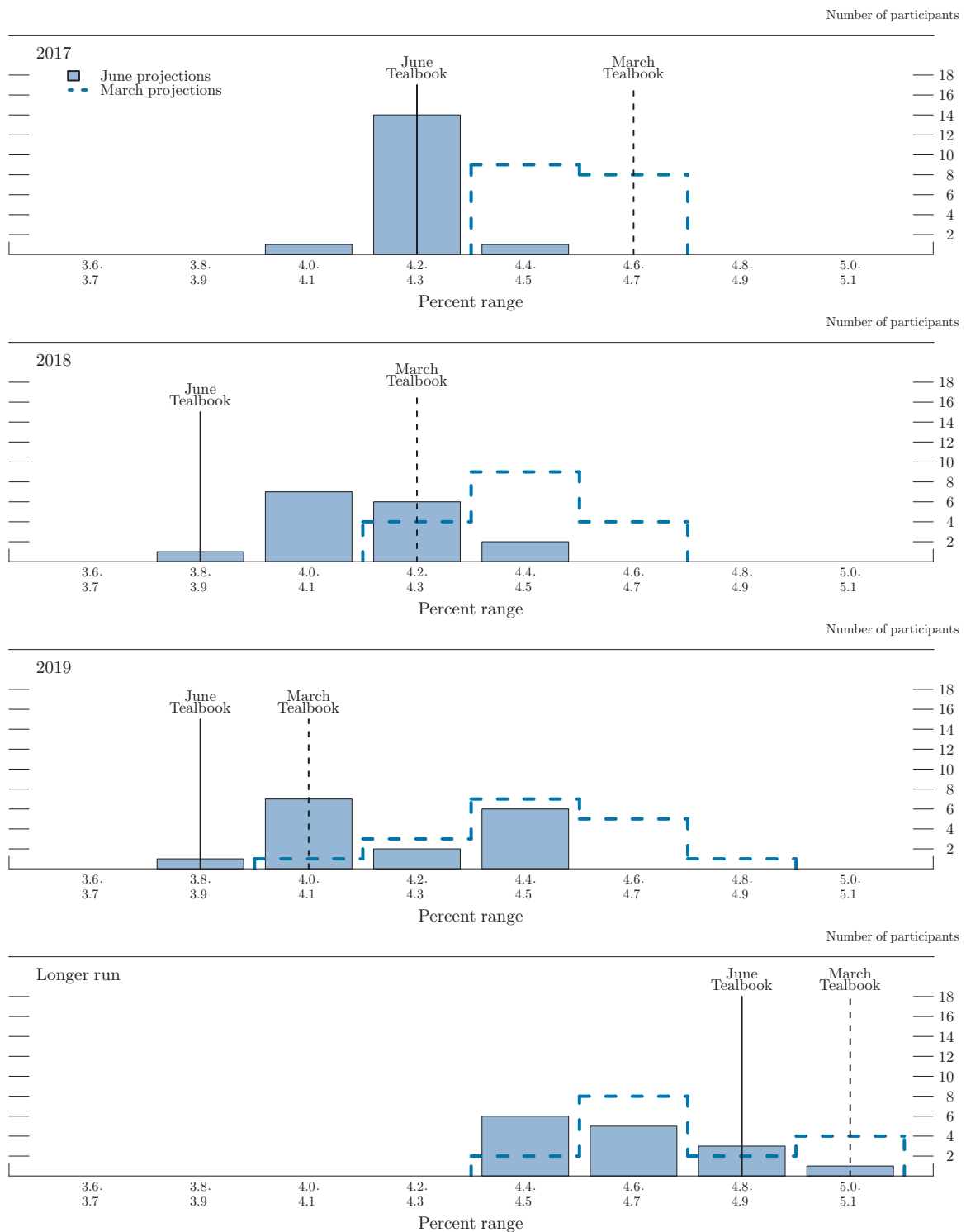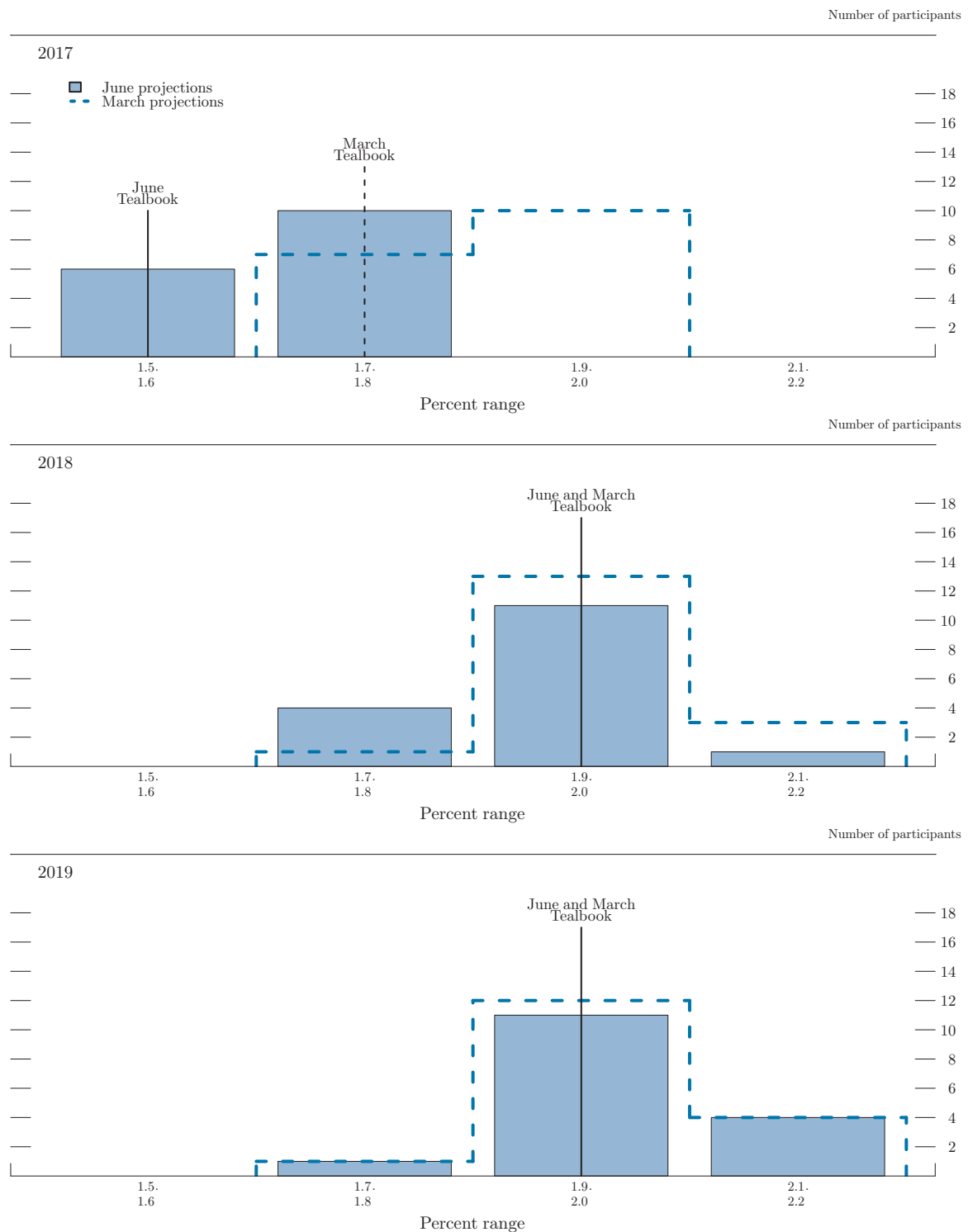

NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2017–19 and over the longer run
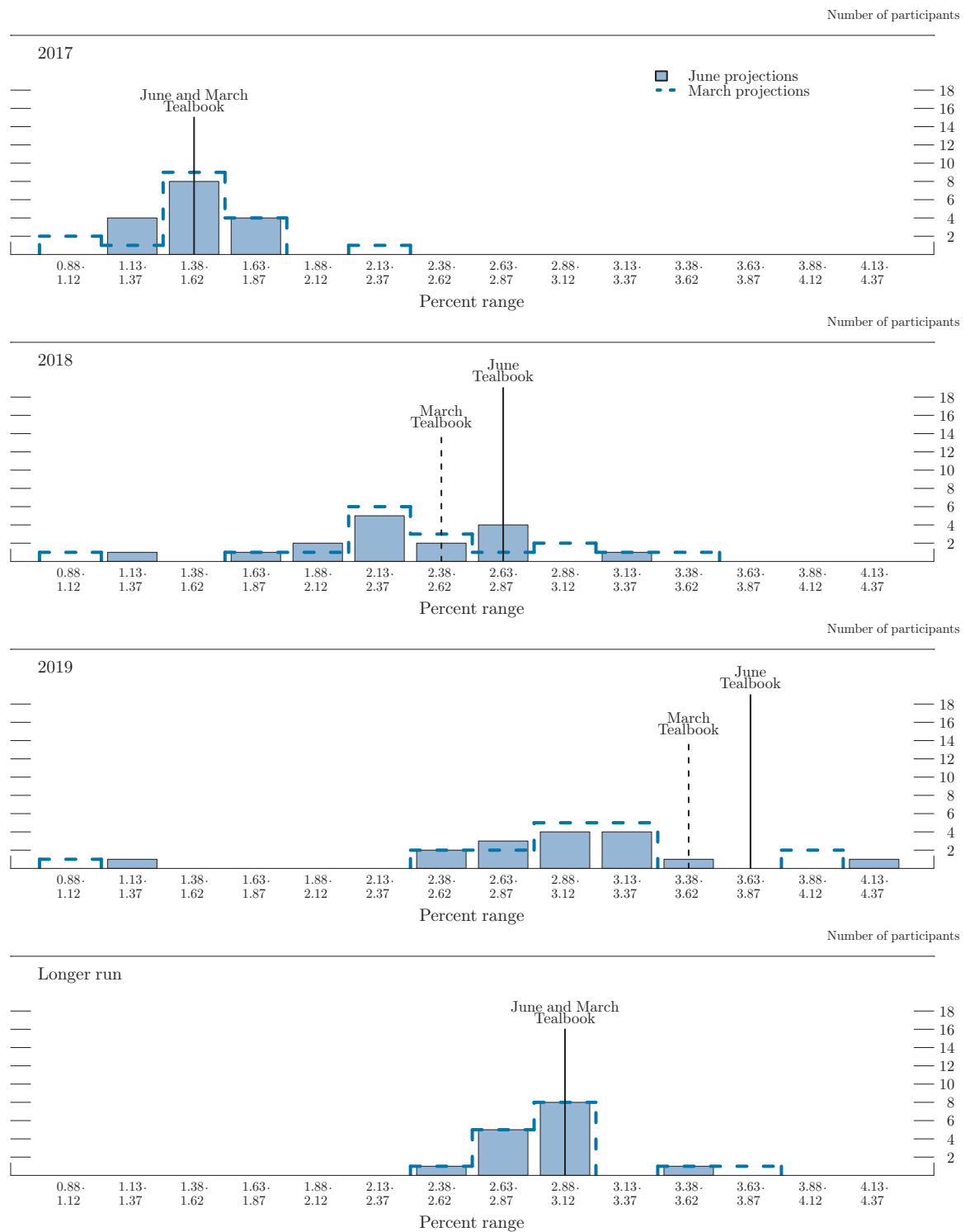
Figure 3.D. Distribution of participants' projections for core PCE inflation, 2017–19

NOTE: Definitions of variables and other explanations are in the notes to table 1.

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, 2017–19 and over the longer run

NOTE: Definitions of variables and other explanations are in the notes to table 1.