Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, June 2014

Percent

Variable	Central tendency[1]				Range[2]			
	2014	2015	2016	Longer run	2014	2015	2016	Longer run
Change in real GDP	2.1 to 2.3	3.0 to 3.2	2.5 to 3.0	2.1 to 2.3	1.9 to 2.4	2.2 to 3.6	2.2 to 3.2	1.8 to 2.5
March projection	2.8 to 3.0	3.0 to 3.2	2.5 to 3.0	2.2 to 2.3	2.1 to 3.0	2.2 to 3.5	2.2 to 3.4	1.8 to 2.4
Unemployment rate	6.0 to 6.1	5.4 to 5.7	5.1 to 5.5	5.2 to 5.5	5.8 to 6.2	5.2 to 5.9	5.0 to 5.6	5.0 to 6.0
March projection	6.1 to 6.3	5.6 to 5.9	5.2 to 5.6	5.2 to 5.6	6.0 to 6.5	5.4 to 5.9	5.1 to 5.8	5.2 to 6.0
PCE inflation	1.5 to 1.7	1.5 to 2.0	1.6 to 2.0	2.0	1.4 to 2.0	1.4 to 2.4	1.5 to 2.0	2.0
March projection	1.5 to 1.6	1.5 to 2.0	1.7 to 2.0	2.0	1.3 to 1.8	1.5 to 2.4	1.6 to 2.0	2.0
Core PCE inflation[3]	1.5 to 1.6	1.6 to 2.0	1.7 to 2.0		1.4 to 1.8	1.5 to 2.4	1.6 to 2.0	
March projection	1.4 to 1.6	1.7 to 2.0	1.8 to 2.0		1.3 to 1.8	1.5 to 2.4	1.6 to 2.0	

NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are 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 March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 18–19, 2014.

[1] The central tendency excludes the three highest and three lowest projections for each variable in each year.

[2] The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.

[3] Longer-run projections for core PCE inflation are not collected.

Table 1.A. Economic projections for the first half of 2014*
(in percent)

Central tendencies and ranges

	Central tendency	Range
Change in real GDP	1.0 to 1.2	0.4 to 1.4
PCE inflation	1.6 to 1.7	1.5 to 1.8
Core PCE inflation	1.5	1.4 to 1.6

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	1.2	1.7	1.5
2	1.0	1.7	1.5
3	1.0	1.5	1.4
4	1.4	1.6	1.6
5	1.0	1.7	1.5
6	0.4	1.6	1.6
7	1.1	1.7	1.5
8	1.2	1.7	1.5
9	1.0	1.7	1.5
10	1.0	1.5	1.4
11	1.2	1.8	1.6
12	1.0	1.7	1.5
13	1.2	1.5	1.5
14	1.0	1.7	1.5
15	1.2	1.7	1.5
16	1.1	1.7	1.5

* Growth and inflation are reported at annualized rates.

Table 1.B. Economic projections for the second half of 2014*
(in percent)

Central tendencies and ranges

	Central tendency	Range
Change in real GDP	3.1 to 3.6	3.0 to 3.6
PCE inflation	1.3 to 1.7	1.3 to 2.2
Core PCE inflation	1.5 to 1.7	1.3 to 2.0

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	3.4	1.3	1.5
2	3.4	1.5	1.7
3	3.4	1.3	1.6
4	3.0	2.0	2.0
5	3.6	1.3	1.5
6	3.4	1.6	1.6
7	3.1	1.3	1.3
8	3.4	1.5	1.5
9	3.6	1.5	1.7
10	3.0	1.5	1.6
11	3.6	2.2	2.0
12	3.2	1.3	1.3
13	3.0	1.7	1.7
14	3.6	1.5	1.5
15	3.2	1.7	1.5
16	3.1	1.7	1.7

* Projections for the second half of 2014 implied by participants' June projections for the first half of 2014 and for 2014 as a whole. Growth and inflation are reported at annualized rates.

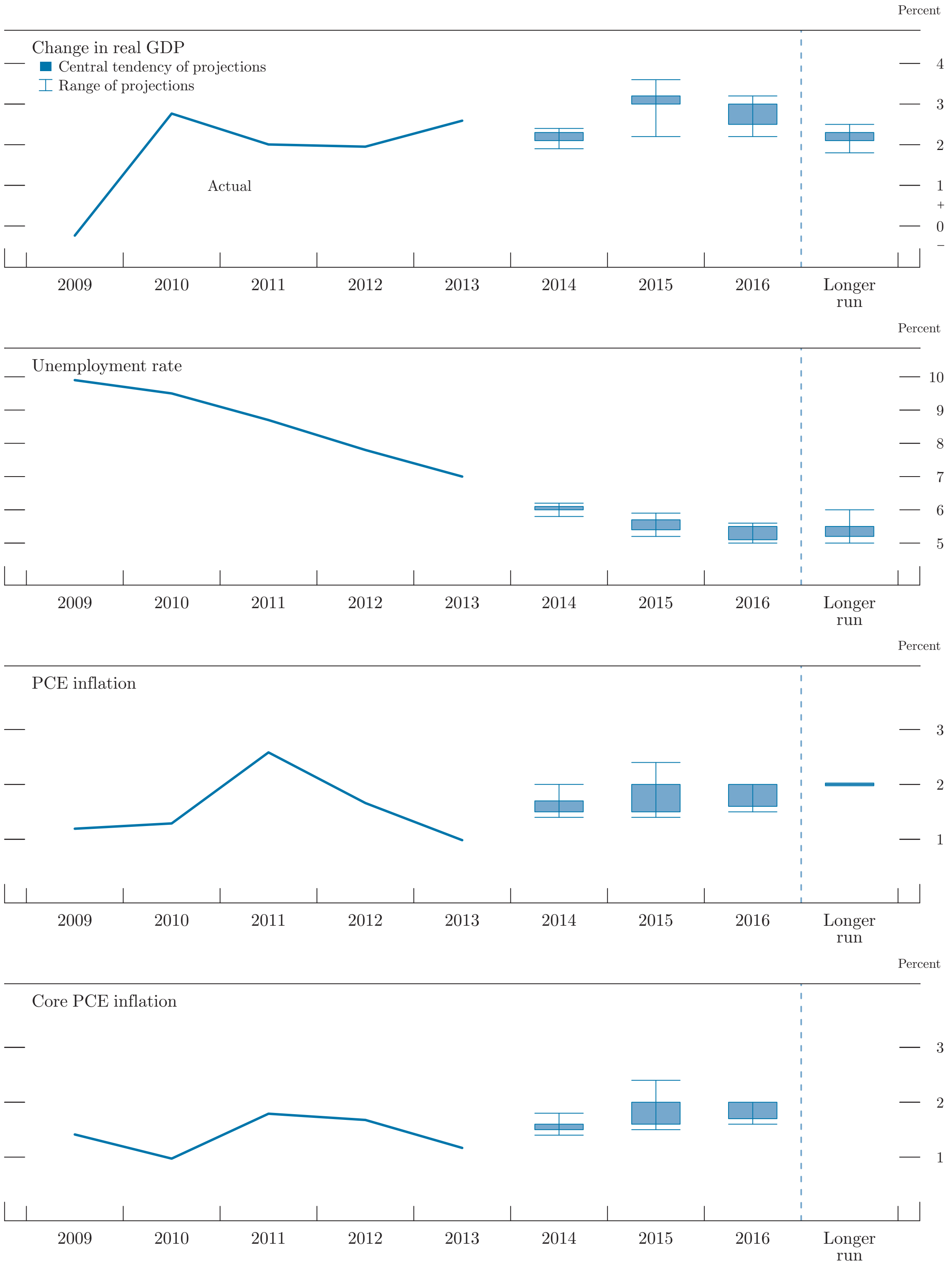
Table 2. June economic projections, 2014–16 and over the longer run (in percent)

Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2014	2.3	6.0	1.5	1.5	0.13
2	2014	2.2	6.0	1.6	1.6	0.13
3	2014	2.2	6.2	1.4	1.5	0.13
4	2014	2.2	5.8	1.8	1.8	1.00
5	2014	2.3	6.0	1.5	1.5	0.13
6	2014	1.9	6.0	1.6	1.6	0.13
7	2014	2.1	6.2	1.5	1.4	0.13
8	2014	2.3	6.0	1.6	1.5	0.13
9	2014	2.3	5.9	1.6	1.6	0.13
10	2014	2.0	6.1	1.5	1.5	0.13
11	2014	2.4	5.8	2.0	1.8	0.13
12	2014	2.1	6.1	1.5	1.4	0.13
13	2014	2.1	6.1	1.6	1.6	0.13
14	2014	2.3	6.0	1.6	1.5	0.13
15	2014	2.2	6.0	1.7	1.5	0.13
16	2014	2.1	6.0	1.7	1.6	0.13
1	2015	2.8	5.4	1.5	1.6	1.25
2	2015	3.2	5.4	1.6	1.7	1.25
3	2015	3.1	5.7	1.7	1.7	0.75
4	2015	3.0	5.6	2.0	2.0	3.00
5	2015	3.1	5.4	1.5	1.6	1.25
6	2015	2.2	5.5	1.8	1.8	2.00
7	2015	2.9	5.9	1.5	1.5	0.13
8	2015	3.0	5.7	1.7	1.7	1.50
9	2015	3.2	5.2	2.0	2.0	0.13
10	2015	3.0	5.6	1.8	1.8	0.50
11	2015	3.2	5.5	2.4	2.4	2.25
12	2015	3.0	5.6	1.5	1.5	0.13
13	2015	3.0	5.8	2.0	2.0	1.00
14	2015	3.0	5.4	1.4	1.6	1.00
15	2015	3.6	5.2	1.9	1.7	1.00
16	2015	3.0	5.5	1.9	1.9	1.75

Table 2. *(continued)*

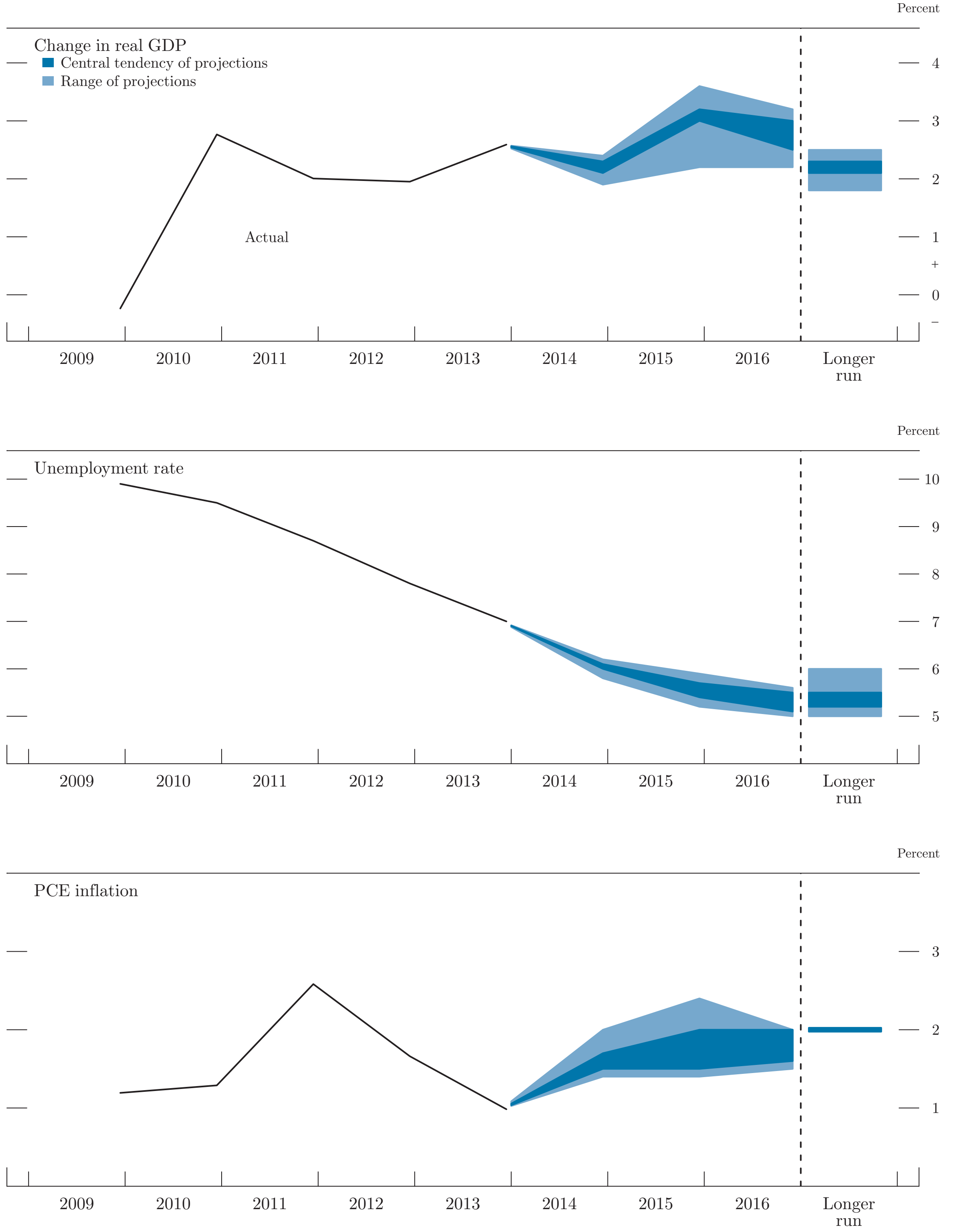
Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2016	3.0	5.0	1.5	1.7	2.25
2	2016	3.0	5.2	1.8	1.9	2.75
3	2016	3.0	5.5	1.7	1.7	2.00
4	2016	2.6	5.6	2.0	2.0	4.00
5	2016	3.1	5.0	1.6	1.7	2.50
6	2016	2.2	5.2	2.0	2.0	3.50
7	2016	3.0	5.5	1.6	1.6	1.00
8	2016	3.0	5.5	2.0	2.0	3.00
9	2016	2.5	5.1	2.0	2.0	0.50
10	2016	2.8	5.2	2.0	2.0	2.50
11	2016	2.5	5.6	2.0	2.0	4.25
12	2016	3.0	5.2	1.7	1.7	1.25
13	2016	3.0	5.5	2.0	2.0	3.00
14	2016	3.2	5.0	1.6	1.7	2.25
15	2016	2.3	5.3	2.0	2.0	2.00
16	2016	3.0	5.1	2.0	2.0	3.75
1	LR	2.0	5.2	2.0		3.75
2	LR	2.1	5.2	2.0		3.90
3	LR	2.1	5.4	2.0		3.50
4	LR	2.4	5.6	2.0		4.00
5	LR	2.3	5.0	2.0		3.75
6	LR	1.8	5.5	2.0		3.75
7	LR	2.0	5.2	2.0		3.75
8	LR	2.5	5.5	2.0		3.75
9	LR	2.3	5.0	2.0		3.25
10	LR	2.3	5.2	2.0		4.00
11	LR	2.3	6.0	2.0		4.25
12	LR	2.3	5.2	2.0		3.75
13	LR	2.3	5.5	2.0		4.30
14	LR	2.2	5.2	2.0		3.50
15	LR	2.3	5.3	2.0		3.50
16	LR	2.3	5.5	2.0		3.75

Figure 1.A. Central tendencies and ranges of economic projections, 2014–16 and over the longer run



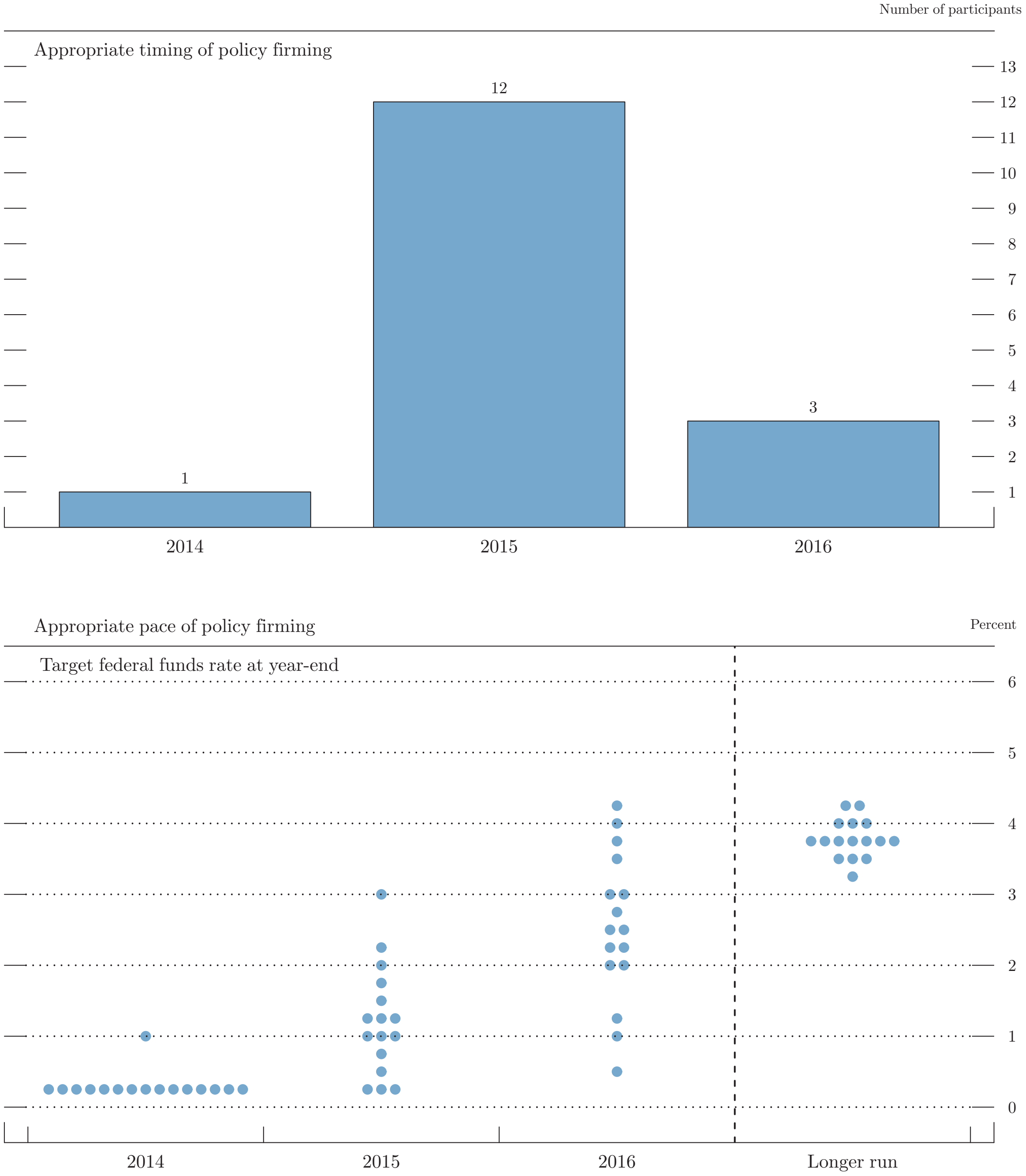
Note: Definitions of variables are in the general note to table 1. The data for the actual values of the variables are annual.

Figure 1.B. Central tendencies and ranges of economic projections, 2014–16 and over the longer run



NOTE: Definitions of variables are in the general note to table 1. The data for the actual values of the variables are annual.

Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy



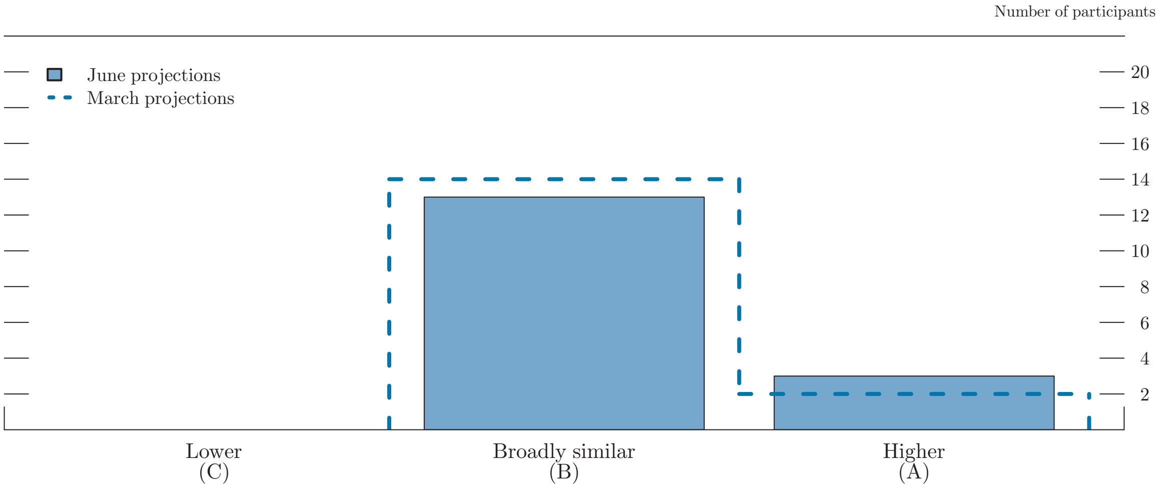
Appropriate timing of policy firming

Appropriate pace of policy firming

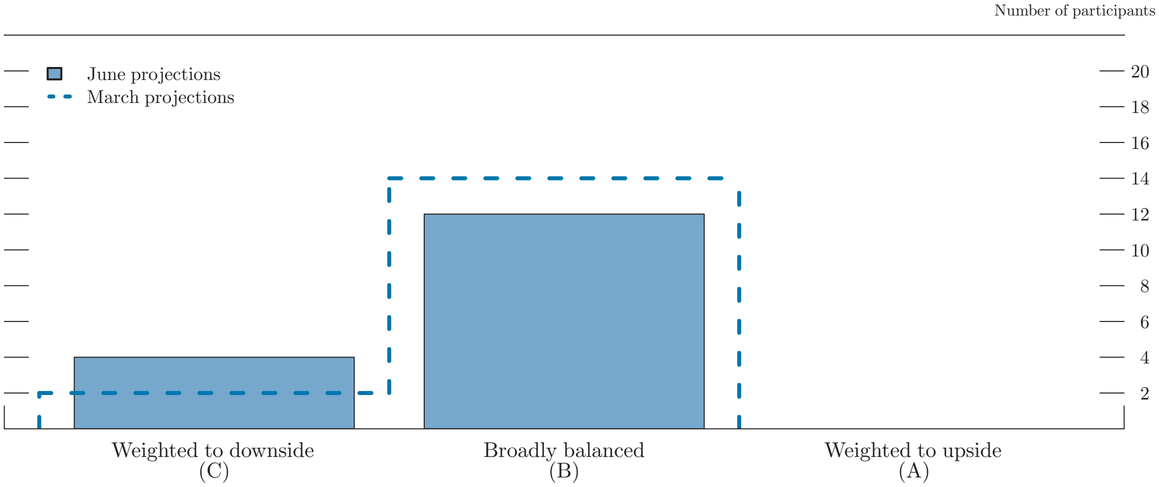
NOTE: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target federal funds rate from its current range of 0 to 1/4 percent will occur in the specified calendar year. In March 2014, the numbers of FOMC participants who judged that the first increase in the target federal funds rate would occur in 2014, 2015, and 2016 were, respectively, 1, 13, and 2. In the lower panel, each shaded circle indicates the value (rounded to the nearest 1/4 percentage point) of an individual participant's judgment of the appropriate level of the target federal funds rate at the end of the specified calendar year or over the longer run.

Figure 4.A. Uncertainty and risks – GDP growth

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



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

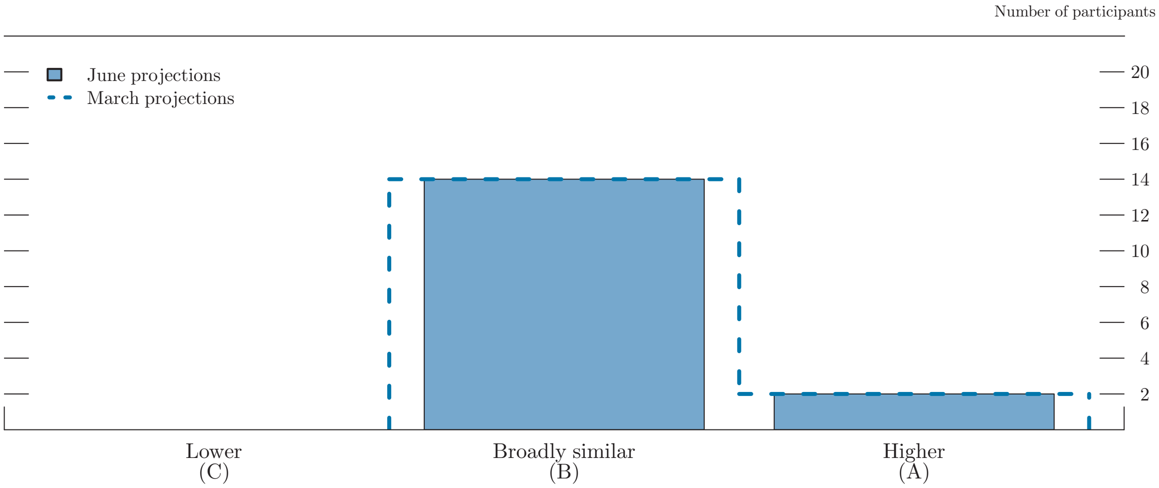


Individual responses

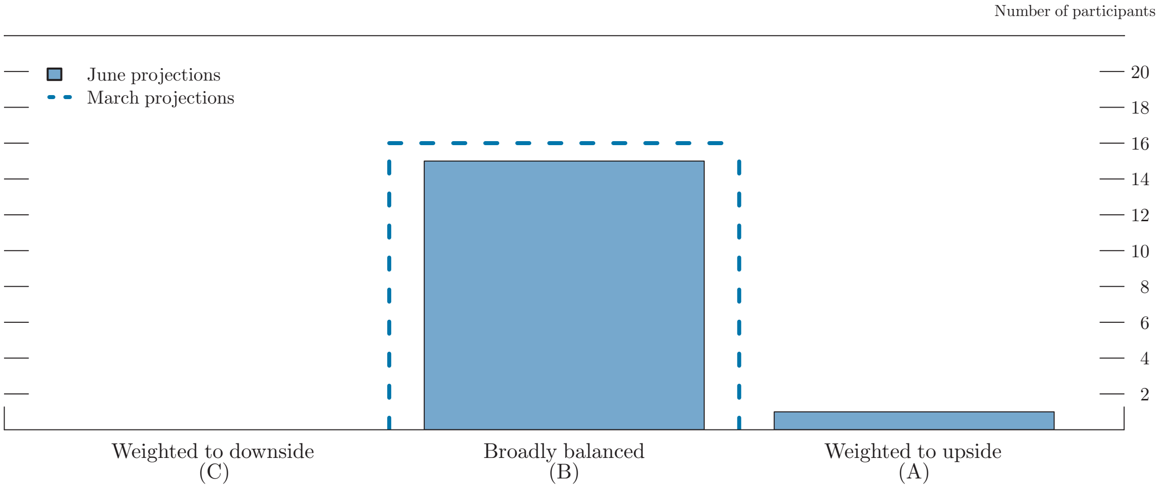
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2(a)	B	B	B	B	A	B	B	B	A	B	B	B	B	B	A	B
2(b)	C	B	C	B	C	B	B	B	B	B	B	B	B	C	B	B

Figure 4.B. Uncertainty and risks – Unemployment rate

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



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

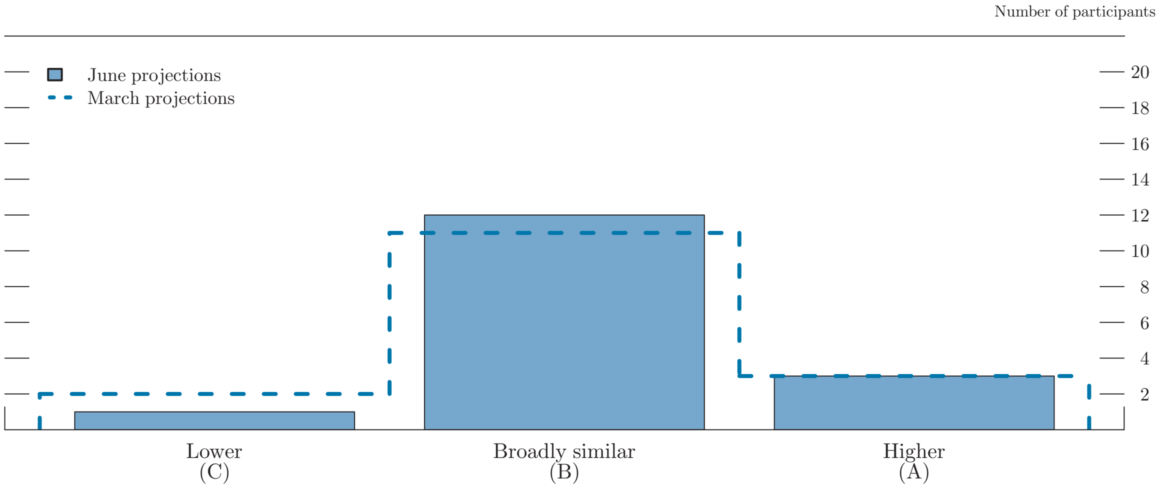


Individual responses

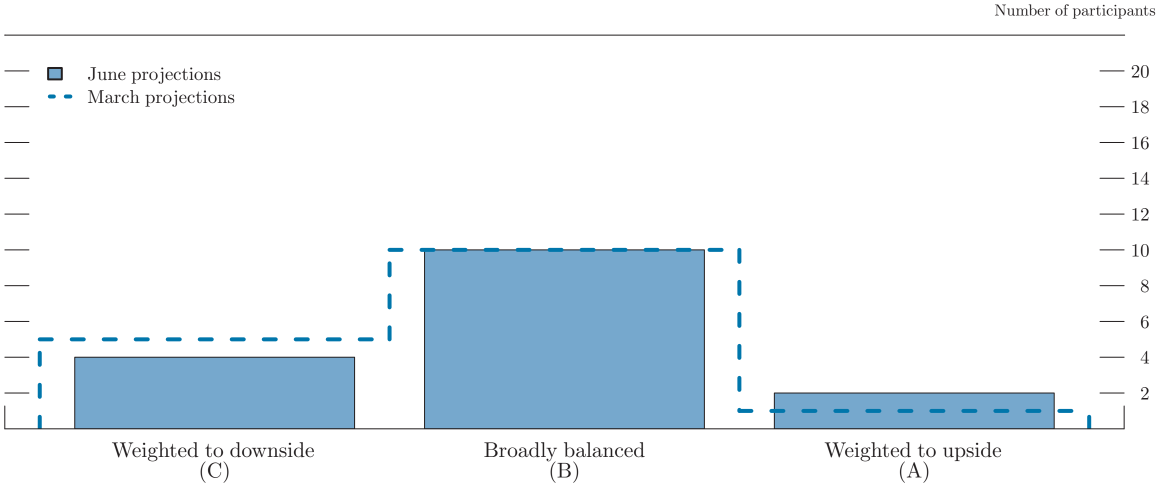
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2(a)	B	B	B	B	B	B	B	B	A	B	B	B	B	B	A	B
2(b)	B	B	B	B	B	B	B	B	B	B	B	A	B	B	B	B

Figure 4.C. Uncertainty and risks – PCE inflation

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



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

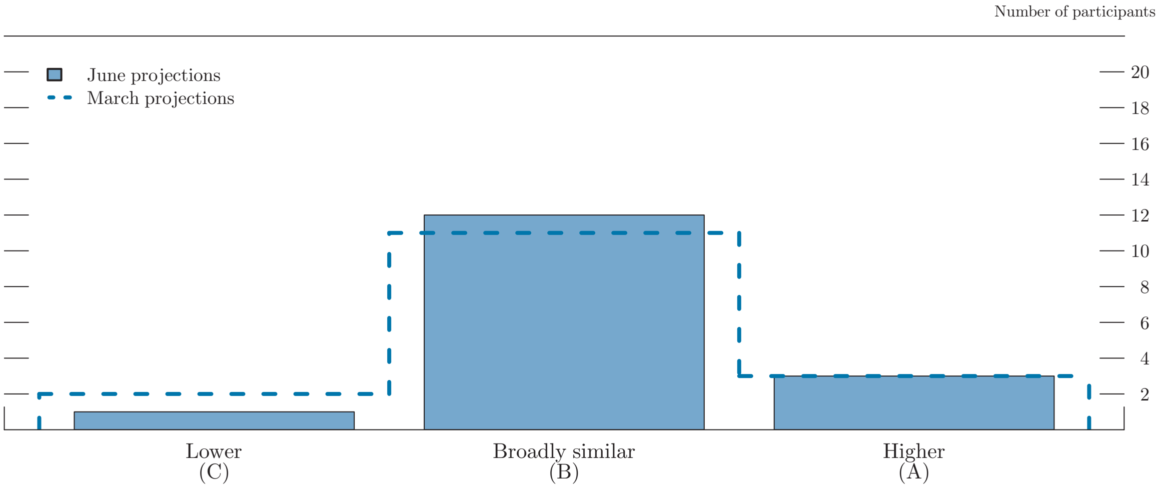


Individual responses

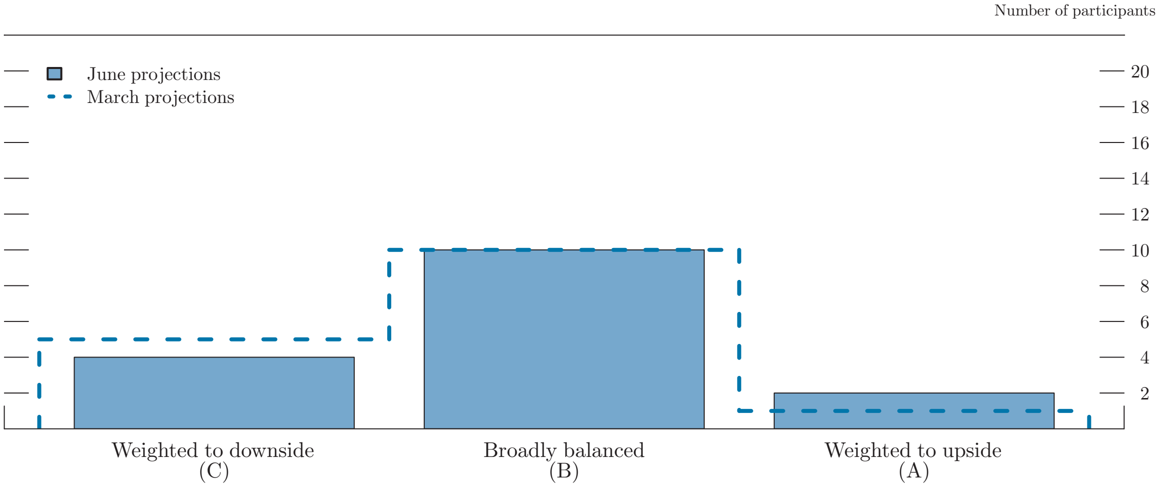
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2(a)	B	B	B	A	B	C	B	B	A	B	B	B	B	B	A	B
2(b)	B	B	B	A	A	B	C	B	C	B	B	C	B	C	B	B

Figure 4.D. Uncertainty and risks – Core PCE inflation

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



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
2(a)	B	B	B	A	B	C	B	B	A	B	B	B	B	B	A	B
2(b)	B	B	B	A	A	B	C	B	C	B	B	C	B	C	B	B

Longer-run Projections

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: N/A

Respondent 3: N/A

Respondent 4: The convergence process may be somewhat shorter than 5-6 years

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: Convergence to the longer-run level of the unemployment rate is expected to occur in the first half of 2017. Inflation is projected to reach the 2 percent objective in 2019.

Respondent 8: N/A

Respondent 9: It will be shorter under appropriate monetary policy - in part because inflation expectations stay well-anchored at 2% under appropriate monetary policy.

Respondent 10: No comment

Respondent 11: I anticipate a quicker convergence than 5-6 years. Real GDP will converge to its long-run value in 2017, the unemployment rate in 2017, and PCE inflation in 2016. As part of this covergence process, I anticipate that inflation will temporarily overshoot the FOMC's 2 percent target and that the unemployment rate will reach levels below its natrual rate.

Respondent 12: N/A

Respondent 13: I anticipate that convergence will take less than 5 years. I expect the unemployment rate to equal its longer run level by the end of 2016 and inflation to be 2 percent by the end of 2015. Given my view of appropriate policy, I would expect the federal funds rate will be near its longer run value by the second half of 2017.

Respondent 14: N/A

Respondent 15: Our assessment of the economy's potential growth rate remains within the 2% to 2 1/2% range, with a point estimate of about 2 1/4% (rounded to 2.3% above). Our interpretation of the recent literature and some additional in-house analysis indicates that a reasonable range for an estimate of the longer-run unemployment rate is 4 1/2% to 6%, with a point estimate of about 5 1/4% (rounded to 5.3% above). We expect the unemployment rate to reach its longer-run level and the output gap to be fairly small in late 2015. However, our analysis of recent long expansions suggests there is a significant probability that the unemployment rate could fall modestly below 5 1/4% for a period within the 5-6 year timeframe.

We assume that long-term inflation expectations will continue to be anchored around 2.5% on a CPI basis and that the FOMC's inflation objective will remain at 2% for the PCE deflator (equivalent to about 2.5% for the CPI based on the longer-term average of the difference between CPI and PCE inflation). Under these conditions and with the output gap anticipated to shrink over the coming years, we expect inflation as measured by the PCE deflator to be about 2% in 2016.

As indicated in our projections, we anticipate that under appropriate monetary policy and no further shocks, the convergence process should be largely completed by 2016.

Respondent 16: I expect the unemployment rate to reach its longer-run sustainable level as early as 2015, and to fall past that level in 2016. Inflation will reach its mandate-consistent level by the end of 2016, and rise above that level in 2017. It will take skilled policymaking and a considerable measure of good luck to nudge the unemployment rate back up and inflation back down without triggering a recession. Full convergence could well take five or six years.

Uncertainty and Risks

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: Uncertainty about my projection for economic activity is similar to its average level over the past 20 years. Of course, that period was characterized by considerable turmoil, including the Great Recession, the European (and earlier, Asian) financial crises, the Iraq war, 9/11, the dot.com boom and bust, and so on.

Inflation remains anchored by quite stable inflation longer-run expectations. Inflation expectations have now been well anchored for about 20 years, so I see the magnitude of the uncertainty around the inflation outlook as consistent with that over the past 20 years.

Respondent 3: N/A

Respondent 4: It remains the case that the effect of the extraordinary monetary policy in place and uncertainties surrounding the future path of policy, including the timing of the exit from accommodative policy, contribute to uncertainty around my inflation forecast.

Respondent 5: Given the greater length of recession associated also with financial crises, I'm more unsure about the underlying growth rate than i would normally be.

Respondent 6: Inflation expectations have probably become more firmly anchored as a result of the FOMC's concensus statements, and uncertainly is accordingly lower than before January 2012.

Respondent 7: N/A

Respondent 8: N/A

Respondent 9: N/A

Respondent 10: No comments.

Respondent 11: N/A

Respondent 12: We think the uncertainty surrounding the growth and inflation projections have diminished somewhat since the March SEP; nonetheless, on balance, we still judge the uncertainty over the rate forecasts as broadly similar to the levels of uncertainty over the past 20 years.

Respondent 13: N/A

Respondent 14: N/A

Respondent 15: Quantitative judgment based on the width of the probability intervals from the FRBNY forecast distribution for real GDP growth and core PCE inflation relative to the forecast errors over the last 20 years. These intervals have narrowed somewhat from those at the time of the March SEP, reflecting the fact that the data since March generally have been consistent with our anticipation that the weakness in Q1 would prove to be transitory. The probability intervals for the forecasts of these variables are still relatively wide in part because of the still-extraordinary economic and financial environment, including the policy rate remaining constrained by its effective lower bound.

Respondent 16: N/A

Uncertainty and Risks (continued)

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: Risks to economic activity appear balanced. The economy has rebounded from its transitory first-quarter contraction, and headwinds continue to abate. Indeed, with diminishing headwinds, upside scenarios involving a virtuous cycle of economic activity become more plausible.

The zero lower bound does somewhat constrain our ability to respond to adverse shocks. However, this constraint no longer appears quantitatively important, especially in light of the apparent effectiveness of forward guidance and LSAPs.

Inflation risks are also balanced.

Respondent 3: RIsks to the U.S. economy taken in isoliation appear still to be broadly balanced, maybe slightly weighted to the upside. However, external economic and geopolitical risks still seem decidedly weighted to the downside – on the economic side, continued uncertainty as to China's growth pattern in the next year. On the geopolitcal side, the risk of a broad military conflict in Ukraine seems to have receded somewhat, though tensions and potentail repercusssions obviosuly remain a risk. But the situation in Iraq now poses a new risk.

Respondent 4: I view the risks to inflation as weighted to the upside over the medium and longer run. Longer-term inflation risks reflect uncertainty about the timing and efficacy of the Fed's withdrawal of accommodation. The risks to output growth and unemployment are balanced.

Respondent 5: I assume we're talking about risks over the next 6 years.

Respondent 6: N/A

Respondent 7: N/A

Respondent 8: I see the weakness in 2014Q1 as largely due to the severe winter weather, but it is possible that some of the weakness reflects more fundamentals factors, which would point to weaker growth going forward than I anticipate. On the other hand, the improvement in labor market conditions could point to faster income growth, supporting stronger consumer spending than I anticipate.

Given uncertainties surrounding the withdrawal of policy accommodation, there are some upside risks to my inflation forecast over the medium and longer run. The recent rise in oil prices, if sustained, is also an upside risk to inflation. In the nearer term, the continued low readings on inflation suggest some downside risk to inflation.

Respondent 9: It is hard for the FOMC to respond effectively to low inflation outcomes, which means that they are more likely to occur.

Respondent 10: No comments.

Respondent 11: N/A

Respondent 12: We think the risks to the forecast for growth are roughly in balance. On the downside, the degree to which higher interest rates and still-restrictive credit have weighed on housing markets highlights the risk of a more subdued rebound in residential investment than we are projecting. We still think the risks from the international sector are negative, on net. On the up side, improved household sector fundamentals (notably, gains in wealth and the better job market) and the steady improvement in the sentiment of our business contacts suggest that we could see a more pronounced "virtuous cyclical" dynamic than we are projecting.

Even though our growth forecast is roughly balanced, we think the risks to the unemployment rate are tilted slightly to the upside. The labor force participation rate has fallen even further below our estimate of its trend in recent months, and we could see a slower-than-projected decline in the unemployment rate if discouraged workers re-enter the labor force faster than in our forecast.

We continue to see downside risks to the inflation outlook predominating over the projection period. The recent uptick in inflation does not change the fact that neither the data nor our business reports point to any meaningful cost pressures, pricing power, or inflationary impetus from abroad. Our forecast of inflation picking up to 1-3/4 percent by the end of the projection period depends heavily on an upward pull on prices from inflation expectations and credible FOMC communications about its commitment to a symmetric 2 percent inflation target. For some time we have noted the risk that this upward force may not be as strong as we have assumed. Indeed, our econometric models that include private-sector measures of inflation expectations or extract expectations from the treasury yield curve are projecting inflation noticeably below 2 percent through 2016.

Respondent 13: N/A

Respondent 14: Although I see the distribution of shocks to aggregate demand as reasonably balanced, I still view the balance of risks to GDP growth as somewhat weighted to the downside due to the constraints that limit the ability of monetary policy to offset negative shocks to demand at the zero lower bound. I see the risks to unemployment as balanced, with the risk of higher unemployment due to the constraints imposed by the zero lower bound offset by the risk that productivity may continue to grow more slowly than anticipated, as it has done over the past few years. For some time now inflation has been running below the level I had anticipated. While some of the factors that have held inflation down appear to be transitory, low inflation may prove more persistent, creating risks to inflation I consider to be weighted to the downside.

Respondent 15: Quantitative judgment based on the difference between the central projection and the expected value from the FRBNY forecast distribution. Under our appropriate policy stance, the risks to the inflation outlook are roughly balanced, as has been the case in recent SEPs. As was the case in March, the risks to the real activity outlook are roughly balanced over medium-term horizons, as indicated in the summary of our judgment; however, at the longer horizons, the risks are still modestly skewed to the downside. The broad balance over the medium term reflects two opposing forces. One is the possibility that the sluggish growth during this expansion has come from more persistent structural factors rather than the impact from various headwinds that are expected to abate in our central forecast. The other is the possibility that the economy has greater underlying strength than anticipated in our projection. Beyond these forces, geopolitical risks, such as those recently emanating from Iraq, could have significant adverse effects on energy supplies and prices, posing risks to the U.S. economy. Other concerns include the low inflation data in many parts of the world, which could leave the U.S. and world economy more susceptible to negative shocks, and the constraints that monetary policy faces under the effective lower bound.

Respondent 16: N/A

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

3(c). Please describe the key factors informing your judgments regarding the appropriate path of the federal funds rate. If, in your projections for 2016, the unemployment rate is close to or below your projection for its longer-run normal level and inflation is close to or above 2 percent, and your assessment of the appropriate level of the federal funds rate 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 reduced 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 here as well.

Respondent 1: Factors explaining lower FF rate at year end 2016: Lower real rate; continuing headwinds from crisis, including risk aversion on the part of businesses and households, lower credit availability, and lower potential growth post crisis due to low investment.

Factors explaining lower long term rate of FF: Lower potential growth; lower real interest rates; lower investment and perhaps higher saving as well.

Respondent 2: Output and unemployment gaps have declined but are still sizeable. Moreover, my outlook for inflation over the next three years is below our 2 percent objective. This situation calls for very accommodative monetary policy. Appropriate policy calls for delaying liftoff from the zero lower bound until the middle of 2015. My judgment on appropriate policy is generally informed by looking at simple rules that adjust for the zero lower bound, as well as by my expectations of, and uncertainty about, the costs and benefits of continuing unconventional actions.

Following liftoff, my fed funds path through 2016 remains flatter than some simple rules would suggest. In my projection, the reasons include the following:

- Although the unemployment rate by the end of 2016 is at its long-run natural rate, broader measures of slack (as measured in, say, U-6) take a bit longer to return to normal, reflecting the dynamics of the labor market;
- Some headwinds have not fully abated by 2016, such as credit availability for small businesses. These continue to modestly reduce the equilibrium real interest rate relative to its long-run value;
- In an environment in which short-term rates have been near zero for almost seven years, there are potentially some modest benefits to having an earlier liftoff but then a more gradual rate path than might normally be called for. These benefits include managing expectations and minimizing the potential for disruptions to global financial markets.

Respondent 3: N/A

Respondent 4: My assumed appropriate path of monetary policy has the asset purchase program ending in 2014Q4 and the Committee needing to start raising the funds rate in 2014Q4 as the economy continues to strengthen. The economy is modestly above steady state by the end of 2015, with inflation returning to 2 percent, growth at 3 percent, and the unemployment rate at 5.6 percent. My path for the funds rate is within the range of prescriptions given by the monetary policy rules enumerated in the Tealbook and has the funds rate gradually rising over the forecast horizon to reach its long-run level of 4 percent by the end of 2016.

Respondent 5: N/A

Respondent 6: I believe that in March 2015 labor markets will have improved significantly and inflation will be above 1.6 percent and increasing. Accordingly, I believe that we will want to begin raising the policy rate(s) to keep inflation from rising too rapidly.

Respondent 7: Liftoff of the federal funds rate from the zero-lower-bound occurs early in 2016. This is when the economy is expected to be within one year from reaching full employment. With inflation well below target and only a modest acceleration in the pace of economic activity, the removal of policy accomodation occurs very gradually.

Respondent 8: I expect the steady progress the labor market has made toward the Committee's longer-run goal of maximum employment to continue. I project inflation will gradually increase over the forecast horizon, with inflation between one and two years ahead reaching the Committee's 2 percent longer-run goal in 2015Q1, at which point it will be appropriate for the FOMC to begin raising interest rates. Consistent with the Committee's forward guidance, I project the fed funds rate will rise gradually over the rest of 2015, similar to a path suggested by a Taylor 1999 rule with inertia. As the expansion strengthens I believe it will be appropriate to raise interest rates at a slightly more rapid pace, described by a somewhat less inertial Taylor 1999 rule. As a result of delaying liftoff until early 2015 and the inertia in my monetary policy rule, the federal funds rate target would be below its longer-run normal level at the end of 2016, despite the fact that unemployment and inflation are both near their longer-run levels.

Respondent 9: The data suggests that there has been a sharp fall in the neutral real rate of interest since 2007. We remain below maximum employment and below target inflation, even though the market real rate of interest (over any horizon) is much lower than in 2007. This means that the neutral real rate of interest - consistent with target inflation and maximum employment - has fallen by even more.

There are many reasons for this change in the neutral real rate of interest - but the main point is the change is likely to unwind over time - but only slowly and only partially. This judgement is borne out by the real yield curve, which is upward sloping (negative over the next five years, and rising to just over 1% from 2024 to 2034). Note that this real yield curve is roughly consistent with inflation break-evens of around 2%, which suggests that these market interest rates are reflective too of what's happening with the neutral real rate of interest.

Put another way: I see the intercept term in the Taylor Rule as being a stochastic process with a lot of persistence. That intercept term is very low, and is likely to return to its long-run value only slowly.

Respondent 10: My outlook has liftoff for the federal funds rate in December 2015 and 25 basis point increases at each meeting in 2016.

My projection for the federal funds rate is informed by an inertial policy rule and despite a convergence by the unemployment rate to its longer-run level, I expect that residual slack in the labor market will still be evident. As such, I do not expect the funds rate to be at its longer-run normal value in 2016.

Respondent 11: The path for the federal funds rate is unchanged from my last projection. By the end of 2014, the unemployment and inflation rates will be very close to their long-run values. Identical to my last projection, lift-off should occur in Q1/2015.

Respondent 12: The factors that shaped our views about appropriate policy in the March SEP continue to be operative in the current submission. These still call for an early 2016 liftoff in the policy rate.

Our forecast assumes a steady reduction in the pace of asset purchases, with the program being completed this fall. With regard to forward guidance, we continue to believe it is appropriate that the Committee strongly communicate its commitment to highly accommodative policy and a symmetric 2 percent inflation target. Our preferred way of doing so is for the FOMC statement to be clear that as long as the one- to two-year-ahead inflation outlook is below 2 percent, we will delay liftoff until labor markets have regained their full health as measured by a broad array of indicators. Under our baseline forecast, we do not think we will have enough confidence in a 2 percent medium term inflation outlook to commence increasing rates until sometime in early 2016. At that time, the unemployment rate is projected to be only a few tenths above our 5.2 percent estimate for the natural rate.

Respondent 13: Key factors informing my judgment regarding the appropriate path of monetary policy are achieving an inflation objective of 2.0 percent and ensuring a sustainable economic recovery that reduces unemployment. Once we begin to raise the funds rate, I believe we can be gradual–raising the funds rate by 25 bps per meeting. I also believe we should continue reducing our asset purchases by $10 billion per meeting.

I have not changed my estimate of the longer-run normal value of the federal funds rate.

My projections for unemployment and inflation equal their longer run values by the end of 2016, but my assessment of the appropriate level of the federal funds rate is about 1 1/4 percentage points less than my estimate of its longer run value. There are several interrelated reasons for this. Based on the Committee's forward guidance, lift-off does not begin until mid-2015. Once liftoff begins, a gradual increase in the federal funds rate (25 basis points per meeting) will be important and promote financial stability since steady moves are more predictable and reduce the chance of unexpected shifts in longer-term interest rates. Finally, since my longer-run normal value of the funds rate is 4.3 percent, the time from lift-off to a normal funds rate is 2 years.

I would note that my "gradual rise" in the federal funds rate (2 percentage points per year) is less gradual than many participants according to the March SEP. Specifically, only 3 participants assumed the funds rate would rise by 2 percentage points in 2016 while 4 participants that assumed the funds rate would rise by 1 percentage point in 2016. I think communicating an increase in the funds rate at every other meeting would be challenging.

I am concerned that postponing lift-off to mid-2015 and raising the funds rate at the slower pace envisioned in the March SEP risks incentivizing investors to reach for yield in an economy operating at full capacity, posing risks to achieving sustainable growth over the longer run.

Respondent 14: My path for the federal funds rate, both before and after liftoff from the zero bound, is shaped by my expectation that the headwinds that have been holding back recovery since the financial crisis will continue to exert a restraining, albeit abating, influence on aggregate demand for several years to come. In addition, inflation is running well below our 2% longer-run objective. To promote the attainment of our maximum employment and price stability objectives over the medium term I see it as necessary to pursue a highly accommodative policy throughout the forecast period. I would assess the equilibrium real funds rate at present and over the forecast to be substantially below my estimate of its longer run normal level of around 1.5%. This reflects factors such as (i) ongoing balance sheet repair by households and limited access to credit, which prevent households from taking advantage of very low interest rates to the same extent they would if their balance sheets had not been impaired; (ii) a continuing, albeit diminishing, high supply of savings, especially from emerging economies; (iii) fiscal policy that for several more years makes a smaller contribution to growth than its historical norm; and (iv) a temporarily depressed growth rate of potential GDP and associated weak growth of household incomes and income expectations. My estimate of the longer-run normal level of the nominal (and real) federal funds rate of 3.5% (and 1.5%) are consistent with estimates from the staff's three factor model. This estimate likely reflects some pessimism about the prospects for longer-run growth, consistent, for example, with current Laubach-Williams estimates of trend GDP growth.

Respondent 15: The crucial factors behind our assessment of the appropriate path for monetary policy and the FFR are the current state of the economy, our central economic outlook, and our balance of risks around the central outlook. As such, we believe it is important to communciate clearly to the public that these factors will dictate the path of the policy stance. Despite the fall in GDP in 2014Q1, the changes along these dimensions were not sufficient to change our assessment of the appropriate path for the FFR.

Based on our modal outlook and assuming that long-term inflation expectations remain anchored, we thus still anticipate that the target FFR will remain near zero until mid-2015. The pace of renormalization of the target FFR following the period of near zero policy rates will then depend upon our assessment of economic conditions and the outlook, longer-term inflation expectations, and the response of overall financial conditions to policy tightening. Our current assessment of these factors is that the pace of tightening will probably be relatively slow as a means to provide insurance against the various restraining forces still faced by the U.S. economy, especially in the housing market, which in turn will help achieve the FOMC's objectives over the longer run. For these reasons, we continue to anticipate it will be appropriate to maintain the FFR below our estimate of its longer-run level through the end of 2016.

Another factor informing our assessment of the appropriate path for the target FFR is our estimate of the equilibrium real short-term interest rate. We assume that in normal times this rate is in the range of 1% - 3%; adding the objective for inflation (2%) then gives our estimated range for nominal equilibrium rate as 3.0 - 5.0%. Given the behavior of nominal and real Treasury yields and productivity growth since the end of the recession, we see this rate over the longer run as more likely to be in the lower half of the indicated range, which results in the point estimate given in the response to question 3(a).

Although we do not expect the need to deploy additional tools to provide accommodation in our modal outlook, we believe it is still important for the FOMC to be prepared to employ all of its tools to offset any downside risks to the outlook that may be realized.

Respondent 16: In past projections exercises, my policy-rate path has come from the 1999 Taylor rule with inertia, on the pragmatic grounds that this rule seems to perform well in simulation exercises, approximating the optimal-control policy-rate path. The rule assumes that the real policy rate converges to 4.0 percent in the long-run, but gets there slowly. Upon reflection, I think that there are grounds to question both the equilibrium-policy-rate assumption and mechanistic gradualism of this rule.

As regards the longer-run equilibrium interest rate, long-forward TIPs rates have moved downward by about a percentage point since the 2007:Q4 business-cycle peak. Also, estimates of the economy's growth potential have shifted downward by nearly a percentage point over the past ten years, and theory suggests that changes in growth prospects translate into changes in the equilibrium real interest rate in the same direction. However, it's likely that some of the reduction in long-forward TIPs rates is due to an unusually low term premium. And it may well be that analysts are being unduly pessimistic about future growth prospects. Nevertheless, I've penciled in a 3.75 percent longer-run policy rate, down from the 4.0 percent rate I submitted last time.

How quickly do we get there? In my economic projections, we are close to full employment and price stability at the end of 2015. So, any rule basing its prescriptions solely on current slack and recent or near-term-projected inflation would call for a near-3.75-percent policy rate at the close of 2015. However, the rapid rate increases required to reach 3.75 percent by the end of next year would be inconsistent with past Fed behavior, would suggest policymakers are panicking, and would spook investors. More reasonable is a series of 1/4-point rate hikes beginning in March or April of 2015. That plan would bring the policy rate up to 1.75 percent at the end of the year. Eight straight further 1/4-point hikes would get the policy rate up to its longer-run neutral level of 3.75 percent by the end of 2016. At that point, the unemployment rate is likely to be below the natural rate, but only modestly so. Inflation would push above 2.0 percent, but some expected overshoot is appropriate given the likelihood of inflation shortfalls this year and next. In my view, a hallmark of successful monetary policy is a stable, 2-percent expected 5-year inflation rate. (Another hallmark is a negative correlation between output and inflation surprises.)

An increase in the policy rate any slower than that outlined above would likely produce too much overshoot on both sides of our dual mandate. Our track record on achieving a "soft landing" once overshoot is significant is not encouraging.

In summary, I'm showing a more rapid policy-rate increase than last time, but a path that eventually ends up at a slightly lower level. The more-rapid increase is meant to limit the amount by which the economy overshoots its long-run equilibrium. The lower long-run level of the policy rate acknowledges a somewhat weaker long-run growth outlook. Although the policy-rate path is steeper than before, it incorporates a realistic amount of gradualism, with rate hikes limited to 1/4-point increments. We can afford this amount of gradualism only because prospective demand pressures from the public sector and overseas are limited, and because inflation promises to run below target in the near term.

Appropriate Monetary Policy – Balance Sheet

3(d)&(e). Does your view of the appropriate path of the Federal Reserve's balance sheet, other than the projected timing for implementing the FOMC's exit strategy, differ materially from that assumed by the staff in the Tealbook? If yes, please specify in what ways (either qualitatively, or if you prefer, quantitatively).

	YES	NO
June survey	5	11
March survey	2	14

Respondent 1: No
N/A

Respondent 2: No
N/A

Respondent 3: No
N/A

Respondent 4: Yes
I anticipate following the Committee's June 2011 exit strategy principles, but because my funds rate path is steeper than in the Tealbook, I anticipate that we would reduce the size of the balance sheet more quickly than in the Tealbook over the forecast horizon.

Respondent 5: No
I have no basis for knowing how the balance sheet will have to change to produce the appropriate interest rate path.

Respondent 6: Yes
I favor immediate cessation of long-term asset purchases and reinvestment of maturing mortgage-backed securities.

Respondent 7: No
N/A

Respondent 8: No
N/A

Respondent 9: Yes
The staff is assuming that all re-investments, including those of MBS paydowns, will cease at the time of liftoff. It's worth noting that this policy will lead the size of the balance sheet to be correlated with the evolution of mortgage rates. In particular, a rapid decline in mortgage rates will lead to a rapid run-down in the size of the balance sheet. This correlation is "anti-stabilization" - declines in mortgage rates are likely to be associated with declines in future growth prospects.

The Committee should consider a policy of always re-investing MBS paydowns (although that re-investment could be in Treasuries).

Respondent 10: No
N/A

Respondent 11: No
N/A

Respondent 12: No
N/A

Respondent 13: Yes
I believe we should cease reinvestment of maturing securities prior to the first rate hike–consistent with our 2011 Principles which were reaffirmed last year.

Respondent 14: No
N/A

Respondent 15: Yes
As in the Tealbook, we expect the pace of purchases to be reduced in measured steps, and for the purchase program to conclude before the end of the year, with cumulative purchases totaling about $1.5 trillion.

However, our assumption concerning reinvestment differs from that of the Tealbook. Whereas the Tealbook assumes reinvestment halts at the time of FFR lift-off, we assume that reinvestment continues until economic and financial conditions indicate that the exit from the zero lower bound appears to be sustainable and the risks of a reversion are deemed to be negligible. Based on our modal outlook, we expect that time to be near the end of 2015. While, as noted in the reinvestment memo to the FOMC, the difference between the balance sheet paths using the Tealbook assumption or ours is fairly small, we believe there is a significant signaling effect such that adopting a strategy of waiting to halt reinvestment will reduce appreciably the risk of an unwarranted pulling forward of the expected lift-off date and tightening in financial conditions that would ultimately jeopardize a smooth take-off of interest rates.

More generally, in our view the balance sheet remains a significant part of the overall stance of policy, and consequently also requires continued guidance about its evolution. Even though the bar should be set rather high to promote an active role for balance sheet policy as normalization proceeds, its ability to affect term premia and financial conditions to support achieving the FOMC objectives should not be overlooked or dismissed a priori.

Respondent 16: No
I am content to see asset purchases wind down at the current pace, wrapping up in October, provided longer-term inflation expectations remain well anchored and signs of financial excess do not markedly increase.

Forecast Narratives

4(a). Please describe the key factors shaping your central economic outlook and the uncertainty around that outlook.

Respondent 1: N/A

Respondent 2: The economy is still recovering from the severe housing collapse and financial crisis. Recoveries from these types of episodes are associated with sustained weakness in aggregate demand through a variety of channels, which policy has only partially offset. Many of the associated headwinds are slowly easing:

- Housing appears poised to continue its recovery despite the pickup in mortgage rates since the middle of last year and some uneven recent data;
- Consumer balance sheets as well as banking and credit conditions are improving;
- The drag from contractionary fiscal policy is steadily diminishing;
- The global economy is slowly improving, and a severe crisis in Europe or emerging markets looks less likely over time. Still, the durability of the European recovery is uncertain, and deflationary risks are substantial. Potential financial disruptions in emerging markets also remain a concern;
- Policy uncertainty is back to fairly normal levels.

In this environment, I expect the economic recovery will proceed at a moderate pace, which will allow us to continue to make progress on closing output and unemployment gaps over the next couple of years. Even with substantial monetary stimulus, it will take a sustained period of above-trend growth to return the economy to full employment.

In terms of inflation, significant slack in labor and goods markets and mostly subdued commodity and import prices should keep inflation below the FOMC's 2 percent inflation target for the next few years. Well-anchored inflation expectations and diminishing slack eventually pull inflation back to our objective.

Respondent 3: My expectation is for a pattern of continued moderate recovery as household deleveraging continues (slowly) and as fiscal contraction loosens. Notwithstanding the apparent significant decline in Q1 2014 GDP, I continue to look for an uptick in growth later this year and into next as consumer spending becomes more supported by cumulative increases in income owing to steady job creation and, eventually, some more widespread increases in compensation. The labor market continues to improve and consumer and business sentiment support continued recovery. I now look at the continued relative weakness of residential construction as more a factor limiting higher growth than as a downside risk. However, until we have a better sense of what accounts for those Q1 numbers (whether they reflect aberrations, statistical mistakes that will later be corrected, or something more meaningful for future economic performance), some uneasiness around these projections will linger.

Respondent 4: I expect output growth to accelerate to 3 percent in the second half of 2014 as the headwinds that have been holding down growth recede The pace of growth then runs somewhat above my estimate of the longer-run trend rate of 2.4 percent over 2015 and 2016 . With a moderate pace of growth over the forecast horizon, the labor market recovery remains gradual – I expect the unemployment rate to move down to about 5.6 percent by the end of 2015, at which time it reaches my estimate of the natural rate of unemployment. I anticipate that headline inflation will rise gradually to 1.8 percent in 2014 and 2 percent in 2015 and 2016. Inflation stays anchored around my target of 2 percent in response to tighter monetary policy than that anticipated in the Tealbook.

In my view, the substantial liquidity that is now in the financial system continues to imply a risk that inflation will rapidly accelerate to unacceptable levels and that inflation expectations may become unanchored. To ward off these developments, the FOMC will need to commence a steady tightening of monetary policy by ending asset purchases in 2014Q3 and then beginning to raise rates in 2014Q4.

Respondent 5: Key factor is one mentioned in TB–the enormous uncertainty about the future–which is a permanent feature of the economy. In this case it leads me to put a bit more weight on past "normal" behavior than on the impact of the Gt. Recession.

Respondent 6: Population growth in the 16-64 age group will be below 0.5 percent each year. Real GDP per employee has risen slightly less than 1 percent over the last 3 years and is not likely to change dramatically over the forecast period. Therefore my estimate of the medium-term trend in real GDP is less than 2 percent, well below what we have experienced in the past. My forecast is that growth will be modestly above trend, which will push the unemployment rate below its long-run value by the end of 2016.

Respondent 7: The pace of economic activity in the first half of this year is noticeably slower than what was anticipated in the past two rounds of projections. While temporary factors have likely played a role in the disappointing pace of growth so far, the acceleration in demand, rather than being manifested in the incoming data, is once again a feature of the outlook only. Nevertheless, there are signs that point to some improvement in demand going forward. Consumers' assessment of economic conditions remains relatively upbeat and household spending is holding up well despite some income loss associated with the expiration of the EUC benefits at the beginning of the year. Private consumption expenditures are being supported by continued gains in payrolls and in household's net worth. Moreover, in the most recent months, the waning effect of last year's fiscal tightening has led to an improvement in the pace of growth of real disposable income.

Ultimately, the ongoing acceleration in private consumption expenditures should translate into a more broad-based recovery. However, we expect the investment components of demand to respond with more delay than usual to signs of improvement in the economy. This is because the disappointing pace of activity so far is likely to have generated uncertainty about the sustainability of a more robust recovery. As a result, the projected acceleration in economic activity remains modest by historical standards and requires continued support from monetary policy. The outlook is conditioned on the current asset purchase program to total $1.5 trillion. Liftoff of the federal funds rate from the zero-lower-bound is expected to occur early in 2016, once the economy is projected to be about one year away from reaching full employment. We judge that the most recent readings of the unemployment rate are understating the extent of labor market slack. As a result, even with the economy poised to accelerate some, we expect only a gradual decline in the unemployment rate, as the cyclical component of labor force participation returns to a level that is more in line with historical norms. In all, the projected pace of economic activity should bring the unemployment rate at its equilibrium level by early 2017. By then, core PCE inflation is expected to be still below target at 1.7 percent.

We view the risks to the real outlook as roughly balanced. With an improving economy, the assessment of slack becomes more crucial. We continue to estimate that the equilibrium unemployment rate is roughly 5.2 percent. While the equilibrium rate of unemployment could have increased because of some impairment in labor market efficiency, there are offsetting factors from the current composition of the labor force. Relative to 2007, an older and more educated workforce tends to lower the equilibrium rate of unemployment, other things equal. Risks to the inflation outlook are skewed to the downside, as the extent to which long-run inflation expectations can anchor inflation remains uncertain.

Respondent 8: Adverse weather and inventory behavior hampered economic growth in the first quarter, but incoming data point to stronger growth in the second quarter. Key drivers of growth going forward include: highly accommodative monetary policy, improving household balance sheets, strengthening labor markets that support consumer spending, easing fiscal headwinds, and further relaxation of tight credit conditions. These forces are expected to support growth slightly above trend over the forecast horizon, with the economy reaching steady state in 2017.

While inflation is below our 2 percent goal, recent inflation readings are starting to firm. The firming appears to be reasonably broad-based, although part of it reflects the direct effects or indirect pass-through from recent increases in agricultural and other commodity prices which may abate. Nevertheless, stable inflation expectations and an improving economy suggest that wage growth will strengthen and are consistent with inflation moving back to the 2 percent longer-run objective by the end of 2016.

I view overall uncertainty as roughly comparable to historical norms of the last 20 years. Risks to my outlook appear to be broadly balanced for both the real economy and inflation.

Respondent 9: The Lindner memo suggests that an econometrician, who is forming his/her expectation for inflation over the medium and even long-term using available past data, would expect inflation to converge to 1 3/4 percent. This is well below our target.

Fortunately, the public does not form their expectations in this way, and they seem to believe that the Committee will deliver on its promise to return inflation to 2% soon. But how long can this happy situation continue? Put another way, how long can we continue to undershoot our inflation target before we start to see the effects of that under-running on expectations?

This is a major risk facing the Committee at this time.

Respondent 10: I view much of the weakness in the first quarter as reflecting severe weather and other transitory factors. As such, I am sticking with my previous forecast which calls for a resumption of a 3 percent run-rate in output growth the remainder of 2014. Amid dissipating headwinds and ongoing policy accommodation, GDP growth rises modestly above potential over the medium term, gradually closing the "gap" and aiding a further firming-up of labor markets.

My outlook hinges on continued strength in consumer spending, a firming in the pace of manufacturing growth, and stronger capital expansion. In my outlook, strength in consumption is bolstered by a more robust pace of disposable income growth and improving household wealth; and manufacturing production is aided by a resumption of export growth.

The risks to my growth outlook remain balanced. Given relatively weak pace of real GDP growth during the recovery to date, and negative growth in the first quarter of this year, I cannot dismiss the possibility that I am overestimating the economy's underlying run-rate. At the same time, I also see the possibility that latent economic strength has been masked by significant headwinds (e.g., fiscal drag and policy uncertainty) and idiosyncratic shocks (e.g., severe weather).

I judge the risks around my inflation outlook as balanced. Inflation appears to have moved higher in recent months, consistent with my projection for inflation to gradually converge to the FOMC's explicit numerical target by 2016. The uncertainty regarding the amount of slack in the economy suggests risks on either side of my baseline inflation projection. On the one hand, wage growth remains modest and alternative measures of labor market slack are still stubbornly above their pre-recession levels. On the other hand, slow labor productivity growth is suggestive of lower potential output and less economic slack.

Respondent 11: I view the weak economic performance in the first quarter as temporary. I see sufficient momentum and monetary accommodation to project that the unemployment and inflation rates will be very close to their long-run values by the close of 2014.

Respondent 12: The key factors shaping our forecast are the same as they have been for some time. Accommodative monetary policy, continued improvement in household and business balance sheets, and the diminution of fiscal restraint should allow domestic demand to gain momentum as we move through the projection period. Furthermore, over time, fewer households and small businesses will find themselves with limited access to traditional credit markets. Pent-up demand for capital goods and consumer durables should provide further impetus to growth. Demand from abroad is projected to firm as the recovery in Europe gains traction and emerging market economies return to a more solid growth path. Our forecast also assumes that there will not be any unusual changes in financial conditions beyond those warranted by an improved economic outlook and further relaxation of constraints on household and small business credit.

These fundamental factors supporting activity are assumed to generate growth moderately above potential in 2014:H2, 2015 and 2016. (The weak growth in 2014:Q1 is assumed to be entirely transitory.) Our path for GDP closes resource gaps by the end of 2016. Resource slack thus is expected to exert a diminishing downward influence on inflation as we move through the projection period; furthermore, we assume inflation will be pulled up by inflation expectations. In order to achieve our inflation target, we assume the FOMC will not begin to remove accommodation until the one- to two-year-ahead outlook clearly has inflation headed back towards 2 percent. Given the normal inertia in the inflation process, such a path could well be consistent with some modest overshooting of target beyond the projection horizon.

The main sources of uncertainty and risks to our forecast are described in 2(b) above.

Respondent 13: My outlook for real growth is little changed compared to March. I expect a sharp rebound in the second quarter from the decline we saw in the first quarter. I have also lowered the path of the unemployment rate through the end of 2015.

Looking ahead, I continue to expect above trend growth around 3% through 2016. The fundamentals are the same: fiscal drag ends, labor markets improve, household wealth continues to rise, and financing conditions are supportive.

I expect the improvement in labor markets to continue. Labor market conditions indicators constructed by my staff show continued improvement in labor market activity and labor market momentum at its highest level. Robust growth in aggregate weekly hours and the University of Michigan's measure of job availability are key factors behind the high level of momentum.

Finally, turning to inflation, recent data releases show that the deceleration we saw last year has ended and we have seen a broad-based increase in inflation over the last couple months. This gives me greater confidence in my outlook for a gradual increase in inflation, reaching 2 percent by the end of 2015.

Respondent 14: My forecast envisions that the decline in GDP in the previous quarter proves to be due to transitory factors, and that growth picks up notably over the remainder of this and the next several years, that the unemployment rate continues to decline and inflation moves slowly back toward the Committee's 2 percent longer-run objective. An accommodative monetary policy, some further easing of credit constraints, and diminishing fiscal drag will serve as important factors propelling a more rapid expansion. After accounting for the effects of severe winter weather, private final demand seems to be strengthening, although at a slightly less robust pace than previously estimated. Going forward, I expect PCE to accelerate further. Factors propelling this pickup in PCE include the waning impact of tax increases last year, a strengthening of household balance sheets due to rising house and equity prices, improving prospects for the labor market and robust auto sales driven by low interest rates, readily available credit, and an aging fleet generating substantial replacement demand. Residential investment has slowed significantly since last fall, likely due to the effects of rising mortgage rates and also reflecting severe winter weather, but I expect a pickup in housing starts and considerable growth in residential investment later this year. Investment in equipment and intangibles has also advanced at a slow pace, on balance, in recent quarters, but recent indicators point to stronger growth in this category in the near-term. With respect to the labor market, I have been surprised that payroll employment has been rising at a pace of 200,000 jobs per month over the past year despite only moderate GDP growth–a pattern that leads me to project continued moderate productivity growth over the next few years. Unemployment has also declined by more than I'd anticipated due in part to a decline in labor force participation, which I view as partly cyclical. In part for this reason, I see the decline in the unemployment rate as understating the extent of slack in the labor market. I anticipate some rebound, or at least a flattening out of the participation rate, and a slower decline in unemployment going forward. Inflation has been running below the Committee's 2% objective in spite of the fact that inflation expectations are well-anchored. In part, I believe this reflects significant remaining slack in labor and product markets. My forecast envisions a return to 2% inflation beyond the end of the forecast horizon.

Respondent 15: Other conditioning assumptions: We expect the lower degree of inflation persistence evident since the early 1990s to continue. Inflation expectations remain well anchored. We project foreign real GDP growth (GDP weighted) at 2.9% (up from 2.8% in March) in 2014, and 3.1% (up from 3.0% in March) in 2015. Our assumptions concerning the nominal dollar exchange rate are similar to those in the Tealbook. Reflecting futures quotes, our assumed path of WTI oil prices has moved up to $99.50 (from $96.00 in March) for 2014Q4, and to $91.00 (from $87.50 in March) for 2015Q4. Our federal fiscal assumptions are similar to those in the Tealbook. We adopt the Tealbook assumptions regarding equity and home prices.

Outlook: Based on the data we have received so far for the second quarter, we are reasonably confident that the decline of real GDP in the first quarter was due to temporary factors and that growth will rebound in 2014Q2. The order of magnitude of the second quarter rebound remains uncertain, although we currently anticipate real GDP growth will be around 3 1/2% (annual rate), which is somewhat lower than our expectations of a few weeks ago.

From a first half growth rate of about 1 1/4%, we anticipate that growth will move up to around 3 1/4% in the second half of 2014 and then to 3 1/2% in 2015. The basis for the more rapid growth is that the headwinds subside while the improved underlying fundamentals exert themselves more forcefully. These fundamentals include the effective repair of households' balance sheets, the working-off of the excess supply of housing, and the continued rise of home prices. In addition, as demonstrated by asset price movements and the surge of M&amp;A activity this year, risk aversion is beginning to subside, which is contributing to more supportive financial conditions. Fiscal consolidation at both the federal and the state and local levels is largely over. And growth prospects among many of our major trading partners have improved.

These improved fundamentals result in a marked improvement in the growth of fixed investment over the forecast horizon, providing a boost to income growth, which allows consumer spending to improve somewhat further. Real export growth picks up somewhat, but the improvement of domestic demand produces a significant increase in the rate of growth of real imports, such that the net export growth contribution is, on average, modestly negative. Growth of inventories keeps pace with growth of final sales, such that inventory-sales ratios remain relatively stable.

All else equal, the stronger output growth should translate into more robust employment growth; as a result, we anticipate that the unemployment rate declines to about 6% by the end of 2014 and to around 5 1/4% (near our point estimate of the natural rate) by the end of 2015. However, there is considerable uncertainty around this projection due to uncertainty over the future path of the participation rate. The participation rate averaged 62.8% in April and May, down from 63.1% in 2014Q1. We expect it to begin trending upward in the near future, reaching 63.4% by 2015Q4, but if the participation rate does not begin to rise soon, it will be difficult for it to reach that level by then.

With the unemployment rate near the longer-run natural rate by the end of 2015, we see little slack by then. We thus expect real GDP growth to slow in 2016 to near our estimate of potential GDP growth and the unemployment rate to stay close to its natural rate.

We expect inflation to rise gradually over the next couple of years, and to be near the FOMC objective by the end of 2015, at which time we expect inflation to stabilize. This forecast is based on the projected gradual increase in resource utilization, a firming in global demand, and the upward pull exercised by stable inflation expectations. Underpinning the latter assumption is the broad stability of long-term inflation expectations across different financial and survey measures, combined with ongoing moderate growth of wages and unit labor costs.

Respondent 16: As labor-market slack diminishes, the urgency of our monetary policy deliberations intensifies. If we delay action for very long, the opportunity for a gradual withdrawal of accommodation will slip away.

The forces supporting growth in the U.S. economy remain in place. Looking ahead, the balance of risks if anything favors an acceleration in GDP. That's important because however disappointing and uneven output growth may have been over the course of the recovery, the unemployment rate has so far declined with remarkable consistency, falling by just shy of 1 percentage point per year. With real-growth prospects improving, the probability is high that one year from now the unemployment rate will be within the range of SEP natural-rate estimates.

On the inflation front, research which suggests that the unemployment rate has lost its usefulness as an indicator of near-term wage and price pressures is not compelling. The modest increase that we've seen in wage inflation so far in this recovery is completely consistent with past experience. We can expect significantly faster wage increases as the unemployment rate moves down. Trimmed-mean PCE inflation–which captures medium-term headline inflation trends better than conventional core PCE inflation–responds to changes in the unemployment rate as well as to the level of unemployment. Thanks partly to this effect, my inflation projection rises to 2 percent in 2016, and above 2 percent thereafter.

To limit the overshooting of unemployment and inflation to manageable levels, it is necessary that we achieve a neutral policy stance by the end of 2016. The only way to do this without one or more 50-basis-point hikes is to start raising the policy rate either late in the first quarter of 2015 or early in the second quarter.

Forecast Narratives (continued)

4(b). Please describe the key factors causing your forecast to change since the previous SEP.

Respondent 1: N/A

Respondent 2: Since March, I have made only modest changes to the broad contours of my forecast. The data remain consistent with a recovery that gains traction over the final three quarters of 2014 and into 2015. Weather, inventory adjustments, and net exports were a bigger transitory drag on growth in the first quarter of 2014 than I expected. However, the economy has rebounded in the second quarter and is poised to continue steady growth over the remainder of the year. Consequently, on net my GDP forecast for 2014 is only slightly weaker than in March. The overall pace of the recovery remains strong enough to continue bringing the unemployment rate down.

In fact, the unemployment rate is lower than what I expected in March, leading me to lower its projected path. I currently expect the unemployment rate to reach 6 percent before the end of 2014.

Finally, recent data on core and overall inflation have come in a bit higher than I expected. However, much of this positive surprise was in a few volatile components and has led to only a slight increase in my inflation outlook for 2014 as a whole.

Respondent 3: I have significantly lowered my estimate of GDP growth in 2014, based entirely on the dramatic, and apparently continuing, downgrade in estaimted growth for Q1. It is somwthing of a leap of faith not to have altered my projection for 2014 H2, but for now I join in the consensus that whatever was going on in Q1 was highly idiosyncratic, and only pushed off the trajectory of stronger growth, rather than alterned it. I have also reduced by a few tenths of a percentage point my projections for unemployment in each of the three outlook years. This change essentially incrporates the greater-than-expected decline in unemployment over the early part of this year, and reflects the staff reduction in projected labor force participation rates, but does not reflect any materital change in my outlook for the strength of the labor market.

Respondent 4: Recent data point to a weaker economy in 2014Q1 than I anticipated in March, leading me to revise down my forecast for real GDP growth in 2014. As well, the incoming data on the labor market led me to revise down my projected path for the unemployment rate over the forecast horizon.

Respondent 5: Not relevant.

Respondent 6: New data have led me to lower my projection for GDP growth, lower the unemployment rate, and raise my projection for inflation in the first half of 2014.

Respondent 7: The projected pace of growth over the forecast horizon is now slower relative to the March projection. This reflects the disappointing nature of incoming data and a downward revision to potential GDP growth over the period 2014-16. The expected path for the unemployment rate is also somewhat less favorable in the medium term. Given the weaker-than-expected incoming data, the current forecast is conditioned on a later liftoff date for the federal funds rate from the zero-lower-bound. There have been no material changes to the inflation outlook.

Respondent 8: The near-term forecast has been influenced by the weak 2014Q1 growth data and the firming in recent inflation readings.

Respondent 9: There has been little change in my forecast, except that the decline in the unemployment rate has led me to, once again, lower my estimate of the natural rate of unemployment.

Respondent 10: My forecast today is broadly similar to where it was in March, except for an arithmetic adjustment to my 2014 growth projection in response to first quarter weakness and a lower "jumping-off" point for my unemployment rate projection. I have not adjusted my inflation forecast, as recent readings on inflation are consistent with my previous projection.

Respondent 11: Real GDP growth for the first half of 2014, as well as for the entire year, was marked down based on additional data since the previous SEP. Adverse weather and inventory adjustments were major factors contributing to the weak performance. I view these factors as temporary. Additional data also contributed to a reduction in unemployment for 2014 and for increases in both measures of inflation for the first half and for all of 2014.

Respondent 12: Our outlook for growth in 2014 has been revised down 1/2 percentage point. This entirely reflects a weaker-than-expected first quarter, as we continue to expect growth to bounce back sharply in 2014:Q2 and then return to a run-rate of a bit over 3 percent for the remainder of the year. Furthermore, since March labor markets have improved more than we anticipated and our business contacts become increasingly optimistic. Accordingly, we feel that the downside risks to the projection for growth have diminished since the March SEP.

Further reevaluation of labor market trends (including, like the Tealbook, labor quality) and changes to our projection for capital deepening resulted in downward revisions to our assumptions for potential output growth of about 1/4 percentage point per year over the 2014-2016 period. We have marked down our forecasts for actual GDP growth in 2015 and 2016 commensurately. Our reassessment of potential also has led us to reduce our assumptions for long-run growth to 2-1/4 percent and for the long-run federal funds rate to 3-3/4 percent.

Our forecast assumes a pronounced declined in structural labor force participation; nonetheless, the magnitude of the decline in participation since March was larger than we expected, and we think there is an even larger cyclical participation gap to close than we did before. Accordingly, we have built in a somewhat slower decline in the unemployment rate than what would be indicated by a straight reading of Okun's Law.

The incoming inflation data since the March SEP have been somewhat higher than we expected. The new data did not cause us to revise our inflation forecast, but we feel the downside risks are not quite as large as they were in March.

Respondent 13: My forecast has not significantly changed since the last SEP. I have reduced my real GDP growth and unemployment rate forecasts in 2014 compared to the March SEP reflecting data we have received this year. The reduction in my 2014 unemployment rate forecast carries through to a slightly smaller reduction in 2015.

Respondent 14: My forecast has changed only marginally since March. My projected paths for growth and for the unemployment rate are slightly lower, on balance, over the forecast horizon, in light of incoming data suggesting continued slow productivity growth, and my projection for inflation is little changed.

Respondent 15: At the time of the March SEP, we did not anticipate the decline in real GDP in 2014Q1. While a sizable rebound in 2014Q2 appears to be in the cards, real GDP growth in the first half of the year probably will be substantially below our projection in March. However, the data appear to be consistent with the first quarter weakness coming from transitory factors; consequently, the changes to the real growth forecast in the second half of 2014 and beyond have been small.

The decline in the unemployment rate since the March SEP was greater than we expected. Taking the recent data on board, we have lowered the projected path of unemployment with the result that we now anticipate that the unemployment rate will reach its longer-run natural rate in late 2015 rather than in the first half of 2016 as we had projected in March.

The recent inflation data have been modestly above our expectations from March, leading us to raise our near-term inflation projection. As in the case of the Tealbook, we see the recent rise as reflecting primarily transitory factors, and thus have made little change to the medium-term forecast.

Respondent 16: It is now fairly clear that GDP growth in the first half of 2014 will be even weaker than I had anticipated. Otherwise, my growth projections are largely unchanged. Adjustments to the projected paths of the unemployment rate and inflation are minor. I show a steeper increase in the policy rate in 2016 than previously, for reasons explained in my policy commentary.

Forecast Narratives (continued)

4(c). Please describe any important differences between your current economic forecast and the Tealbook.

Respondent 1: Slightly slower growth in 2015 and 2016.

Respondent 2: My forecast is broadly similar to the Tealbook projection.

Respondent 3: N/A

Respondent 4: My forecast calls for higher inflation and tighter monetary policy over the forecast horizon than the Tealbook.

Respondent 5: There are no large differences.

Respondent 6: The Tealbook projects a surge in consumer spending that I view as unlikely.

Respondent 7: Our outlook for real economic activity is somewhat weaker than the Tealbook's. The two forecasts share the same contours, but we expect the acceleration in the pace of activity to be more subdued. Our trajectory for the unemployment rate is also affected by the view that the cyclical improvement in labor force participation will be greater than what the Tealbook is assuming. The inflation outlook is similar in the two forecasts.

Respondent 8: My forecasted outcomes are broadly similar to those in the Tealbook, as I expect GDP growth will pick up from its dismal first-quarter reading and proceed at an above-trend pace from 2014H2 through 2016 and the unemployment rate will continue to decline. However, my forecast calls for somewhat more inflationary pressure than the Tealbook forecast, which suggests a steeper path for the funds rate, as inflation returns to our 2 percent long-term objective by the end of 2016.

Respondent 9: Under appropriate monetary policy, inflation expectations stay well-anchored at 2%. The Tealbook is currently modelling expectations as having slipped below 2% for some period of time. So, my forecast requires no undershooting of the natural rate of unemployment.

This exercise of formulating my projections under appropriate monetary policy makes less and less sense to me!

Respondent 10: My growth and unemployment projections are not materially different from those in the Tealbook for all forecast horizons. On inflation, I do not share the Board staff's assessment that inflation expectations are misaligned with the FOMC's explicit inflation objective. As such, inflation reaches 2.0 percent in my outlook by 2016.

Respondent 11: Important differences in real GDP growth occur in 2016 and in the long run. I see less growth than the Tealbook in 2016 and I see somewhat higher growth in the long run. With respect to the unemployment rate projection, an important difference is that my natural rate projection is 6 percent rather than 5.2 percent. Noteworthy differences in the inflation projections are due to my view that overshooting of the 2 percent target is likely, while the Tealbook projections do not include such an overshooting. In addition, I see core and headline inflation at 2 percent in 2016, while the Tealbook projections remain below 2 percent through 2016.

Respondent 12: We assume that the first increase in the funds rate will occur early in 2016, three quarters later than the Tealbook. Our rate of increase after liftoff is similar. Accordingly, at the end of the projection period our assumed level of the funds rate only reaches 1.25 percent.

We are projecting a touch less robust growth in 2014:Q2-Q4 than the Tealbook. Our projection for growth in 2015-2016 is close to the Tealbook. However, we assume a somewhat faster pace of potential output growth, and so our projection just closes output gaps by the end of 2016 instead having the overshooting of potential found in the Tealbook. Our inflation forecasts are similar.

Respondent 13: I see growth in real GDP about 1/4 percentage points slower in 2014 and 2016 than does Tealbook and growth in 2015 the same. Partly as a result, I expect the unemployment rate to be higher over the forecast horizon, including in the longer run. I also expect inflation to rise more quickly than Tealbook and will average 2 percent in 2015 and 2016. Finally, I expect the federal funds rate will be 3 percent at the end of 2016 compared to 2.3 percent in Tealbook.

Respondent 14: N/A

Respondent 15: Our forecast for real GDP growth in 2015 is somewhat above that of the Tealbook, largely reflecting differences in business fixed investment. The Tealbook projects slower growth in business fixed investment in 2015 than in our forecast; the reason for this difference in part appears to be related to the Tealbook changes in potential GDP over the near term and the the reduction in its longer-run GDP growth assumption (discussed further below). With less slack over the near term as well as lower expected future growth, firms under the Tealbook assumptions have less incentive to invest.

For 2016, real GDP growth in our projections is almost one percentage point below the Tealbook forecast. This difference reflects two factors. First, in our forecast, unemployment is near its longer-run natural rate at the end of 2015 whereas the Tealbook still has a small gap. Second and more importantly, under the Tealbook's revised assumption for the medium-term underlying inflation rate, real GDP has to continue to grow above potential, pushing the unemployment rate below its longer-run natural rate, to induce inflation to rise eventually toward the longer-run inflation goal (which lies above the underlying inflation rate). In our framework, with anchored inflation expectations and little slack in 2016, we anticipate inflation to be near the longer-run goal.

Looking over the general contour of the forecasts, there is a fundamental difference between us and the Tealbook concerning the assumed potential growth rate over both the short term and the longer run. The Tealbook has reduced the level of potential GDP and its growth rate over recent cycles. These changes reflect the reduction in unemployment at a time when real GDP growth has been weak: to resolve the apparent inconsistency with Okun's Law, the Tealbook has made changes to its potential GDP assumption (as well as its shorter-run assumption for the natural rate of unemployment). Based on our analysis of unemployment dynamics during the middle of long expansions (at 5 years, the current expansion qualifies as long), the decline in the unemployment rate in this expansion relative to Okun's Law implications has not been particularly unusual, and thus we have not seen the need to adjust our potential growth assumptions.

In addition, the Tealbook has lowered its assumption for the longer-run potential GDP growth rate, arguing that labor quality will not improve to the extent previously anticipated, leading to lower trend productivity growth. While it is not unreasonable to posit that longer-run growth could be lower than previously assumed, we believe it is premature to make that change, and will wait until the annual revisions to GDP and productivity are released this summer to revisit our assumptions in time for the September SEP. So for now, we have maintained our estimate of the potential growth rate, which is above the revised Tealbook assumption.

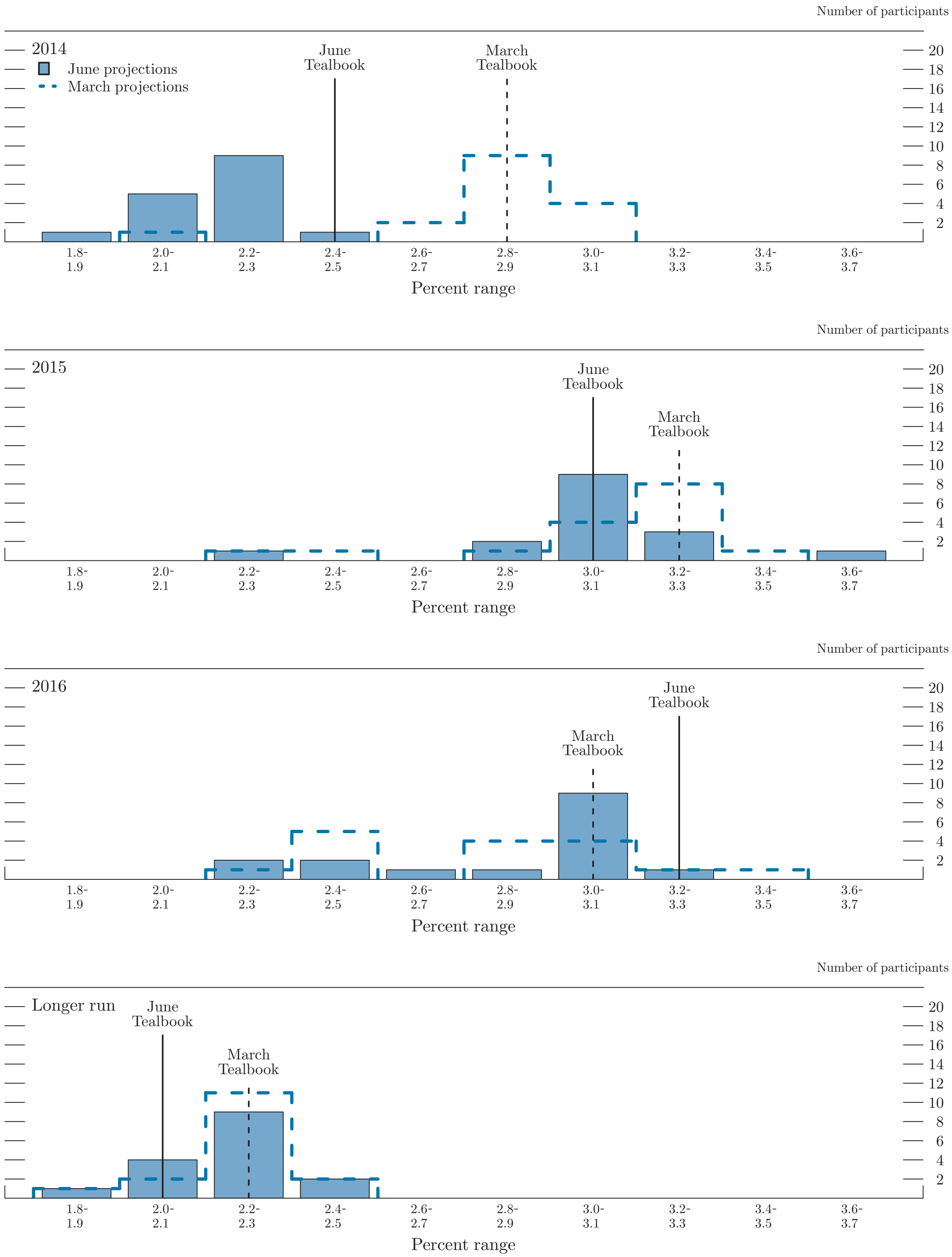
In terms of the uncertainty and risk assessment, we see some differences between the two projections. On the real side, although we see uncertainty around the real GDP and unemployment forecasts as somewhat less than in March, we continue to see it as higher than normal whereas the Tealbook sees uncertainty at near normal levels. This assessment reflects our view that the unusual nature of the current expansion as well as a policy environment that is constrained by the effective lower bound leaves uncertainty about real activity above even the more elevated SEP standard associated with the 20-year window of forecast errors. Over the medium term, we see the risks to real activity as balanced whereas the Tealbook sees them skewed a little to the downside: the difference seems to reflect that we place somewhat more probability on headwinds receding faster than anticipated. As for inflation, our views on the risk assessment is similar to that in the Tealbook, but we ascribe a little more uncertainty around our projection.

Respondent 16: I believe longer-term inflation expectations are currently well anchored at a rate consistent with the Committee's inflation objective. I'm convinced that in the near term inflation responds to changes in slack as well as the level of slack. For these reasons, I see inflation rising farther and more quickly than does the Tealbook.

At the same time, I believe that increases in the unemployment rate are difficult to contain once they begin: It's proven nearly impossible for policymakers to "nudge" the unemployment rate upward to restrain inflation. An implication is that the risks to mis-estimating slack are asymmetric: It is substantially more dangerous to overestimate slack than to underestimate it. The models used by Board staff appear not to recognize the non-linearity in the economy's dynamics.

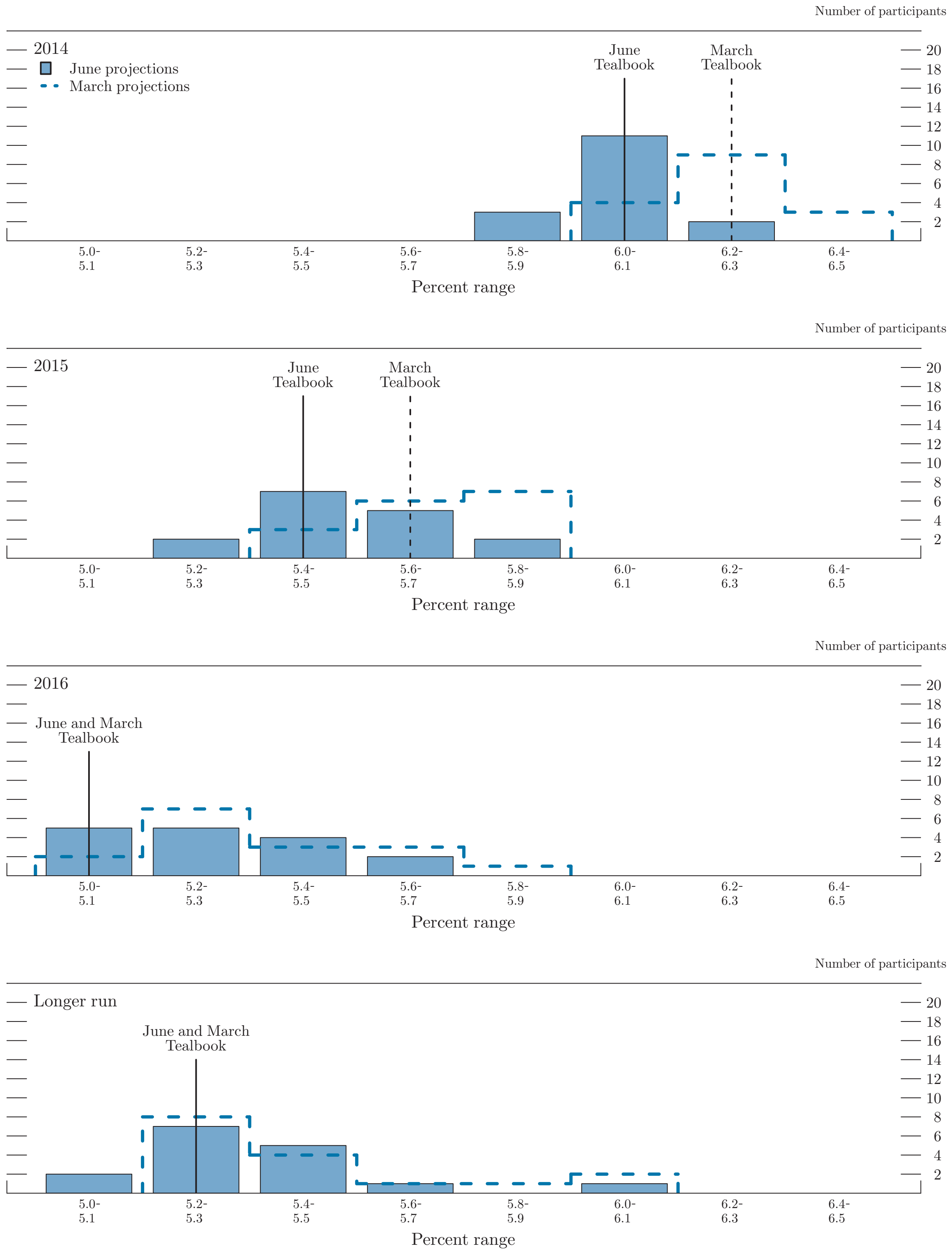
These differences in perspective mean that I see substantially less benefit from overshooting full employment than does the Tealbook, and substantially greater risk. In consequence, I believe it is appropriate for monetary policy to move more rapidly to a neutral policy stance.

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2014–16 and over the longer run



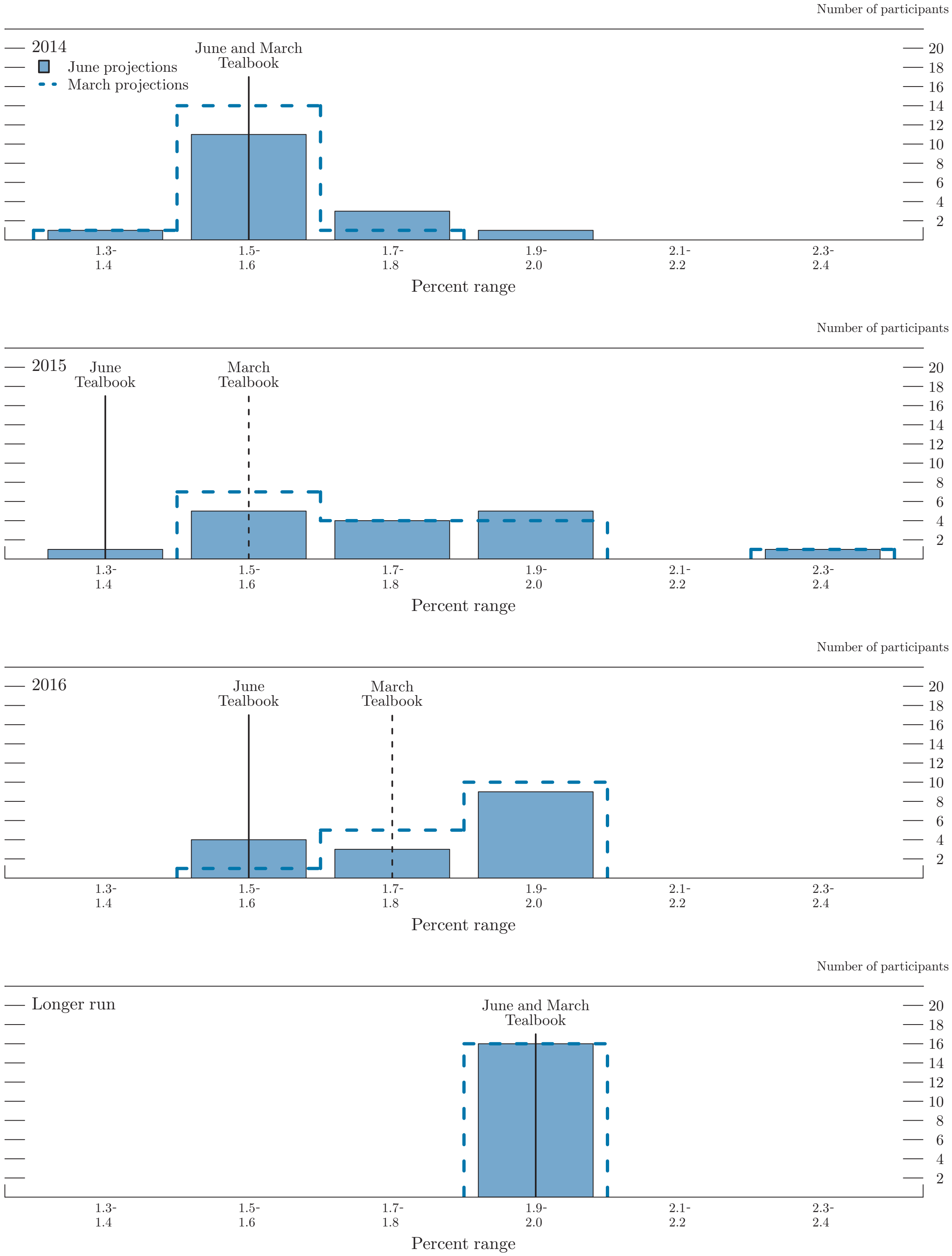
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2014–16 and over the longer run



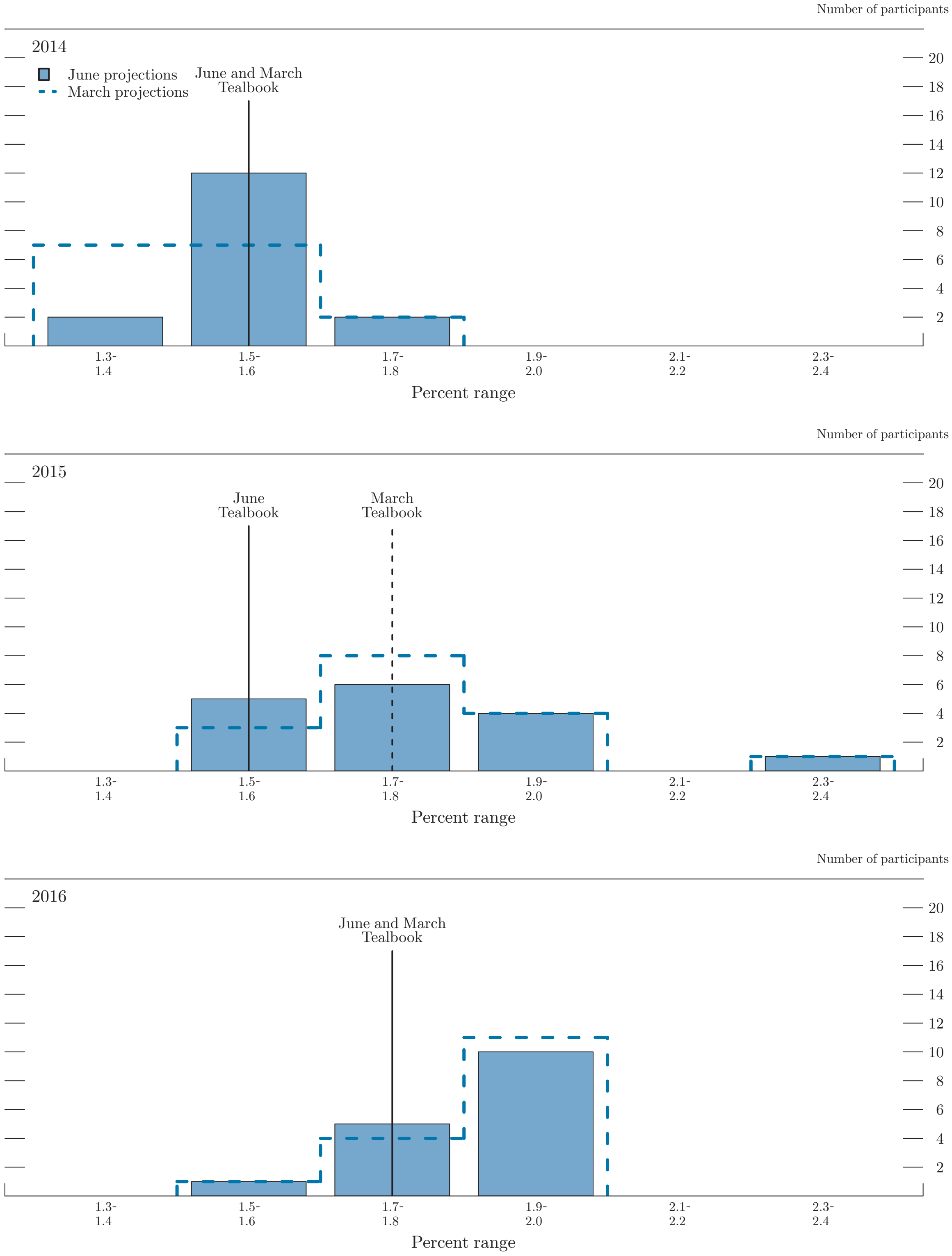
Note: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2014–16 and over the longer run



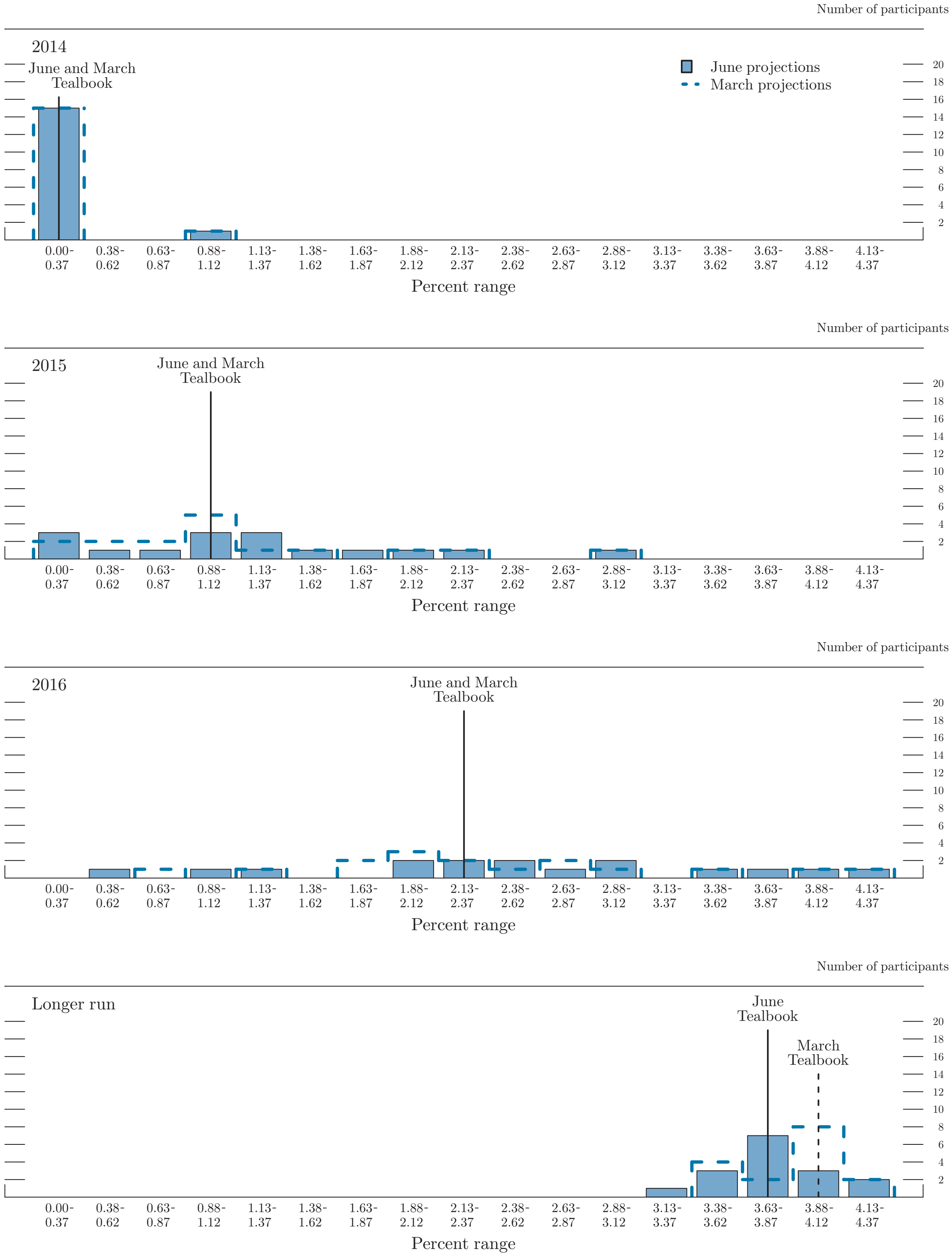
Note: Definitions of variables are in the general note to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2014–16



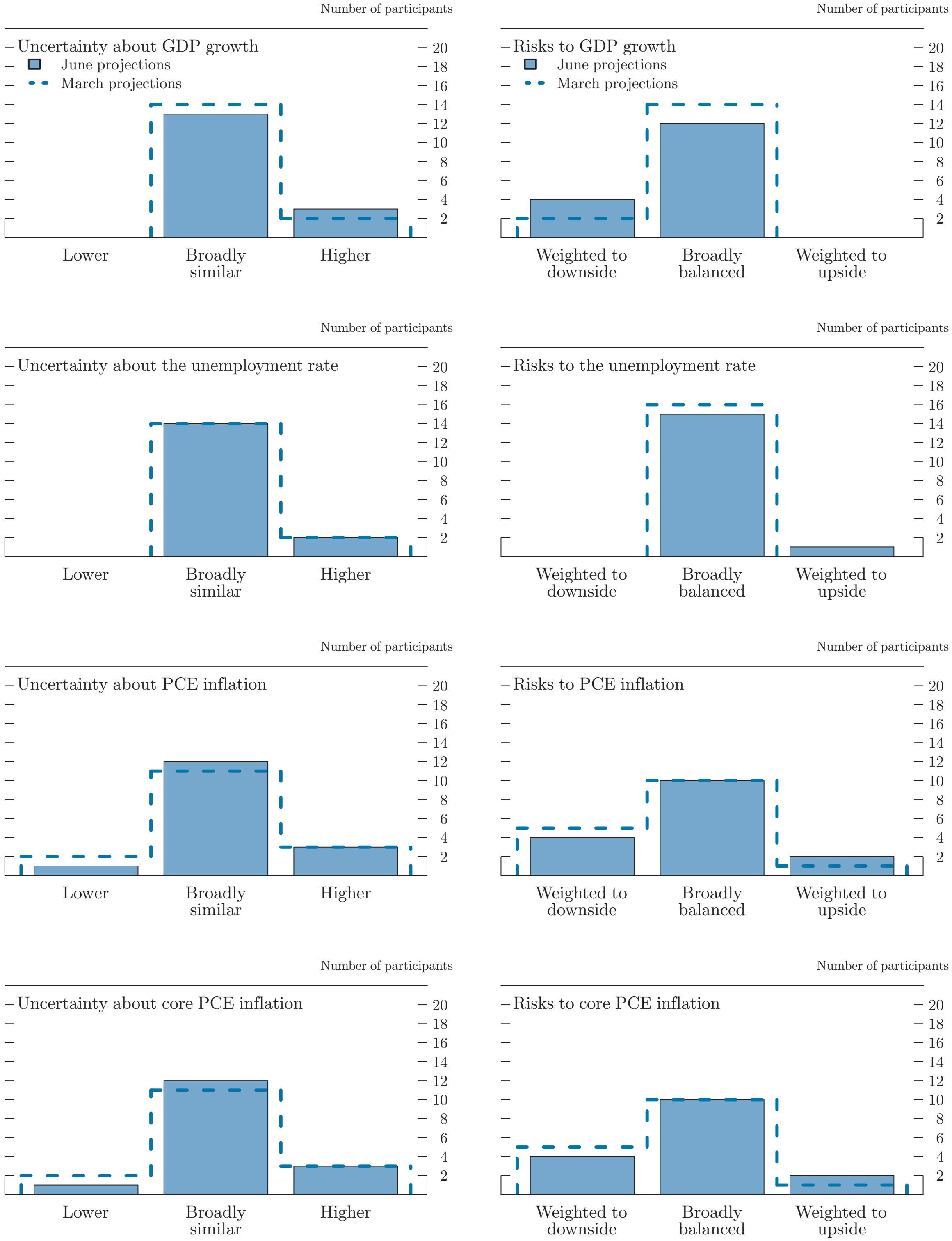
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.E. Distribution of participants' projections for the target federal funds rate, 2014–16 and over the longer run



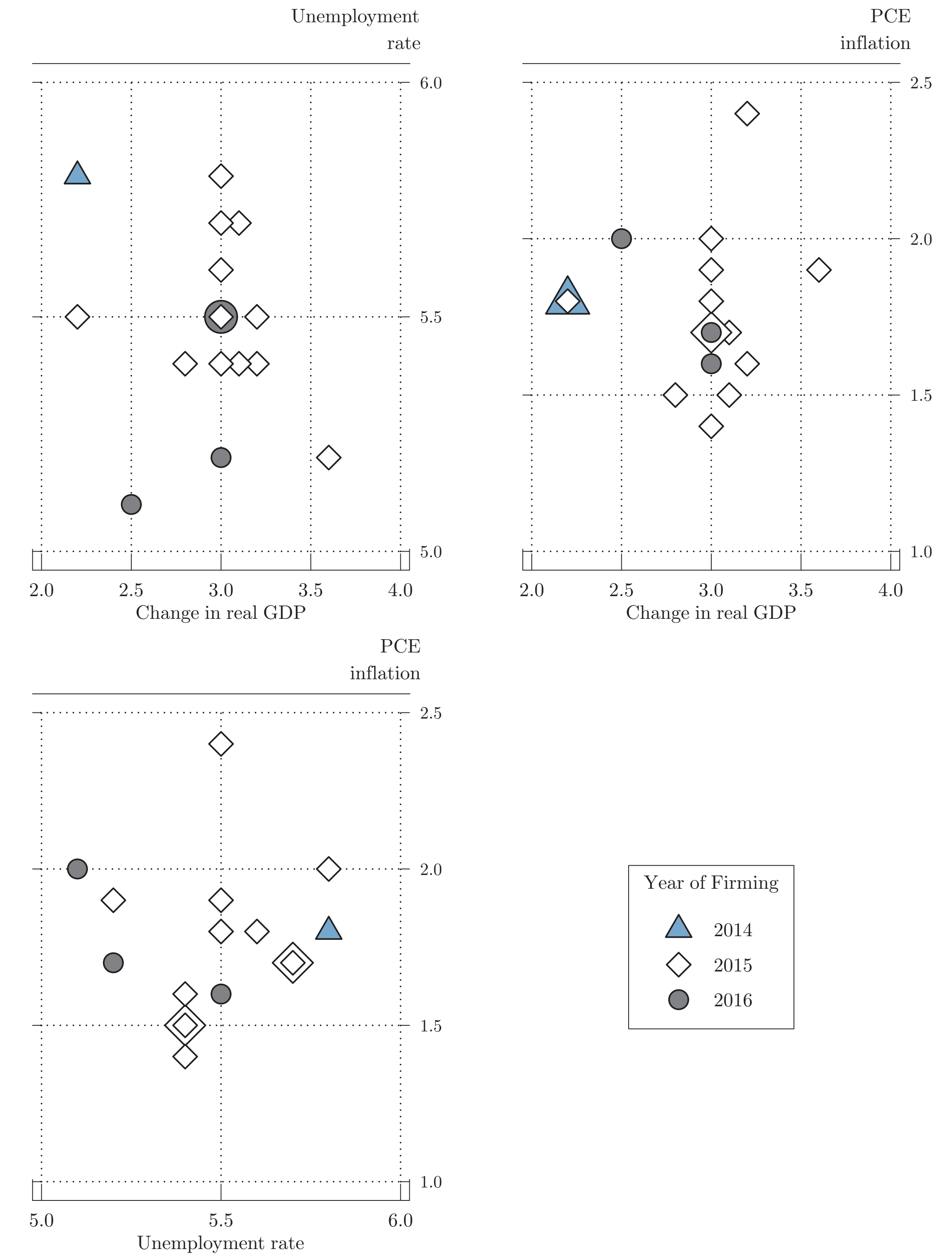
NOTE: The target federal funds rate is measured as the level of the target rate at the end of the calendar year or in the longer run.

Figure 4. Uncertainty and risks in economic projections



NOTE: Definitions of variables are in the general note to table 1.

Figure 5. Scatterplots of projections in the initial year of policy firming (in percent)



Note: When the projections of two or more participants are identical, larger markers, which represent one participant each, are used so that each projection can be seen.