Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, June 2013

Percent

Variable	Central tendency[1]				Range[2]			
	2013	2014	2015	Longer run	2013	2014	2015	Longer run
Change in real GDP	2.3 to 2.6	3.0 to 3.5	2.9 to 3.6	2.3 to 2.5	2.0 to 2.6	2.2 to 3.6	2.3 to 3.8	2.0 to 3.0
March projection	2.3 to 2.8	2.9 to 3.4	2.9 to 3.7	2.3 to 2.5	2.0 to 3.0	2.6 to 3.8	2.5 to 3.8	2.0 to 3.0
Unemployment rate	7.2 to 7.3	6.5 to 6.8	5.8 to 6.2	5.2 to 6.0	6.9 to 7.5	6.2 to 6.9	5.7 to 6.4	5.0 to 6.0
March projection	7.3 to 7.5	6.7 to 7.0	6.0 to 6.5	5.2 to 6.0	6.9 to 7.6	6.1 to 7.1	5.7 to 6.5	5.0 to 6.0
PCE inflation	0.8 to 1.2	1.4 to 2.0	1.6 to 2.0	2.0	0.8 to 1.5	1.4 to 2.0	1.6 to 2.3	2.0
March projection	1.3 to 1.7	1.5 to 2.0	1.7 to 2.0	2.0	1.3 to 2.0	1.4 to 2.1	1.6 to 2.6	2.0
Core PCE inflation[3]	1.2 to 1.3	1.5 to 1.8	1.7 to 2.0		1.1 to 1.5	1.5 to 2.0	1.7 to 2.3	
March projection	1.5 to 1.6	1.7 to 2.0	1.8 to 2.1		1.5 to 2.0	1.5 to 2.1	1.7 to 2.6	

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 19–20, 2013.

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 2013*
(in percent)

Central tendencies and ranges

	Central tendency	Range
Change in real GDP	2.0 to 2.1	1.9 to 2.2
PCE inflation	0.4 to 0.6	0.3 to 1.0
Core PCE inflation	1.0 to 1.1	0.9 to 1.3

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	2.0	0.3	0.9
2	2.2	0.4	1.1
3	1.9	0.3	1.0
4	2.1	0.6	1.0
5	2.0	0.5	1.1
6	2.1	0.4	1.0
7	1.9	0.6	1.2
8	2.0	0.4	1.0
9	2.0	0.5	1.1
10	2.0	0.4	1.0
11	2.1	0.3	1.0
12	2.0	0.4	1.0
13	2.0	0.4	1.0
14	2.0	1.0	1.3
15	2.0	0.9	1.0
16	2.0	0.4	1.0
17	2.0	0.4	1.0
18	2.1	1.0	1.1
19	1.9	0.6	1.0

* Growth and inflation are reported at annualized rates.

Table 1.B. Economic projections for the second half of 2013*
(in percent)

Central tendencies and ranges

	Central tendency	Range
Change in real GDP	2.6 to 3.0	2.1 to 3.2
PCE inflation	1.3 to 1.8	0.7 to 2.0
Core PCE inflation	1.3 to 1.6	1.2 to 1.7

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	2.8	1.3	1.3
2	3.0	1.6	1.5
3	2.9	1.7	1.2
4	2.7	1.4	1.4
5	2.6	1.9	1.5
6	3.1	1.4	1.4
7	2.7	1.6	1.6
8	3.0	1.4	1.6
9	2.8	1.3	1.3
10	3.0	1.2	1.4
11	2.1	1.5	1.6
12	2.8	1.6	1.6
13	3.0	1.6	1.4
14	3.2	2.0	1.7
15	3.0	0.7	1.4
16	2.6	1.8	1.2
17	2.6	1.2	1.4
18	3.1	1.6	1.5
19	2.1	1.8	1.6

* Projections for the second half of 2013 implied by participants' June projections for the first half of 2013 and for 2013 as a whole. Growth and inflation are reported at annualized rates.

Table 2. June economic projections, 2013–15 and over the longer run (in percent)

Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2013	2.4	7.3	0.8	1.1	0.13
2	2013	2.6	7.2	1.0	1.3	0.13
3	2013	2.4	7.3	1.0	1.1	0.13
4	2013	2.4	7.4	1.0	1.2	0.13
5	2013	2.3	7.3	1.2	1.3	0.13
6	2013	2.6	7.3	0.9	1.2	0.13
7	2013	2.3	7.3	1.1	1.4	0.13
8	2013	2.5	7.3	0.9	1.3	0.13
9	2013	2.4	7.3	0.9	1.2	0.13
10	2013	2.5	7.3	0.8	1.2	0.13
11	2013	2.1	7.2	0.9	1.3	0.13
12	2013	2.4	7.3	1.0	1.3	0.13
13	2013	2.5	7.2	1.0	1.2	0.13
14	2013	2.6	6.9	1.5	1.5	0.50
15	2013	2.5	7.3	0.8	1.2	0.13
16	2013	2.3	7.4	1.1	1.1	0.13
17	2013	2.3	7.3	0.8	1.2	0.13
18	2013	2.6	7.1	1.3	1.3	0.13
19	2013	2.0	7.5	1.2	1.3	0.13
1	2014	3.3	6.7	1.4	1.5	0.13
2	2014	3.0	6.6	2.0	2.0	0.13
3	2014	3.1	6.7	1.6	1.5	0.13
4	2014	3.4	6.8	1.4	1.5	0.13
5	2014	3.3	6.8	1.5	1.5	0.13
6	2014	3.6	6.7	1.4	1.5	0.13
7	2014	2.9	6.8	1.8	1.8	0.13
8	2014	3.5	6.6	1.5	1.6	0.13
9	2014	3.3	6.7	1.6	1.7	0.13
10	2014	3.4	6.8	1.4	1.6	0.13
11	2014	2.2	6.6	1.8	1.8	1.00
12	2014	3.5	6.6	1.7	1.8	0.13
13	2014	3.5	6.6	1.6	1.6	0.13
14	2014	3.0	6.2	2.0	2.0	1.50
15	2014	3.3	6.7	1.5	1.6	0.13
16	2014	3.3	6.5	2.0	1.8	0.13
17	2014	3.5	6.5	2.0	2.0	0.13
18	2014	3.2	6.3	1.8	1.8	1.00
19	2014	2.6	6.9	1.7	1.7	1.00

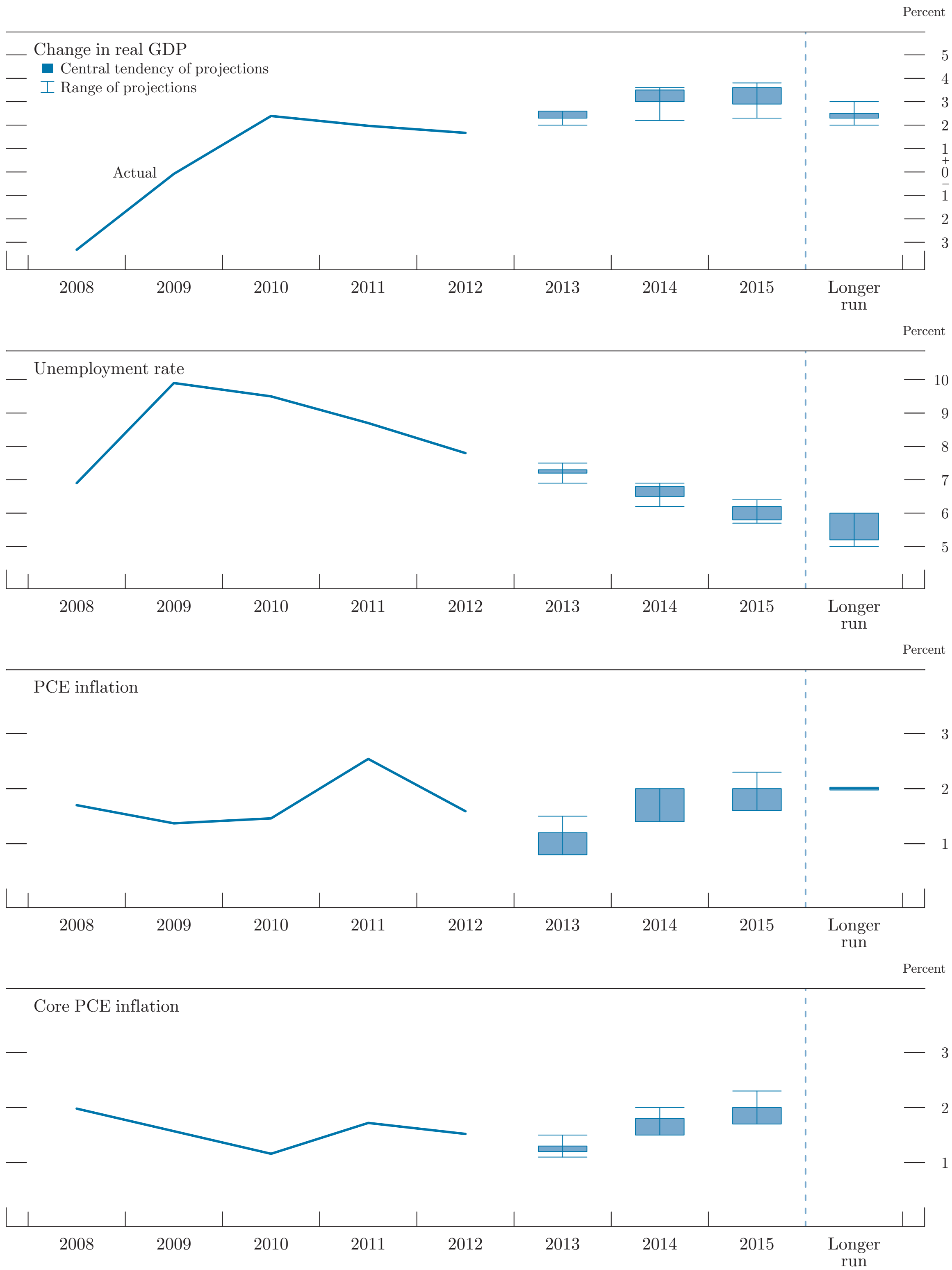
Table 2. ***(continued)***

Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2015	3.4	6.1	1.6	1.7	1.25
2	2015	3.2	6.2	2.0	2.0	1.50
3	2015	3.1	6.3	1.8	1.7	0.75
4	2015	3.8	6.1	1.8	1.8	0.50
5	2015	3.5	6.3	2.0	1.8	1.00
6	2015	3.7	6.0	1.7	1.7	1.00
7	2015	3.0	6.1	2.0	2.0	1.50
8	2015	3.7	5.7	1.6	1.8	1.00
9	2015	3.4	6.1	1.7	1.9	0.75
10	2015	3.6	6.1	1.6	1.8	0.50
11	2015	2.3	5.9	2.0	2.0	3.00
12	2015	3.5	6.0	1.9	2.0	1.25
13	2015	3.6	5.8	1.7	1.8	1.50
14	2015	2.5	6.0	2.0	2.0	3.00
15	2015	3.3	6.0	1.6	1.7	0.75
16	2015	3.5	5.7	2.0	2.0	1.00
17	2015	3.5	5.8	2.1	2.1	0.13
18	2015	2.8	6.0	2.3	2.3	3.00
19	2015	2.9	6.4	2.0	2.0	2.00
1	LR	2.0	5.4	2.0		4.00
2	LR	2.4	5.4	2.0		4.00
3	LR	2.3	6.0	2.0		4.00
4	LR	2.5	5.2	2.0		4.00
5	LR	2.2	5.4	2.0		4.00
6	LR	2.3	5.3	2.0		3.80
7	LR	2.5	5.2	2.0		4.50
8	LR	2.3	5.2	2.0		3.25
9	LR	2.3	5.5	2.0		4.30
10	LR	3.0	5.4	2.0		4.00
11	LR	2.1	5.8	2.0		4.00
12	LR	2.3	5.5	2.0		4.00
13	LR	2.3	5.8	2.0		4.50
14	LR	2.5	6.0	2.0		4.50
15	LR	2.5	5.2	2.0		4.00
16	LR	2.3	5.0	2.0		3.50
17	LR	2.3	6.0	2.0		3.50
18	LR	2.3	6.0	2.0		4.25
19	LR	2.3	5.5	2.0		4.30

Table 2 Appendix. Assessments of participants who, under appropriate monetary policy, judge that the federal funds rate will not be raised until after 2015

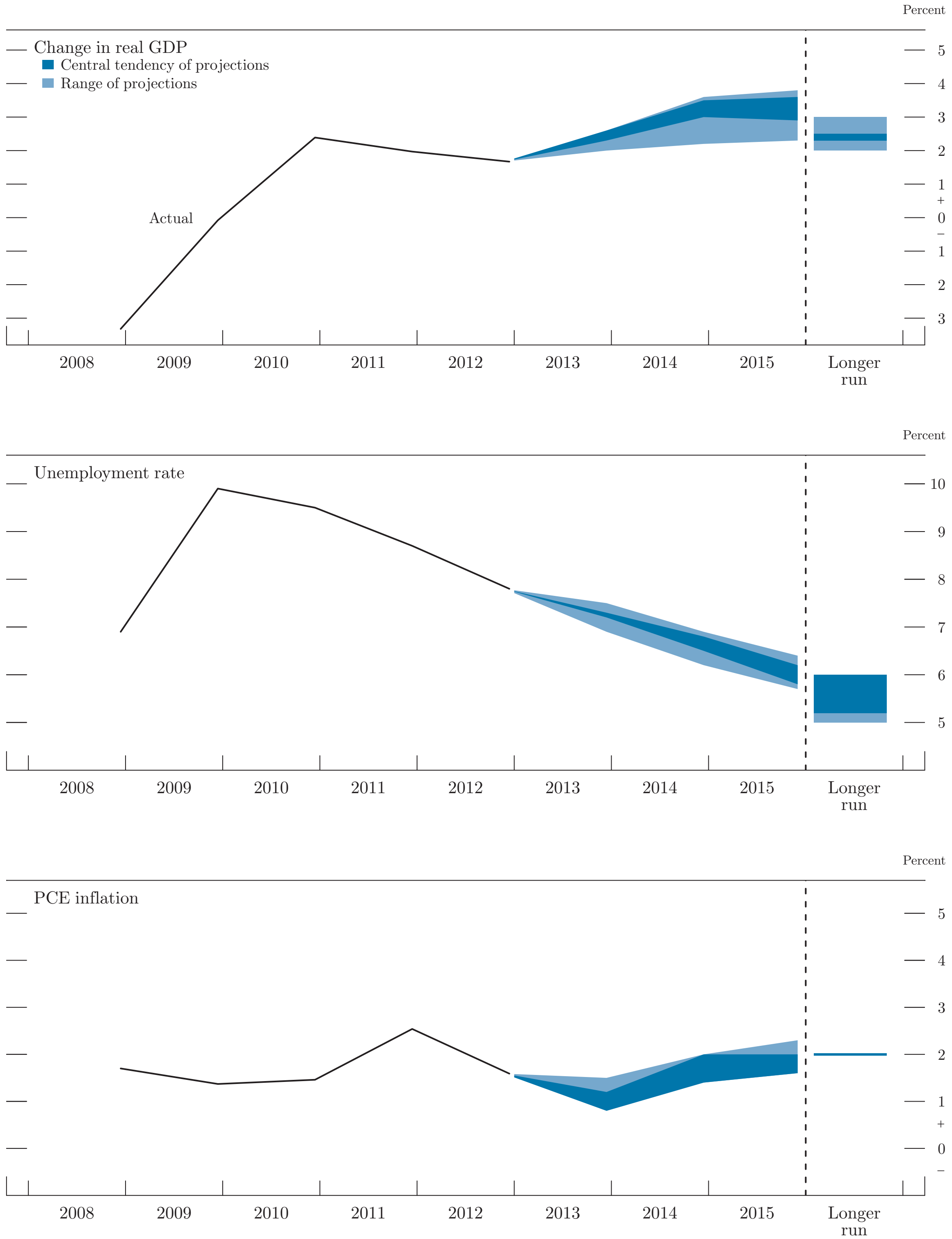
Projection	Year of first increase	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
17	2016	3.5	5.4	2.2	2.2	0.75

Figure 1.A. Central tendencies and ranges of economic projections, 2013–15 and over the longer run



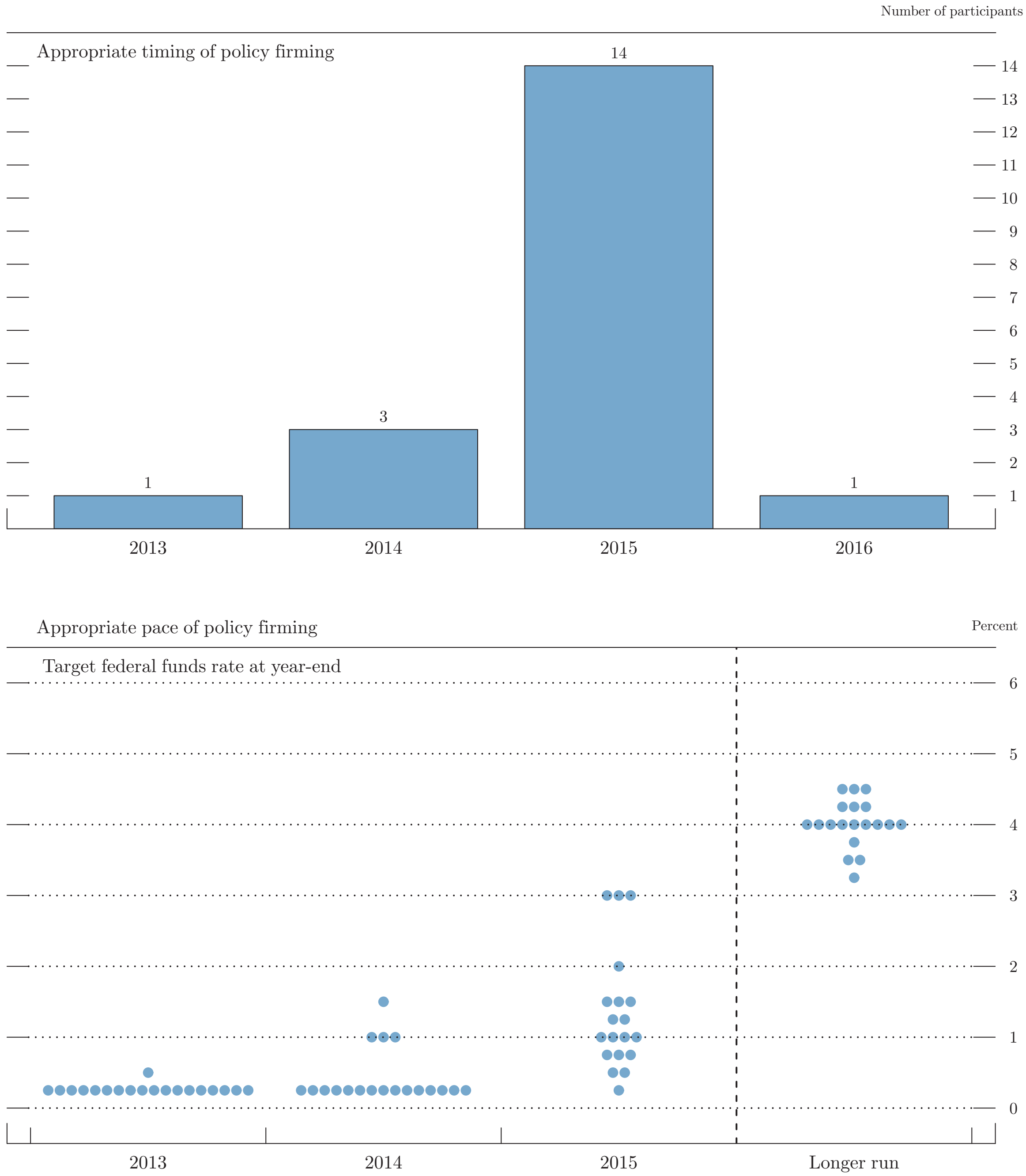
Note: Definitions of variables are in the general note to table 1. The data for the actual values of the variables are annual.

Figure 1.B. Central tendencies and ranges of economic projections, 2013–15 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.

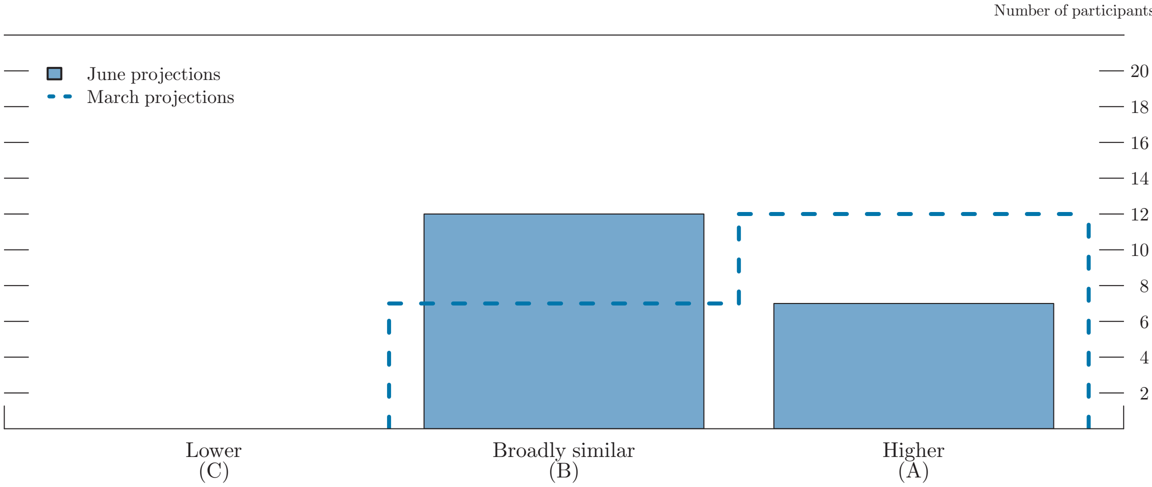
Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy



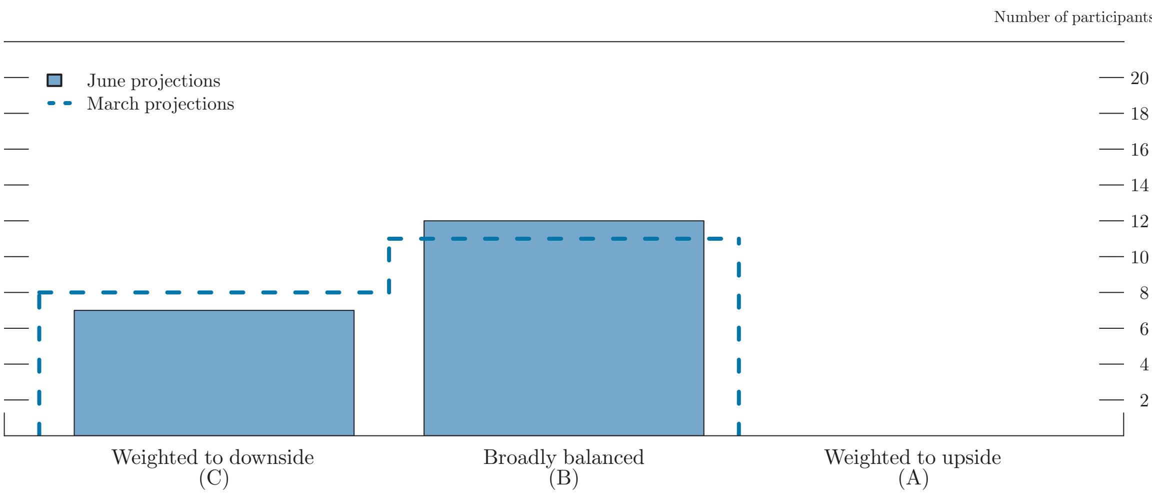
Note: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target federal funds rate from its current range of 0 to 1/4 percent will occur in the specified calendar year. In March 2013, the numbers of FOMC participants who judged that the first increase in the target federal funds rate would occur in 2013, 2014, 2015, and 2016 were, respectively, 1, 4, 13, and 1. 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.

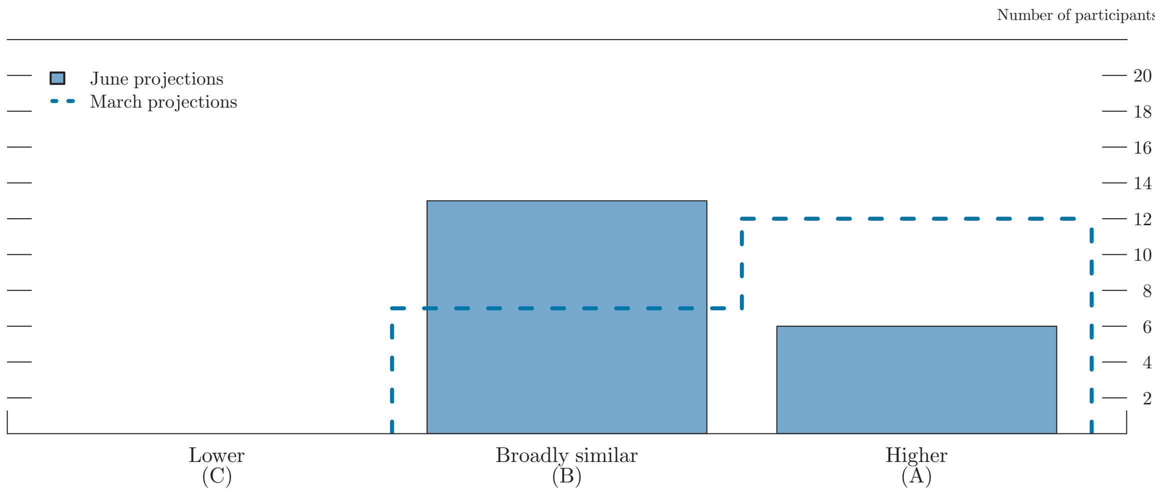


Individual responses

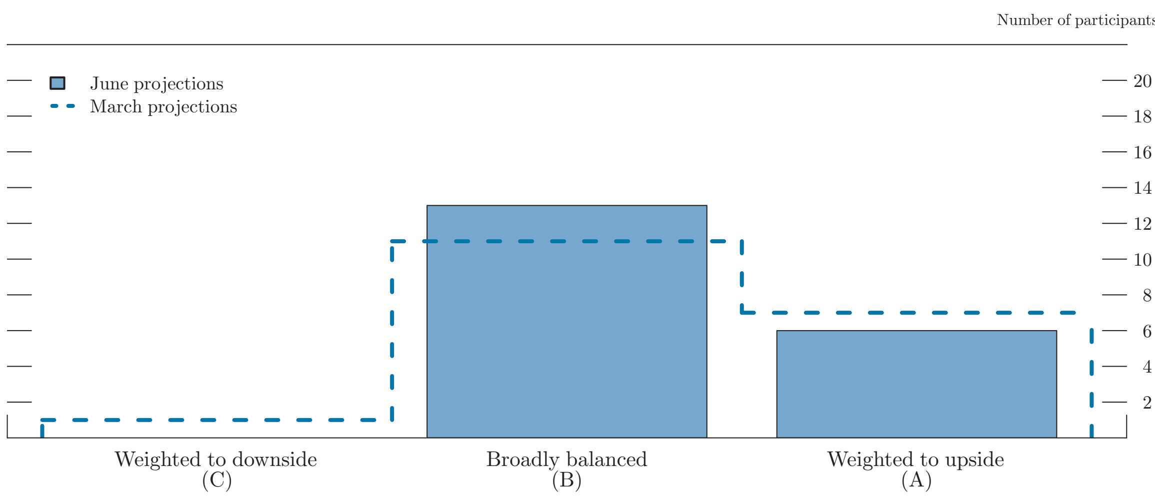
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2(a)	B	B	B	B	B	A	B	B	A	B	A	A	B	A	B	A	A	B	B
2(b)	B	B	C	C	B	C	B	C	C	C	B	B	B	B	C	B	B	B	B

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.

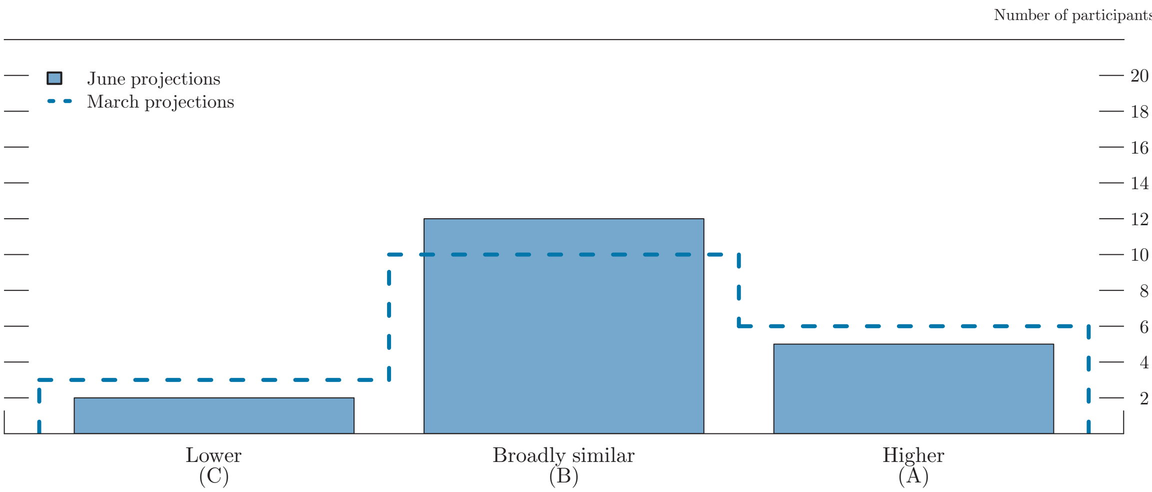


Individual responses

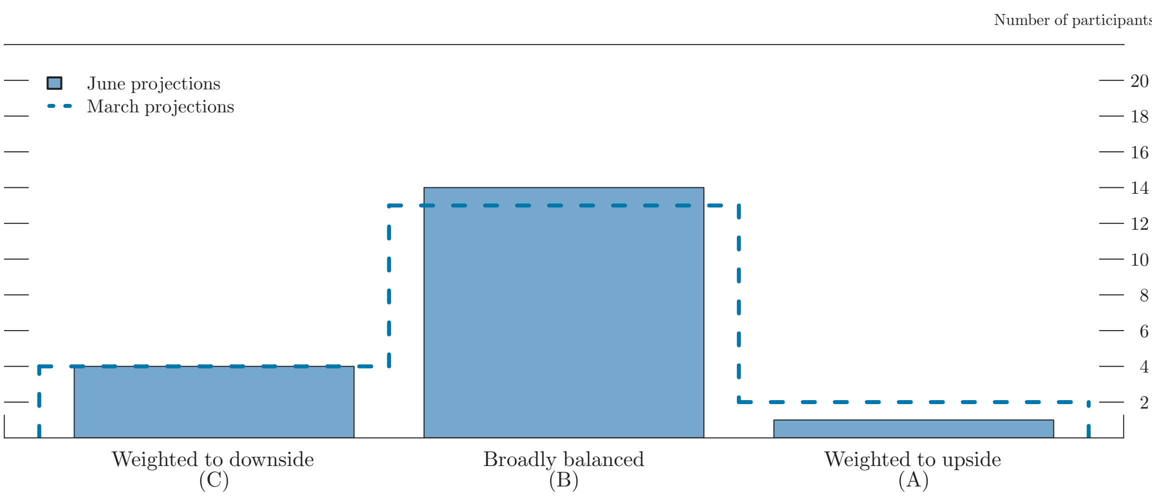
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2(a)	B	B	B	B	B	A	B	B	A	B	A	A	B	B	B	A	A	B	B
2(b)	B	B	A	A	B	A	B	A	B	A	B	B	B	B	A	B	B	B	B

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.

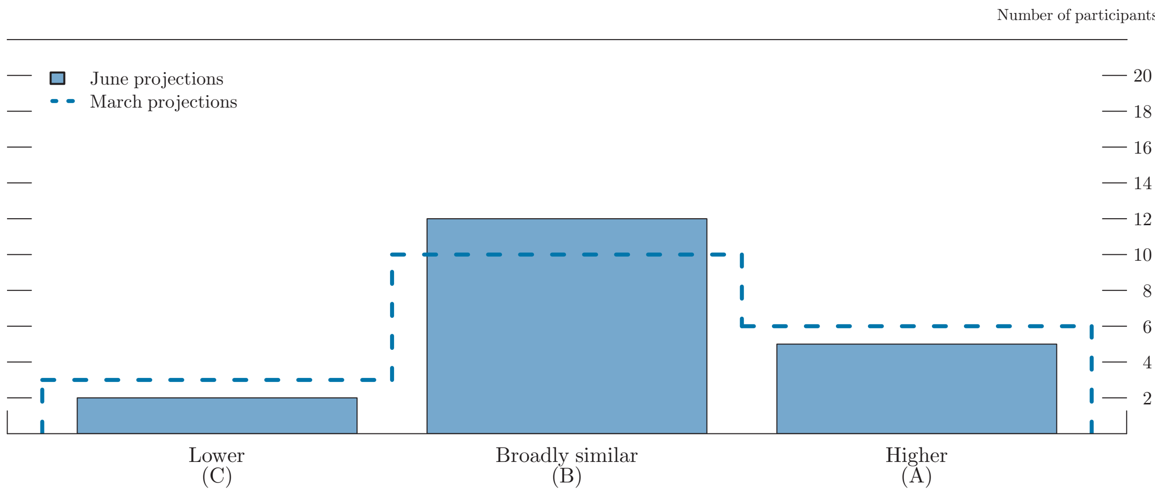


Individual responses

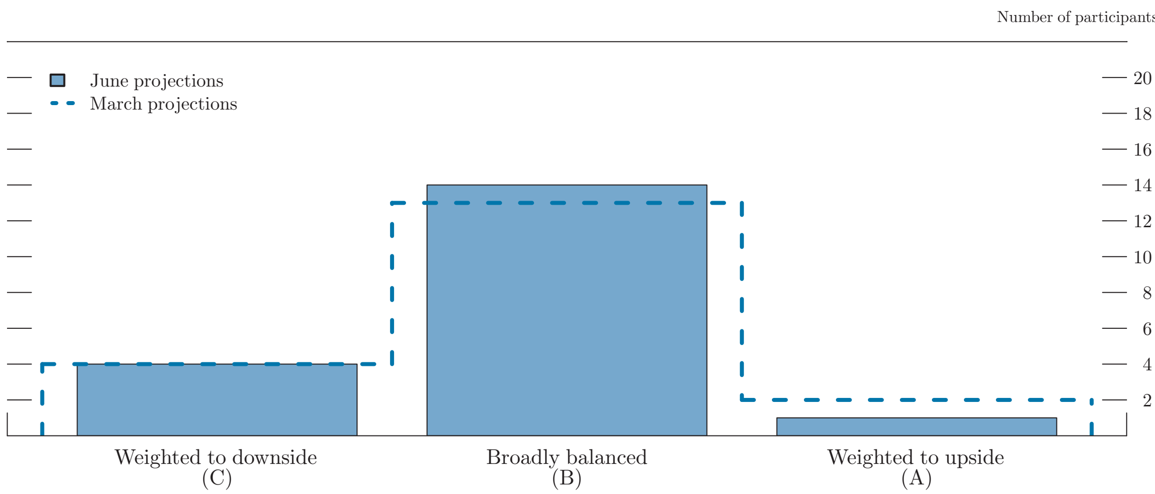
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2(a)	C	B	B	B	B	A	B	B	B	B	C	B	B	A	B	A	A	B	A
2(b)	B	B	B	C	B	C	B	C	B	B	B	B	B	A	B	B	C	B	B

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	17	18	19
2(a)	C	B	B	B	B	A	B	B	B	B	C	B	B	A	B	A	A	B	A
2(b)	B	B	B	C	B	C	B	C	B	B	B	B	B	A	B	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: I anticipate that full convergence will be achieved within six years.

Respondent 3: N/A

Respondent 4: N/A

Respondent 5: N/A

Respondent 6: Convergence to the longer-run levels of the unemployment rate and inflation is expected in about 5 years.

Respondent 7: N/A

Respondent 8: N/A

Respondent 9: Based on my forecast we appear to be about four years away from convergence on both unemployment and inflation.

Respondent 10: N/A

Respondent 11: N/A

Respondent 12: N/A

Respondent 13: N/A

Respondent 14: The convergence process may be somewhat shorter than 5-6 years

Respondent 15: N/A

Respondent 16: Our current estimate of the economy's potential growth rate is in the 2% to 2 1/2% range. By 2018 we anticipate a potential growth rate of around 2 1/4%. A reasonable range for an estimate of the long-run unemployment rate is 4% to 6%. Assuming appropriate policy and no further significant shocks, we expect the unemployment rate to be in this range and the output gap to be around zero by 2017-18; our analysis of recent long expansions suggests the unemployment rate could be modestly below 5% in 5-6 years time.

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 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 close to 2% by 2015 and remain near that level thereafter.

Respondent 17: It will be faster under appropriate monetary policy.

Respondent 18: I think the unemployment rate will converge to its long-run value in 2015, real GDP growth and inflation will converge to their long-run values in 2017.

Respondent 19: N/A

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: 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 is anchored by quite stable inflation expectations. The stability of these expectations has been reinforced by the release in 2012 of an explicit 2 percent objective for inflation. Hence, uncertainty about inflation is lower than in the past two decades.

Respondent 2: N/A

Respondent 3: At this point, uncertainty looks to be broadly similar to the norms of the last 20 years.

Respondent 4: As with the Tealbook, because the experience of the past 5 years is now such a large part of the comparison period, we think the uncertainty over the GDP growth and unemployment rate forecasts are broadly similar to the levels of uncertainty over the past 20 years. If not for those years, we'd say the level of uncertainty was higher than usual.

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: N/A

Respondent 8: N/A

Respondent 9: In a post-crisis period, uncertainties remain about growth potential and after-effects of the crisis (including Europe). U.S. fiscal policy, including the debt limit, unconventional monetary policies (in Japan as well as US), and developments in China and other emerging markets (in a much-more-integrated world) are all sources of relatively high uncertainty. On the other hand, recession risk seems low.

Core inflation is well anchored by stable expectations and commodity prices appear relatively tame in a slowly-growing world, so uncertainty about inflation is relatively normal. Some extra uncertainty about inflation comes from imprecise estimates of amount of slack and the coefficient on slack in the Phillips curve; this is more important now than on average because slack is presumably fairly large and thus a meaningful factor in inflation determination.

Respondent 10: N/A

Respondent 11: Estimates of the current long-run trend in real GDP are highly uncertain. Also, the unemployment rate does not provide a clear signal of the degree of economic slack. Consequently I believe that point forecasts for real GDP and unemployment are more uncertain than usual. Inflation expectations are probably more firmly anchored following the FOMC's consensus statement, and uncertainty should be correspondingly lower than in the past.

Respondent 12: N/A

Respondent 13: N/A

Respondent 14: Uncertainty about domestic fiscal policy continues to pose risks for the forecast. 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 15: N/A

Respondent 16: 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. The widths of these intervals are not substantially different from those at the time of the March SEP. These measures also reflect our view of the appropriate monetary policy stance providing insurance against realizations of some of the downside risks; otherwise, the uncertainty would be even higher. In part, the probability intervals remain wide because of the extraordinary economic and financial environment, including the policy rate remaining constrained by its effective lower bound. Moreover, the recent increases in realized and implied volatility in global financial markets suggest that uncertainty continues to be greater than usual.

Respondent 17: Uncertainty was unusually low in the past 20 years.

Respondent 18: N/A

Respondent 19: The recent softness in inflation and the decline in long-term inflation expectations make my inflation projections more uncertain than usual. In addition, the Federal Reserve's unconventional policies are a source of uncertainty because they have no precedent.

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: Since March, I have shifted my risk weighting on GDP growth to "broadly balanced." There are still clear downside risks from fiscal policy and the global economy, but these risks have receded somewhat. For example, there are few signs of major dislocations from sequestration. At the same time, as headwinds continue to abate, the upside risk of a virtuous cycle becomes more plausible.

Inflation risks are also balanced.

The zero lower bound does somewhat constrain our ability to respond to adverse shocks. However, this constraint has become less of an issue over time, in light of the effectiveness of forward guidance (especially with the threshold language) and LSAPs. As a result, I do not view the zero lower bound as a quantitatively significant source of downside skew at this point. This lack of substantial skew is consistent with the 70- and 90-percent forecast confidence intervals shown in Tealbook A.

Respondent 2: N/A

Respondent 3: I believe the risks are weighted primarily to the downside for GDP growth and to the upside for unemployment, due to ongoing fiscal challenges in the United States and the potential for further slowing in growth abroad. I judge the overall risks to inflation as broadly balanced, with downside risks that a faltering recovery could pull down inflation and upside risks that a large balance sheet could eventually cause inflation expectations and, in turn, inflation to rise.

Respondent 4: For some time, we thought the risks to our forecasts for economic activity were weighted to the downside, as the likelihood of greater-than-assumed fiscal restraint, less favorable international developments, and fragile household and business confidence outweighed the probability that virtuous cyclical dynamics would be stronger than we anticipated. We still think these factors tilt towards a net downside risk to growth, but we think the weighting is less pronounced than in the previous couple of SEP submissions. One reason is that we have built more fiscal restraint into our baseline forecast. In addition, the tail risk from Europe appears to be smaller, consumer sentiment has picked up, and the improvement in labor markets makes us more confident that positive cyclical dynamics are gaining traction. We still see the risks to the inflation forecast as weighted to the downside. The pickup in inflation in our projection depends heavily on inflation expectations pulling actual inflation back towards target. However, we may be overestimating the lift from expectations, or the degree to which they will remain well-anchored if we continue to see very low readings on actual inflation or if the public perceives some wavering of the FOMC's commitment to a symmetric 2 percent inflation target.

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: N/A

Respondent 8: My forecast assumes a strong pickup in growth by the end of this year due, in part, to a normalization of credit availability and continued improvements in household and business confidence. Stronger growth results from a pickup in domestic spending coupled with waning drag from fiscal policy. These assumptions could, however, easily prove overoptimistic, continuing the pattern of disappointments pertaining to growth we've seen over the last several years. A further factor creating downside risk is the zero bound constraint, which limits the ability of monetary policy to respond to negative shocks. In addition, unemployment may decline less than in my baseline if there is currently, as I suspect, a larger cyclical shortfall in labor force participation than assumed in Tealbook. I continue to assess the risks to growth as weighted to the downside, but see the extent of downside risk as having diminished since last fall, when the asset purchase program was put in place, largely due to improvements in the global financial situation.

Respondent 9: Fiscal policy, Europe, slow global growth, and financial volatility are downside risks to growth. We have also tended to over-predict output heretofore, possibly because we are somehow not capturing structural changes, including persistent effects of the crisis. The ZLB creates an asymmetric policy response which imparts some downside risk. Modest upside risks include stronger-than-expected housing, better household and business sentiment, and less-than-expected impact of federal fiscal restraint. Downside risks to growth would tend to imply upside risks to unemployment, except supply side factors (productivity, participation rates) have tended to reduce unemployment faster than a simple Okun's Law relationship would predict.

Risks to inflation from commodity prices are broadly balanced. Downside risks to core inflation from slack are offset by the likelihood that special factors are at work and generally anchored inflation expectations (though recent breakevens have come down a noticeable amount).

Respondent 10: N/A

Respondent 11: N/A

Respondent 12: N/A

Respondent 13: N/A

Respondent 14: 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 15: N/A

Respondent 16: 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 the previous three SEPs. The risks to the real activity outlook are roughly balanced, as was the case in March. This rough balance is primarily the result of two factors. First, with sequestration and other fiscal restraints incorporated in our central forecast, we have lowered the probability of fiscal restraint beyond that in our central forecast. Second, the somewhat more encouraging data on consumer spending, housing, and the labor market in the face of continued headwinds from Europe and fiscal policy raises the probability that the underlying strength of the economy is greater than we have anticipated in our central forecast. The balance of risks for inflation and real activity also reflects our view that the appropriate monetary policy stance in the current environment provides insurance against tail risks; otherwise, the balance of risks for both variables probably would be skewed some to the downside.

Respondent 17: I remain concerned about our ability to respond effectively to a decline in inflation or inflation expectations.

Respondent 18: N/A

Respondent 19: The risks to near-term inflation are skewed to the downside while the risks to medium-term inflation are skewed to the upside. The medium-term risks reflect monetary policy being highly accommodative for a long time and the possibility that removing accommodation will begin too late.

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. You may include other comments on appropriate monetary policy here as well.

Respondent 1: Output and unemployment gaps are large and persistent, and my outlook for inflation over the medium term remains below our 2 percent objective. This situation calls for very accommodative monetary policy. Even with continuing LSAPs, appropriate policy calls for delaying liftoff from the zero lower bound until the third quarter of 2015, shortly after the unemployment rate falls below 6-1/2 percent in my forecast. My judgment on appropriate policy is informed by looking at simple rules that adjust for the zero-lower-bound and for the effects of unconventional policy. In addition, it is informed by my expectations of, and uncertainty about, the costs and benefits of continuing unconventional actions.

Respondent 2: "Appropriate policy" cannot be captured by a time-path for the federal funds rate. An important part of "appropriate policy" is communicating a long-run strategy for monetary policy that does a better job of resisting imbalances and excesses than did past strategy, and which reduces the chances that policy will be zero-bound constrained. A public commitment to such a strategy would strengthen the recovery more reliably than our current form of forward guidance, allowing us to normalize policy more quickly. It would enhance the effectiveness of additional asset purchases while reducing the need for them.

For purposes of this exercise, I considered the implications of a variety of simple policy rules, placing greatest weight on the prescriptions of the 1999 Taylor rule with inertia. In simulating the rule, I assumed that the natural real rate of interest is temporarily depressed and I reluctantly decided to respect the public commitment made by some of my colleagues to delay liftoff until after the unemployment rate reaches 6.5 percent. I don't think that this commitment was sufficiently well thought out, but I do think that it's important that each FOMC try to honor pledges made by previous FOMCs unless the reasons for abandoning them are clear and compelling.

Respondent 3: I currently anticipate that conditions will warrant raising the federal funds rate target in the second half of 2015. At that point, the unemployment rate will be below the 6 1/2 percent threshold and nearing my estimate of the natural rate, and inflation will be moving up toward the 2 percent long-run objective. With the economic recovery well-established, it will be appropriate to begin the normalization of monetary policy.

Respondent 4: Our judgments regarding the appropriate path for the federal funds rate are premised on interpreting the numerical guidelines in the FOMC statement as "bona fide thresholds," and not "de facto triggers." In our forecast, the unemployment rate reaches 6-1/2 percent some time in the first half of 2015. At that time, the outlook for inflation over the next one to two years is still below 2 percent. Accordingly, we assume the Committee keeps policy on hold, delaying the first increase in the funds rate until late in the year. This patience upon hitting the 6-1/2 percent unemployment rate threshold should be a strong signal to markets of our commitment to a symmetric 2 percent inflation target, and thus should help support inflation expectations and buoy actual inflation. Such a delayed liftoff also is consistent with the idea that optimal policy would produce inflation rates that slightly overshoot 2 percent, though in our projection this occurs after the end of the current forecast period.

Respondent 5: N/A

Respondent 6: Lift-off from the zero-lower-bound occurs around mid-2015, when the unemployment rate is expected to fall below 6.5 percent and the economy continues to grow above potential.

Respondent 7: I expect the federal funds rate to remain in the 0 to 25 basis point range at least as long as the unemployment rate exceeds 6 1/2 percent, providing that inflation is projected to be close to the Committee's 2 percent objective in the medium term and longer-term inflation expectations continue to be anchored.

Respondent 8: My path for the federal funds rate accords closely with Tealbook although I assumed a lower long-run equilibrium value of the funds rate, consistent with staff estimates based on the three-factor model. The reduced value of the equilibrium funds rate reflects persistent drags on aggregate demand from fiscal policy, slow global growth and somewhat slower growth in potential output. Given the zero lower bound constraint, appropriate monetary policy, in my view, involves committing to hold the funds rate "lower for longer" than would be prescribed by standard rules such as Taylor 1999. The Committee's threshold based approach, combined with the staff assumption that the funds rate adjusts following liftoff according to inertial Taylor 1999 captures these basic principles.

Respondent 9: I project unemployment at 6.5 percent and inflation near 2 percent in mid-2015. With inflation near target, I assume rate increases begin in the second half of the year, hitting 75 bp by the fourth quarter.

Respondent 10: My view of approporiate monetary policy does not match what is assumed in the teal book. In particular, I don't think that the labor market has improved substantially enough to warrant reducing our asset purchases at this meeting. I also believe that we are moving further from our inflation goal. Accordingly, I think we should maintain the current flow of purchases at least through the fall as we continue to monitor labor market conditions, inflation and financial stability.

In addition, I have become concerned that communication regarding the unemployment threshold could be enhanced. According to the teal book forecast, the unemployement rate could easily cross this threshold earlier than the time in which it would be optimal to raise the federal funds rate. Because the unemployment rate has been revised downward by the staff, this is pulling foward the time of lift off, without regard to whether the declines in unemployement are actually bering accompanied by a reduction in the amount of slack in the economy.

Respondent 11: I believe that by mid-2014 growth will be slightly above trend with little or no economic slack remaining; moreover, I believe that inflation will be near 2 percent. Under those conditions I believe that we will want to raise the federal funds rate to prevent an unwelcome increase in inflation.

Respondent 12: I am assuming we continue to follow our threshold policy. Since in my forecast unemployment falls below 6.5% in the first quarter of 2015, and since I expect inflation to be in the 2% range at that time, it seems appropriate to begin raising the funds rate in the first quarter of 2015, and resume using something that looks broadly like the inertial Taylor 99 rule.

Respondent 13: Unemployment reaches 6.5% early in 2015 and lift-off begins. This is roughly two quarters earlier than in my March submission but I raised the fed funds rate at the end of 2015 by only .25% to indicate either a slight delay in lift-off after the threshold is crossed or a slower pace of rate increases once lift-off occurs.

Respondent 14: Inflation and inflation expectations will be the main drivers of the removal of accommodation. Economic growth will be slightly above trend in 2013H2 and beyond; unemployment will decline slowly. The Committee will find it necessary to adjust policies to prevent inflation from rising above its target.

Respondent 15: I assume that we will raise the federal funds rate after the unemployment rate declines below 6.5%.

Respondent 16: 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. Overall, the indicators since September still point to a sluggish expansion. In particular, although the labor market outlook has improved some, our assessment is that the improvement has not reached the "substantial" standard. Financial conditions are still not fully normal and remain susceptible to sharp reversals depending upon developments as evidenced in recent weeks. Furthermore, we see the "whatever it takes" policy approach of the Federal Reserve and other central banks as an important factor behind the somewhat better U.S. economic data (particularly in the interest rate sensitive sectors of consumer durables and housing), while the recent uncertainties that have crept up about whether central banks will continue to follow such policies have contributed to the increased volatility and pressures seen recently in financial markets.

In these circumstances and noting that the economic developments since September have been in rough accord with our September projection (when we had proposed the introduction of an outcome-based purchase program and policy stance), we thus see appropriate monetary policy as "doing whatever it takes" to strengthen the economic expansion; under such a policy, it will be the economic outcomes and outlook that will dictate the path of the policy stance. Under our modal outlook, we still anticipate that the target FFR will remain near zero until the second half of 2015. We expect that long-term inflation expectations will remain anchored over this period. 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, longer-term inflation expectations, and overall financial conditions.

Another factor informing our assessment of the appropriate path for the target FFR is our estimate of the equilibrium real short-term interest rate. In normal times, we assume that 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 currently 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). Moreover, given our assessment of economic and financial conditions, our judgement of the current "neutral" FFR is below our estimate of the longer-run FFR and is expected to remain so for some time.

As discussed in our answer to question 3(e), we anticipate that significant improvement in the labor market outlook will become evident around the turn of the year, so we expect that the pace of purchases under the current program will begin to slow in 2013Q4 and that purchases will end in 2014Q1.

Respondent 17: Under appropriate monetary policy, the FOMC should keep the fed funds rate extraordinarily low at least until the unemployment rate falls below 5.5%, as long as the medium-term outlook for inflation is sufficiently close to 2%.

Respondent 18: Assuming appropriate policy and my views on the convergence process, my judgment is that the lift-off of the federal funds rate should occur in Q3/2014.

Respondent 19: 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. To maintain the stability of long-run inflation expectations and financial stability, I anticipate it will be necessary to begin the process of normalizing the federal funds rate in 2014.

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	11	8
March survey	15	4

Respondent 1: No
My view of appropriate balance sheet policy is consistent with the Tealbook, Book A assumption of $750 billion in asset purchases in 2013.

Respondent 2: Yes
The outlook for the labor market has improved sufficiently, and the cost-benefit calculus has shifted rapidly enough, that tapering should begin immediately.

Respondent 3: No
N/A

Respondent 4: Yes
We assume that the current LSAP program will total $1-1/4 trillion; this reflects a scaling back of purchases to a $65 billion per month pace in September of this year and the program being terminated in the first half of 2014. According to the Tealbook estimates (footnote 1), this extra $500 billion would, by the end of 2015, reduce the unemployment rate by 0.1 to 0.3 percentage point and raise inflation by 0.0 to 0.2 percentage point relative to the Tealbook's assumption. Though small, these would be useful gains towards both of our dual mandate goals.

Respondent 5: No
N/A

Respondent 6: Yes
The cumulative asset purchases since the beginning of 2013 are expected to total $1.1 trillion. Tapering of monthly purchases occurs near the end of the year, once the decline in the unemployment rate starts to be driven by improvements in the employment-to-population ratio. The purchase program is expected to end in the first half of 2014.

Respondent 7: No
N/A

Respondent 8: Yes
I have assumed an additional roughly $250 billion in asset purchases beyond that incorporated in the Tealbook baseline. I would gear the pace of purchases to actual economic outcomes; in my baseline, however, I maintain the current pace of purchases until the fall, to insure that we see confirmation in the data of my forecast pickup in the growth of private domestic final purchases. Assuming that growth continues to strengthen in Q4 as I anticipate, I would further reduce purchases. If growth picks up in 2014, as in my forecast, I would likely end asset purchases around mid year.

Respondent 9: Yes
I would expect asset purchases to begin to slow in September but to continue through 2014:q1 before stopping entirely, resulting in closer to 1T total purchases from Jan 2013 on.

Respondent 10: Yes
The staff is projecting about $150 billion less in asset purchases than I believe is appropriate. A more gradual slowing in the pace of purchases over the second half of this year might result in in cumulative purchases of about $900 billion, which I think is more appropriate.

Appropriate monetary policy needs to include sharper communication efforts. In particular, it would be appropriate for the Committee to use its communications more effectively to help the public understand that liftoff need not move earlier just because the unemployment rate declines. Such communication could occur in several possible ways. First, we could communicate to the public that the unemployment threshold of 6.5 % is only one of several labor market indicators that we would be reviewing when we evaluate whether we are nearing the threshold. In this scenario we would indicate that other measures of labor market slack indicate that the threshold will not be reached just because the 6.5 percent number is being reached. Second, we could more clearly communicate the post-threshold reaction function that we have in mind, making it very clear that if a signficiant amount of slack is still present when we approach 6.5 percent, the trajectory of the federal funds rate is likely to be exceedingly flat. Third, we could reiterate that the treshold is not a trigger and note some of the other labor market indicators that we are likely to consider when we contemplate liftoff.

In sum, I think it is still appropriate to keep the substantial accommodation that we have in place. Reducing the pace of purchases should be slower than the staff envisions and additional steps to clarify and strengthen our forward guidance about the thresholds is necessary to avoid unwelcome tightening in financial conditions.

Respondent 11: Yes
I favor immediate cessation of long-term asset purchases and reinvestment of maturing mortgage-backed securities.

Respondent 12: No
N/A

Respondent 13: No
N/A

Respondent 14: Yes
I anticipate following the Commitee'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 15: Yes
I assume that the balance sheet will be at least $250 bn larger than the June Tealbook suggests.

Respondent 16: Yes
As noted above, in part to reinforce the forward guidance on the target FFR, we assume that the FOMC continues its current outcome-based, open-ended purchase program of long-term Treasuries and agency MBS. Based on our outlook, we currently expect that these purchases will continue at the current pace through 2013Q3, and then proceed at a slower pace through 2014Q1 for a total of little over $1 trillion in purchases in 2013 and 2014. Because our outlook has not changed substantially from that in September 2012, this assumption is close to our purchase program assumption at that time. Our assumed program would last 6 months longer and total about $250 billion more than the program assumed in the Tealbook. However, that path and the total could change depending upon the progress toward the FOMC objectives–it is the progress toward objectives that is important in our assumed policy stance rather than a particular size of the balance sheet. In our overall strategy for appropriate monetary policy, we believe that a collective emphasis on an accommodative stance based on a portfolio of tools would enhance the efficacy of policy in these circumstances.

Respondent 17: Yes
I actually wanted to answer "Maybe". It really matters, I think, how we communicate about the reduction in purchases.

If we reduce the flow of purchases and say that we're doing so because there has been a sufficient improvement in the labor market outlook, then markets will shift their beliefs about the FOMC reaction function. In particular, market participants will begin to believe that we are likely to raise the fed funds rate relatively soon (say, as soon as the unemployment rate hits 6.4%).

If we reduce the flow of purchases and say that we're doing so because we are concerned about possible costs of a big balance sheet, we will mitigate the above problem (perhaps not eliminate it). (Pivoting to another form of accommodation would help too.)

So, communication matters.

Respondent 18: No
N/A

Respondent 19: No
I agree with the Tealbook assumption that asset purchases will be reduced from $85 billion per month to zero over the second half of the year. However, I would support beginning to dial back asset purchases at this meeting.

Forecast Narratives

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

Respondent 1: 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. Housing has finally turned the corner and become a tailwind to recovery. In addition, other headwinds are easing. For example, consumer balance sheets as well as banking and credit conditions are improving, and uncertainty about economic and political prospects has diminished somewhat. Nevertheless, some headwinds remain intense. Most notably, fiscal policy has turned increasingly contractionary this year, and the global economy remains weak.

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

In terms of inflation, significant slack in labor and goods markets and 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 2: The sequester's effects are obscuring a step up in the underlying pace of the recovery that is being driven by households' increased confidence in their longer-term prospects. Household wealth is rising, access to consumer credit is expanding, and employment prospects are improving. U.S. corporations have locked in low-cost financing, enjoy high profit margins, and are flush with cash. While regulatory and fiscal-policy uncertainty remain a drag on investment and hiring, and the economic outlook overseas remains cloudy, demand uncertainty overall has eased.

Inflation remains tame. It is more likely to move up than down from current levels.

Respondent 3: I expect the economy to recover at a moderate rate from 2013 through 2015, reflecting a range of forces. On the negative side, U.S. fiscal policy and slowing growth abroad pose headwinds, and the ongoing sovereign debt situation in Europe will contribute to uncertainty. But these forces should abate over time, and growth should pick up as low interest rates and expanding credit availability stimulate interest-sensitive sectors, the housing recovery continues to broaden, and the healing labor market supports the economy's usual self-correcting forces.

Recent inflation readings have been unexpectedly low, and year-over-year PCE inflation measures have drifted down toward the neighborhood of 1 percent. There appear to be a number of factors behind this disinflation, including slowing global growth that is weighing on goods inflation, subdued labor costs that are limiting services inflation, and technical differences that explain why CPI-based measures have not fallen as much. Nevertheless, I expect that the combination of well-anchored inflation expectations and an improving economy that strengthens the labor market and pushes up wage growth will help bring inflation back toward the 2 percent long-run objective over the next three years.

As to uncertainty and risks, uncertainty is elevated due to the U.S. fiscal outlook and Europe's recession and ongoing fiscal troubles, but it is comparable to historical norms of the last 20 years. While a stronger-than-expected U.S. housing recovery could provide a lift to growth, on net the risks are skewed to the downside. For inflation, I believe the uncertainty surrounding the forecast to be consistent with historical norms and the risks to be balanced. As I noted above, if downside risks to the pace of the recovery were to materialize, inflation could slow. Alternatively, the continued expansion of our balance sheet could eventually cause inflation expectations and, in turn, inflation to rise.

Respondent 4: The key factors shaping our forecast are the same as they have been for some time. The diminution of fiscal restraint, support from accommodative monetary policy, and improved household and business balance sheets should allow domestic demand to gain momentum as we move through the projection period. Pent-up demands for capital goods and consumer durables should provide a further impetus to growth. Demand from abroad is projected to firm in 2014 and 2015 as Europe emerges from recession and growth in emerging market economies picks back up. Together, these factors are assumed to produce above-potential growth in 2014 and 2015, though we project some modest resource gaps will still remain at the end of 2015. Resource slack thus is expected to exert some downward influence on inflation through much of the projection period. However, under our view of appropriate monetary policy, enough accommodation will remain in place (and be expected to remain in place) to support inflation expectations and produce an updrift in inflation over the projection period. We assume this accommodation will be sufficient to produce a modest overshooting of the 2 percent inflation target, but not until after the end of the current projection period.

Respondent 5: Although incoming data continues to be somehat mixed, the proposition that economic performace is on a steady, if not particularly steep, upward trajectory has been strenghtened simply by virtue of the fact that there has not been any backsliding over the past nine months or so. Household deleveraging, while incomplete, has likely proceeded far enough to create the conditions for moderate self-sustaining growth of a sort that has been hard to achieve over the previous four years. Serious downside risks have abated somewhat in recent months, though the potential for tension around fiscal and debt limit issues remains. If this decent economic performance continues over the next few months, a period during which sequestration is likely to be exerting a more negative effect, the case for continued improvement will be even more convincing.

On the other hand, while the case for self-sustaining growth grows more convincing, there is little sign of a real take-off. Fiscal tightening and continued uncertainty over budget matters constitute one drag. There is virtually no sign of a kind of wage growth that could accelerate a virtuous cycle. And, while the chances of high stress in Europe have diminished, foreign economic performance is likely to be a headwind rather than a tailwind.

Respondent 6: Incoming data have been roughly in line with expectations. Fiscal policy is now tighter, as the previously anticipated compromise to avoid the effects of full sequestration has not materialized. The tighter stance of fiscal policy is offset, to some extent, by faster growth in private sector demand. Consumer expenditures have been resilient as larger-than-expected gains in houshold net worth have compensated for the slow growth in disposable income caused by the tightening of fiscal policy. Consumer sentiment is improving, with households now expecting somewhat faster income gains going forward. Residential investment activity is robust, and forward-looking indicators point to a continuing upward trend. Business investment, in contrast, has been subdued as firms remain cautious in their spending decisions despite high profit margins. Developments in the labor market have been about as expected, with modest improvements likely to continue throughout the year. The still-large amount of slack in labor markets is showing through low readings of core inflation, which is running well below target.

The main factors shaping the contours of the forecast have not changed. Real activity is constrained significantly this year by fiscal policy, which is expected to subtract 1.3 percentage points to GDP growth. As the effects of the fiscal policy start to wane later this year, the pace of activity is forecast to pick up and generate a virtuous cycle in terms of improved confidence and spending. A continued highly accommodative stance of monetary policy is needed to support such an outcome. We expect the current assets purchase program to total \$1.1 trillion. With this policy stimulus, the unemployment rate is expected to fall to 7.3 percent by the end of this year, and to 6.7 percent by the end of 2014. The unemployment rate is projected to reach 6 percent, with inflation running still below target, by the end of the forecast horizon.

Downside risks to the real economic outlook have diminished but are still predominant because of the limited scope for policy action. The situation in Europe remains vulnerable to bouts of severe stress, and a weaker outlook in Europe and in emerging market economies than we are factoring into our baseline forecast is more than a tail risk. Core inflation readings have been low recently, and while these low readings may prove transitory a longer-lasting period of low inflation cannot be ruled out at this point.

Respondent 7: Government spending cuts and weakened foreign demand will continue to weigh against near-term growth. Modest growth expectations will likely impede expansionary investment, and subpar demand for workers will keep income growth in check. New business formation will continue to be restrained by limited access to credit.

These headwinds working against a stronger recovery are expected to dissipate over time, allowing for a modest step-up in the pace of growth later in the year and in 2014. Under this scenario, progress against joblessness proceeds at a modest pace and price pressures remain muted.

The forces restraining growth could prove to be persistent, delaying, for a time, a significant step up in the pace of growth. These downside risks are balanced against improving household confidence and wealth positions that could provide a boost consumer spending. Favorable corporate liquidity and credit conditions, combined with some pent-up demand for investment, may provide greater lift to investment spending should business optimism improve.

Respondent 8: House and equity prices have increased considerably more than I'd anticipated, generating wealth effects that are apt to strengthen consumer spending and reduce credit availability constraints over time. The recovery in housing is continuing and preliminary evidence suggests that consumer spending has held up well in the face of the tax increases that went into effect at the beginning of the year. Although fiscal drag is currently depressing growth, my expectation is that growth will increase in the second half of this year and strengthen further next year. That said, recent data has been mixed with weakness evident in capex and manufacturing output, perhaps reflecting a slowdown in emerging market growth, including in China. Although growth overall has been moderate and trendlike, unemployment has declined significantly over the last nine months by far more than I'd anticipated at the start of our asset purchase program. In part, this decline reflects surprisingly sluggish productivity growth–a development that I do not expect to continue as the economy recovers. This means that, unless growth strengthens notably, the progress we've seen in the labor market is unlikely to be sustained. In addition, a portion of the decline in unemployment appears to reflect a decline in labor force participation. Whereas Tealbook largely interprets this as a steeper decline in the labor force participation trend, there is a distinct possibility that it instead reflects a cyclical shortfall in an exceptionally weak labor market. If so, the decline in the unemployment rate may considerably overstate the actual improvement that's occurred in the labor market. Inflation has been running significantly below levels consistent with our inflation target and the inflation surprises have been to the downside. Such weakness in infation could, ina addition to transitory factors, reflect greater labor market slack than suggested by the decline in the unemployment rate. Fortunately, inflation expectations appear to be stable thus far, a factor that underpins my forecast that inflation will gradually pick up to mandate consistent levels as the recovery proceeds.

Respondent 9: Underlying growth fundamentals are improving: Housing activity (including prices) are strengthening, state and local governments are no longer cutting, financial conditions are fairly benign (monetary poliy, less stress in Europe, healthy US banking system). Labor markets have improved a bit faster than expected; together with wealth increases (houses, stocks) stronger employment has supported consumer confidence and household spending. These fundamentals are battling the restraint from fiscal policy and, to a lesser extent, a somewhat tepid global economy. As fiscal drag wanes, growth should pick up some. Higher Treasury/mortgage rates pose some risk, as does a stronger dollar.

Recent disinflation bears watching, but I find plausible the story that there are several special and temporary factors at work. Also, all the evidence taken together suggests that inflation expectations are pretty well anchored although the recent decline in breakevens is reasonably large. Downward wage stickiness and low productivity (implying a lower limit to unit labor cost growth) may prevent further declines in inflation in any case.

Respondent 10: The key factors informing my judgment regardling lift-off in 2015 include review of a set of financial and economic indicators that together do not yet suggest that the economy could withstand an early monetary polkicy contraction. Firms appear to be hiring, but job quality does not appear strong enough to fuel an increase in real disposable incomes. Households are enjoying more wealth effects, and household confidence has improved, largely driven by increases in home equity prices.

Recent volatility in financial markets is sending a message, in part, that the Committee's communications are confusing. Increases in 10 year Treasury yeilds are not entirely reflective on an improivng economy, but are also reflective of the potential for markets to draw forward in time all the expected future contraction. In addition, turmoil in emerging markets suggests that better communication could reduce damaging lurches in global apital flows.

Respondent 11: While I believe the extent of fiscal drag will diminish somewhat over the forecast period, regulatory policies will continue to inhibit growth, firms will continue to face significant uncertainty over possible future tax and regulatory actions, and households will remain quite cautious by historical standards.

Respondent 12: As at the time of the last SEP, the basic narrative I have in mind is one where the private-sector economy–and particular the consumer side and housing–is showing clear signs of forward momentum. As the drag from the sequester fades, this underlying strength should lead to faster growth in late 2013 and beyond, which in turn should help boost business capital spending and manufacturing output. In terms of risks, as fiscal threats move to the background, one uncertainty that is coming to the forefront is the uncertainty created in financial markets by our own exit. I view the increase in bond yields and implied volatilities in recent weeks as a largely healthy development, but also as a reminder that market dynamics are hard to predict and can be more violent than expected. The risk of things getting disorderly in credit or MBS markets strikes me as low at this time, but not entirely negligible.

Respondent 13: The housing market continues to strengthen. Most of the frictions in the housing market seem to have moved to the demand side. At the same time I still expect significant pent-up demand to materialize from the extraordinarily low level of household formation over the last 5 years. I believe that effects from the recent back-up in rates will be offset by continued improvement in credit conditions that is driven by competition for loans and demand for credit based assets. Even in the mortgage market, credit conditions may ease for purchase mortgages once refinance volume begins to subside.

Respondent 14: As uncertainty over U.S. fiscal policy fades I expect that business spending will pick up. Although household deleveraging continues, I expect it to become less of a drag going forward as household balance sheets improve.

I expect 3 percent growth over the medium term, slightly above my longer-term trend. 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 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 to 2 percent in 2014 and 2015. 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 purchases sometime this year and then beginning to raise rates in the second half of 2013.

Respondent 15: I continue to expect that the economy will strengthen meaningfully but gradually over the rest of 2013 and 2014.

Respondent 16: 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 real foreign GDP growth (GDP weighted) at 2.6% in 2013 and 3.0% in 2014, which are slightly different from March. Our assumptions concerning the nominal dollar exchange rate are similar to those in the Tealbook. Reflecting intermeeting developments, our assumed path of WTI oil prices, based on recent futures quotes, has moved up modestly to $93.50 for 2013Q4, but moved down modestly to $89.00 for 2014Q4. Unlike in March, our federal fiscal assumptions are similar to those in the Tealbook, with significant fiscal restraint through the forecast horizon. We adopt the Tealbook assumptions regarding equity and home prices.

Outlook: Although some details may have changed, the conceptual underpinnings of our forecast for growth and inflation in 2013 and 2014 are little changed from those in March. We continue to expect that the fiscal drag will be sizable in 2013, in large part because of the expiration of the payroll tax holiday, higher tax rates for higher-income taxpayers, and the implementation of sequestration. Although real PCE growth has been stronger so far this year than we anticipated at the beginning of the year, private investment and government expenditures have been weaker. Overall, fiscal drag and the uncertainty related to it is expected to hold down business investment spending as well as public expenditures over the first half of the year. As such, growth of real GDP over 2013H1 thus is likely to be around 2% (annual rate).

In 2013H2, we expect growth also to be a little over 2 1/2% (annual rate), reflecting two opposing factors. On the negative side are the significant headwinds from fiscal drag (we expect the impact from sequestration to peak in Q2 and Q3) and recent slow global economic growth (which has restrained export growth and production). On the positive side is the subsiding of headwinds associated with household deleveraging and restricted access to credit–in fact, household leverage and net worth have improved and credit standards have eased over the first part of this year. Also supporting growth is the turnaround in the housing market, leading to gains in residential investment as well as to greater confidence that has a positive impact on consumer spending. Over the second half of the year, we expect some subsiding of the global headwinds with world growth beginnig to pick up as the Euro area emerges from recession and Japan as well as many emerging economies respond to policy stimulus. Finally, the monetary accommodation in the US and other advanced economies begins to have a more substantial impact on the US economy. For all of 2013, we expect growth of real GDP of around 2 1/4%, with the unemployment rate ending the year around 7 1/2%.

By 2014, we expect the fiscal drag and the other headwinds to growth to diminish further, allowing the full force of monetary accommodation and the natural healing of the economy to be realized. Growth in that year is likely to be around 3 1/4%, with business fixed investment providing a greater contribution than we expect for this year. The unemployment rate is expected to decline by almost one full percentage point over the year to 6 1/2%. These trends continue into 2015, with projected growth a little higher than in 2014 and the unemployment rate falling below 6%.

Overall and core PCE inflation so far in 2013 has been below our projections. We expect lower inflation to persist over the near term so that both total and core PCE inflation in 2013 are now expected to be 1.1%. In 2014, we anticipate that the combination of the economy establishing greater forward momentum and reducing slack, global demand firming, and the foreign exchange value of the dollar depreciating to start to firm core goods inflation, which has been an important source of the recent slowing of inflation. We thus expect both total and core inflation to move gradually higher in 2014 to 2% for total PCE and 1.8% for core PCE. With inflation expectations anchored, inflation remains near its objective in 2015.

Respondent 17: The economy has been hit by a mix of shocks. Some of these push down on employment and inflation - we can think of these as "demand" shocks. These shocks present no dual mandate tensions: a monetary policy that returns inflation exactly to target in the face of these shocks will also return the economy to full employment.

But there have been other shocks that push up on inflation while pushing down on employment - we can think of these as "supply" shocks. Typically, when responding to these shocks using a balanced approach to the dual mandate, appropriate monetary policy will lead inflation to be above target for some time.

In terms of risks:

1. The main risk to the outlook is monetary policy.

Will we continue to use all of our tools to mitigate deviations of employment and prices from their longer run levels? Or will we let fear of the unknown unknowns lead us to back away from our September "whatever it takes" stance? If the latter, we should anticipate that households and firms will see the economy as less insulated against tail risks - and so reduce their current spending.

2. Relatedly: we could see a continued decline in inflation expectations. We have few tools to defend against this possibility - and that alone increases the chance that they could decline further.

3. As well, there are significant external risks. The European recession could well turn out to be even deeper than anticipated. Chinese growth could well be a percentage point or two lower than anticipated in the medium term. The results of Abenomics remain unclear. All of these could lead to external demand for US goods being unexpectedly low.

Respondent 18: I expect an improving economy in the near term. I am assuming a reasonable resolution of fiscal issues and some improvement in the outlook overseas.

Respondent 19: Despite 1-1/2 percentage point of fiscal tightening this year, the economy continues to grow at a moderate pace of about 2 percent this year. Moreover, as the economy continues to recover, I expect growth to pick up to about 2-1/2 percent next year and 3 percent in 2015. The pick-up in growth reflects an improving labor market, rising household net worth from both the stock market and housing, and a pickup in foreign growth.

I continue to see sustained improvements in labor market conditions. The unemployment rate has fallen fairly steadily since 2010 and employment continues to grow faster than what is needed to absorb population growth. With my outlook for an increase in growth and continued improvement in labor markets, the unemployment rate should continue declining.

Although inflation is low and the 5y/5y-ahead measure of breakeven inflation has declined, I would note that the 5y/5y-ahead breakeven inflation rate remains within historical ranges. And while wage inflation remains below its historical average, it has remained steady and has shown no signs of deceleration over the last few years. Therefore, with an improving labor market and stronger growth, we should see an increase in inflation over the forecast horizon. Moreover, if we maintain our accommodative monetary policy (federal funds rate, forward guidance, and asset purchases), inflation could rise above 2 percent in 2015. Therefore, I think ending asset purchases this year and an earlier lift-off in the funds rate are needed to maintain inflation close to our 2 percent objective.

Forecast Narratives (continued)

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

Respondent 1: Since March, the data on spending and labor markets have, on balance, been in line with my expectations. The unemployment data have come in lower than I had anticipated, and I have revised down my natural-rate path a bit. These factors have led me to lower my path for the unemployment rate. Incoming data have also led me to revise down my path for core and headline inflation. I now expect inflation in the next few years to be a bit further below our 2 percent objective, and to remain there longer.

Respondent 2: So far this year, both real growth and inflation have come in at lower levels than I had expected, but I see little reason to change my forecasts for the second half of 2013 and beyond.

Respondent 3: My forecast for GDP growth is little changed on net since the March SEP, as positive developments affecting consumers have been offset by weaker growth prospects abroad. The strength of the labor market recovery has once again been faster than anticipated, and I have again revised down my path for the unemployment rate. At this point, my unemployment rate forecast is about 1/2 percentage point lower starting in 2013 and continuing through 2015 compared with my September SEP submission, when the open-ended asset purchase program began. Given the combination of faster labor market improvements but little change to growth, I have revised down my estimate of potential output growth, both in the near- and long-term. At the same time, inflation readings have surprised to the downside, especially for PCE measures, and I have revised my expected inflation path down based on this lower starting point. But I continue to anticipate that an improving economy will help pull inflation toward our 2 percent long-run objective over the next few years.

Respondent 4: GDP growth during the first quarter was about 1/2 percentage point weaker than we had anticipated. The miss had little impact on our top line GDP numbers for the rest of the year, but in light of sectoral errors and the incoming higher-frequency data, we lowered our outlook for business investment and raised our projection for consumption. The improvement in labor market conditions, increases in household wealth, and gains in consumer sentiment were important for the PCE revision. The lack of any meaningful budget negotiations also has led us to take on board the full impact of the sequestration into our forecast. The inflation data have been softer than we thought; since March, many of our inflation models have revised down 1/4 percent over the entire projection period. We have brought our inflation projections down by a similar amount.

Respondent 5: Not much change in my forecast since March. I have marked down unemployment by a few tenths of a percentage point during the projection period, in part based on the persistence of decent job growth numbers and in part by the increasing difficulty of ignoring the trend that unemployment has taken in the last nine months. I also marked down inflation, but only for 2013, on the assumption the Tealbook's expectation that the factors that reduced inflation recently are transitory is likely correct.

Respondent 6: Changes to the forecast have been relatively minor. The projected path for core inflation is slightly lower, as we took some signal from the recent lower-than-expected readings when assessing the near- to medium-term inflation outlook.

Respondent 7: My growth forecast is unchanged from what I submitted in March. The incoming data have caused me to reduce my projection for the unemployment rate by a few tenths per year over the forecast horizon. I have significantly reduced my 2014 and 2015 inflation and core inflation forecast on the basis of the softness seen in the retail price numbers in recent quarters.

Respondent 8: My forecasts for GDP growth through 2015 are virtually unchanged since the March SEP round, but I've lowered my forecast for unemployment in light of the decline we've seen since that time. I've lowered my near-term forecast for inflation, again in recognition of the surprises in incoming data. In light of the downward revision to my unemployment rate forecast, I've slightly moved in my estimated date of liftoff for the federal funds rate.

Respondent 9: Somewhat more positive flow on employment, even though activity data have been mixed. I was concerned in the last round that fiscal restraint might be larger than forecasted (e.g., the full sequester was imposed) but thus far the effects of that restraint have been relatively muted. Inflation data have been lower than expected but I haven't taken too much signal from that. Higher yields and greater volatility may create modest drag in the remainder of the year.

Respondent 10: I have permitted my forecasts to incorporate the staff's technical corrections regarding a reduction in the natural rate of unemployment. I view these corrections as mostly technical and not reflective of a substantial improvement in reducing the output gap or labor market slack.

Respondent 11: After 4 years of sluggish growth I no longer expect a substantial accelleration in real GDP.

Respondent 12: My forecasts for the labor market and for output are very close to where they were in the previous SEP. I have lowered my near-term inflation forecast a bit, taking some signal from the recent data readings.

Respondent 13: My forecast is not substantially different from my previous submission. I have marked down the path for unemployment in response to improvements seen since the last submission. And I have marked down my estimate of near term inflation to account for recent readings.

Respondent 14: Recent weaker-than-expected data led me to revise down my forecast for output growth and inflation in 2013. As a consequence, my forecast for the federal funds rate path is now lower over the forecast horizon.

Respondent 15: I have not changed my forecast materially but have gained some confidence in it. I take some heart that the economy has kept decent momentum despite tight fiscal policy this year.

Respondent 16: Business investment indicators have been weaker than we anticipated in March, which probably partly reflects some knockdown effects from tighter fiscal policy and uncertainty associated with fiscal policy as well as somewhat softer global economic growth. We have carried some of that weakness forward, and have reduced our investment forecasts for 2013H2 and 2014.

Q1 real PCE growth was above our expectations. We only take a small signal from the higher Q1 growth, and thus only modestly adjusted our PCE projection. On net, the revisions to the business investment and real PCE projections lead to a small reduction in the 2014 real GDP growth forecast.

The inflation data so far in 2013 have been lower than we projected in March. In response, we have reduced our near-term projections for both total and core PCE inflation. However, because we still see much of the reduction in inflation as reflecting temporary factors, with inflation expectations still fairly stable, we have not made significant changes to our medium-term inflation forecasts.

Respondent 17: We've seen surprisingly low levels of inflation. That's pushed down - yet again! - on the unemployment rates that I see as consistent with 2% inflation in the near and medium-term.

As a result, under appropriate monetary policy, my projected unemployment rate path is lower and my projected output path is higher than at the last SEP.

Respondent 18: Recent data on real growth and inflation have caused my near-term forecasts for these variables to be reduced. These data have also led me to reduce my estimates of inflation for 2014 and 2015. The peak of the overshooting of inflation is now forecasted for 2016 rather than 2015.

Respondent 19: My forecast for real GDP growth has not been revised. However, I have taken on board the decline in the unemployment rate and reduced my forecasts by 0.1 percentage point over the forecast horizon. In addition, given recent declines in inflation (core and total), I reduced my forecast for 2013. I continue to see an increase in inflation over the forecast horizon, but starting from a lower level.

Forecast Narratives (continued)

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

Respondent 1: My forecast is broadly similar to the Tealbook projection.

Respondent 2: My projections for 2013 are quite similar to those in the Tealbook. In 2014 and 2015, I expect slightly slower GDP growth, a bit less progress in lowering the unemployment rate, and a more rapid return of inflation to target. I assume somewhat less monetary-policy accommodation.

Respondent 3: My forecast is broadly similar to the Tealbook. I expect that GDP growth will rise above trend in the second half of this year and remain above trend through 2015, which will bring the unemployment rate down toward its natural rate in 2016 and pull inflation up toward our 2 percent long-term objective. I also share the Tealbook's assumption that it will be appropriate to wind down our asset purchase program sooner than market participants currently expect.

Respondent 4: Our top-line GDP forecast is similar to the Tealbook's, but our composition of growth is different–our projection for consumption is not as strong as the Tealbook, but we have somewhat higher BFI and a smaller decline in government purchases. We also assume a somewhat faster pace of potential output growth than the Tealbook. Given the similarity in our GDP forecasts, this leaves us with a bit larger output and unemployment gaps at the end of the projection period. Our inflation forecasts are similar, however, reflecting our more accommodative monetary policy assumptions (see above).

Respondent 5: No major analytic differences

Respondent 6: My forecast is conditioned on somewhat greater policy stimulus than in the Tealbook. Still, the two forecasts are similar, both on the real and on the inflation side.

Respondent 7: My growth path tracks roughly 1/2 percentage point under the Tealbook over the forecast horizon. This is a difference in perception about the pace of growth for potential GDP, not a important disagreement about the cyclical dynamics of the recovery. For a similar reason, my inflation projection runs somewhat above the Tealbook over the next few years. My forecast for the rate of unemployment is essentially the same as the Tealbook.

Respondent 8: N/A

Respondent 9: Only marginal differences.

Respondent 10: My forecast assumes a $900 billion stock of asset purchases rather than the lower amount assumed in the Tealbook.

Respondent 11: While I share the Tealbook's belief that trend real GDP growth is near 2 percent, I believe that the level of real GDP is near trend and thus there is little room for above-trend growth. I believe inflation is likely to return to 2 percent more quickly than the Tealbook indicates. I also expect labor force participation to decline more rapidly than in the Tealbook, and thus unemployment will decline more rapidly than might be suggested by my GDP forecast.

Respondent 12: In this round, I am almost on top of the Tealbook forecasts. In the previous few rounds, I had been a few tenths more optimistic in terms of my projections for the unemployment rate, but the adjustments made in the Tealbook to the labor-market assumptions have brought us almost exactly in line with one another.

Respondent 13: N/A

Respondent 14: My forecast calls for stronger growth, higher inflation, and tighter monetary policy in 2013 than the Tealbook.

Respondent 15: I assume somewhat slower growth in 2014 and 2015, and therefore slower progress in reducing unemployment.

Respondent 16: As stated in our response to question 3, we assume (based on our modal economic forecast) that the asset purchase program lasts through 2014Q1 (with a slowing of the pace of purchases beginning in 2013Q4) rather than through 2013Q3 as the Tealbook assumes. Because of the greater size and duration in the balance sheet over the forecast horizon, we assume that term premia rise to normal levels more slowly than in the Tealbook.

Our forecast for real GDP growth in 2014 is similar to that of the Tealbook, but the composition of growth differs between the two forecasts. The Tealbook projects higher consumption growth than in our forecast; the difference appears to reflect a stronger wealth effect than we have in our forecast. With higher consumption growth from wealth effects, the Tealbook also projects the saving rate to decline further, while our forecast has the saving rate rising modestly as we see the recent decline to be a transitory movement associated with the pulling forward of income into 2012Q4. The Tealbook projects slower growth in business fixed investment than in our forecast; the reason for this difference appears to be that the Tealbook has a stronger restraining effect on investment from higher corporate borrowing rates than we have in our forecast.

With the changes in the Tealbook unemployment rate projection associated with its changes in supply side assumptions, the Tealbook unemployment forecast is now similar to our projection. However, the sources of the decline in the two forecasts appear to have some differences. The Tealbook sees the decline coming in part from a more rapid decline in the natural rate of unemployment as well as more marginally attached workers deciding to move out of the labor force permanently. The Tealbook thus lowered its labor force participation forecast and has it declining modestly over the forecast horizon. We see the decline in unemployment as the result of the labor market flows and dynamics that are more typical for this stage of an expansion, and we project that the labor force participation rate will rise modestly over the forecast horizon.

Compensation growth in the Tealbook forecast is above that in our forecast. The source of that difference is not yet clear.

We see a stronger influence of anchored inflation expectations on inflation dynamics than does the Tealbook. Consequently, our inflation forecast and the Tealbook forecast are similar for 2013, but beyond that we see total and core inflation rising more quickly to near 2% than does the Tealbook. This difference may also partially reflect the differing monetary policy assumptions in the two forecasts.

The Tealbook has a downside balance of risks to real growth, while we assess the risks as roughly balanced. In part, this difference may reflect divergent views about the probability that the headwinds could diminish more quickly than anticipated and lead to a more rapid healing process for the real economy. For inflation, we agree with the Tealbook that the risks are broadly balanced. However, we see uncertainty around both the real activity and inflation forecasts as still 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 both real activity and inflation above normal levels.

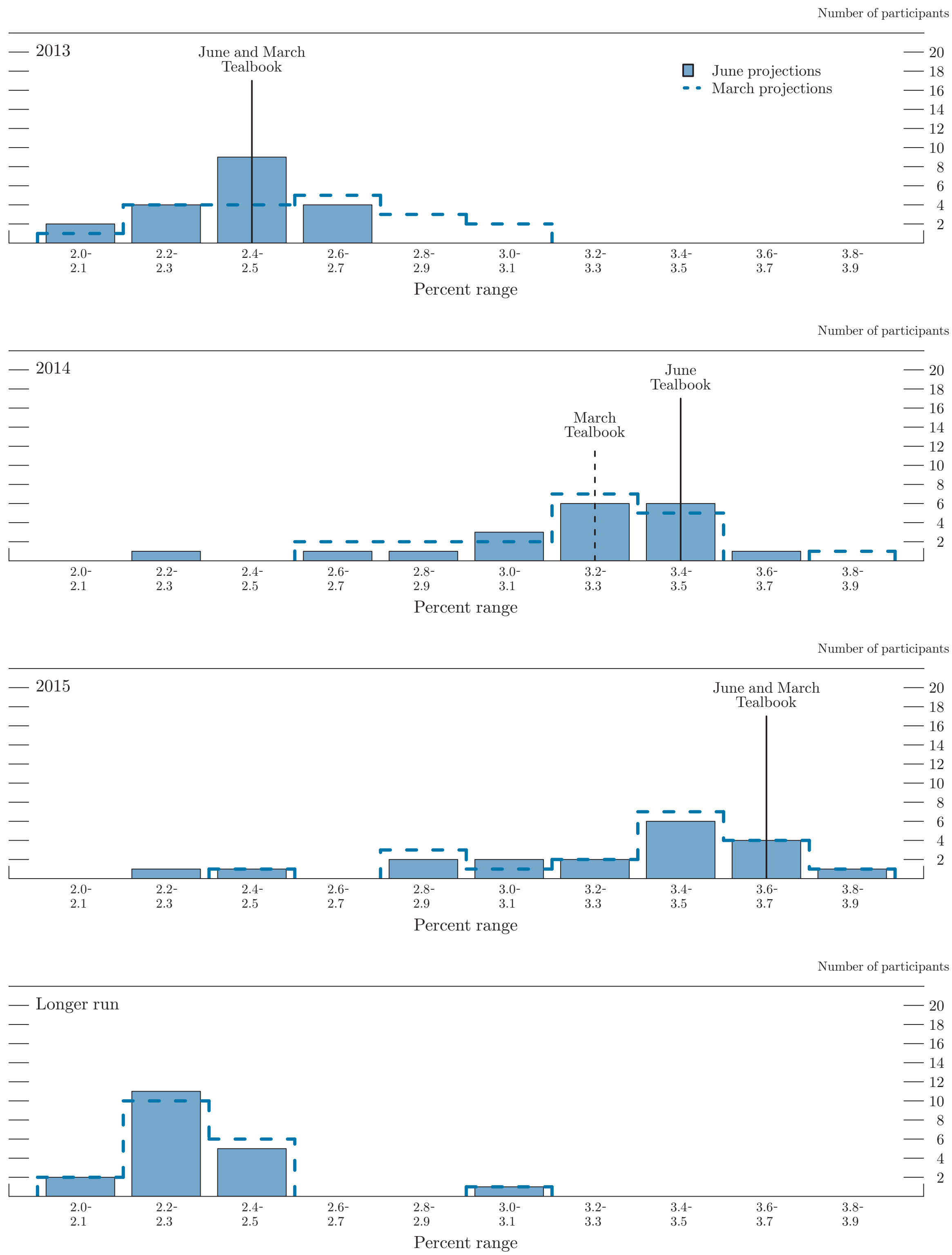
The recent volatility in global financial markets seems consistent to us with large uncertainty about the economic outlook.

Respondent 17: I see appropriate monetary policy as being more accommodative than the TB's assumed policy stance. As a result, I'm forecasing that the unemployment rate will fall more rapidly and the inflation rate will rise more rapidly than does the TB.

Respondent 18: I anticipate slower growth in 2014 and a higher long-run umpemplyment rate than the Tealbook. Generally speaking, I anticipate higher inflation than in the Tealbook. Plus, I expect an overshooting of inflation before its convergence to 2 percent.

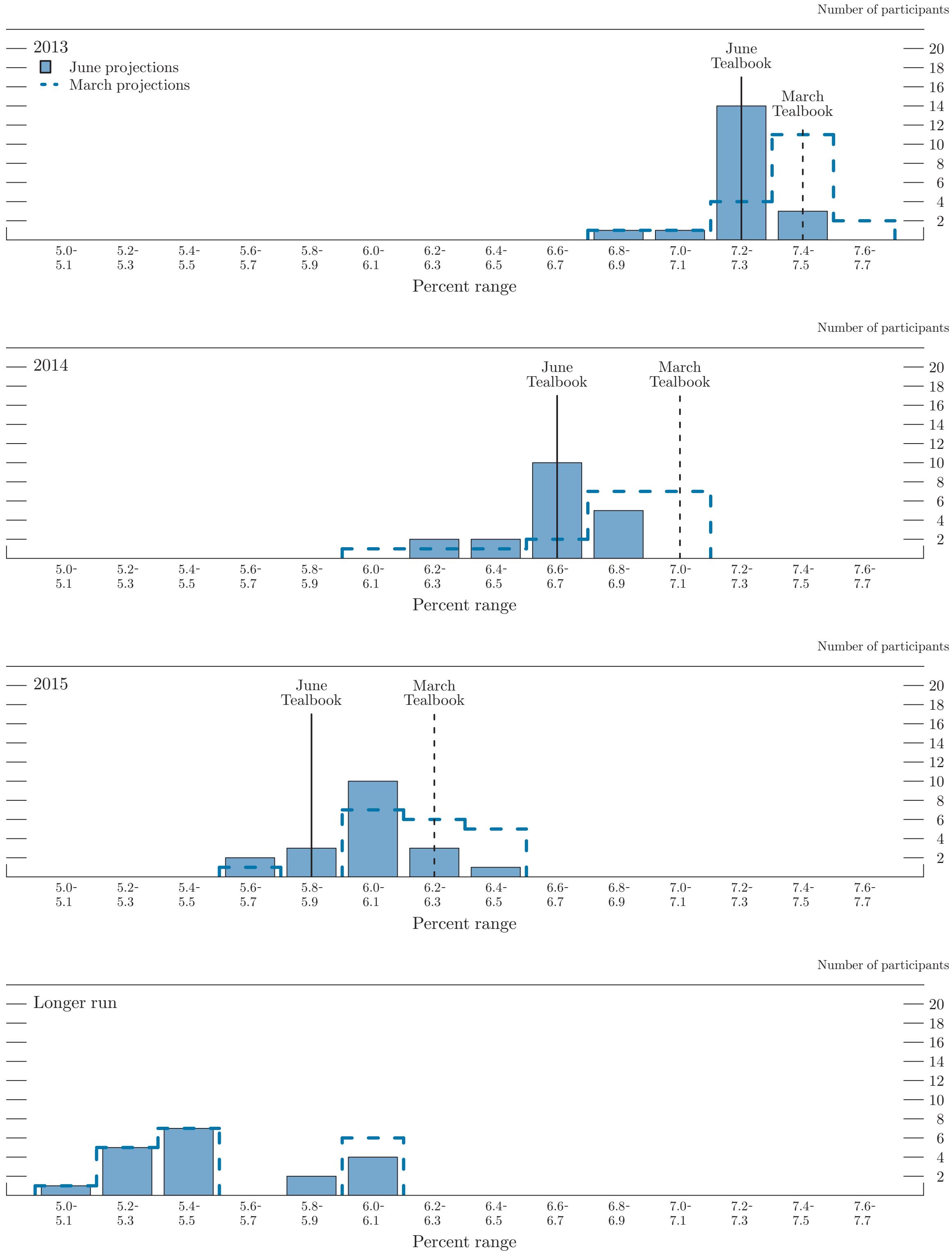
Respondent 19: In comparison with Tealbook, my forecasts for real GDP are lower and my forecasts for unemployment are higher. I expect inflation to be somewhat higher than Tealbook due to the continuation of the currently highly accommodative monetary policy. In response to these pressures that threaten the stability of long-term inflation expectations and increase the risks of future economic and financial imbalances, my views of appropriate policy would call for a lift-off of the federal funds rate in 2014.

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2013–15 and over the longer run



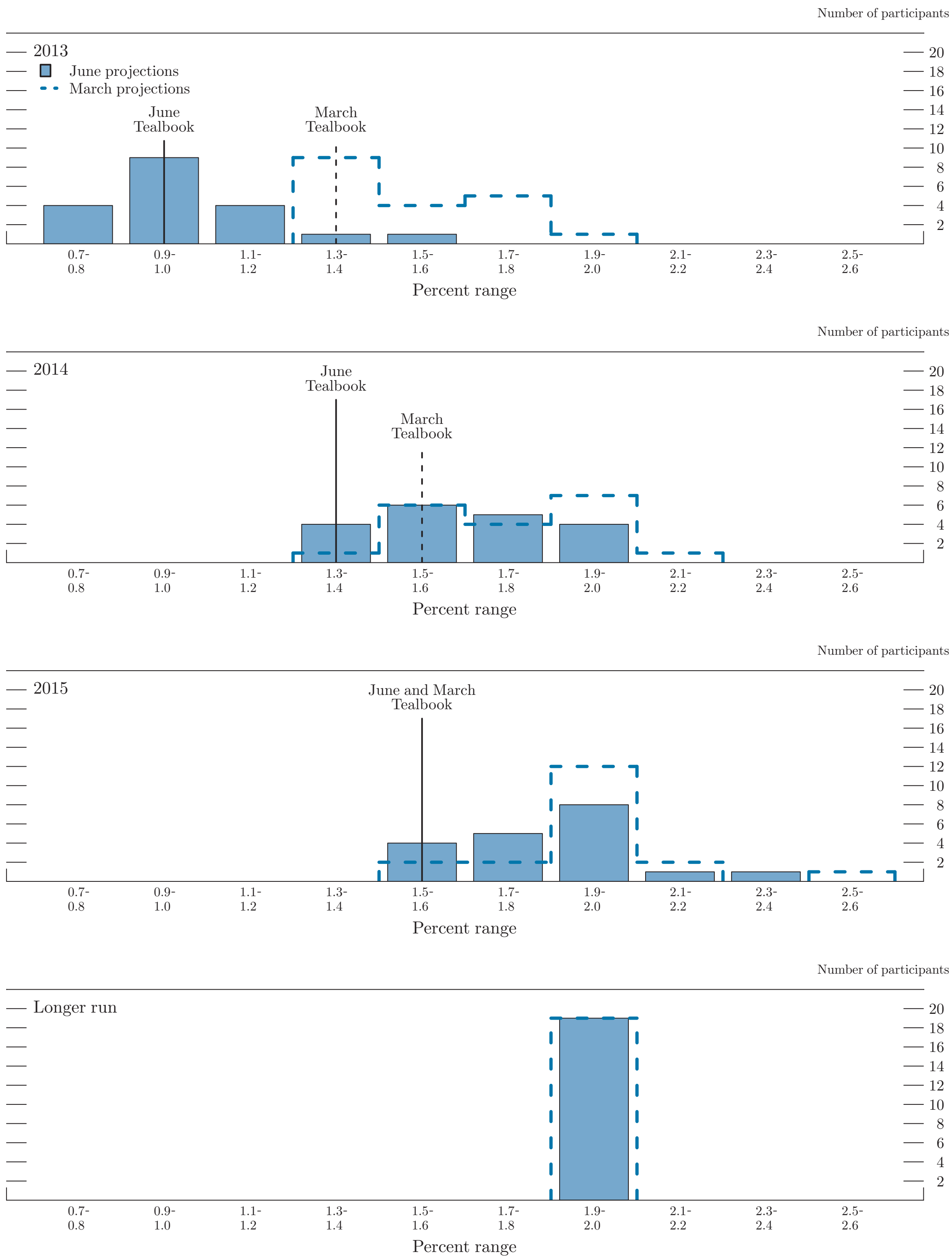
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2013–15 and over the longer run



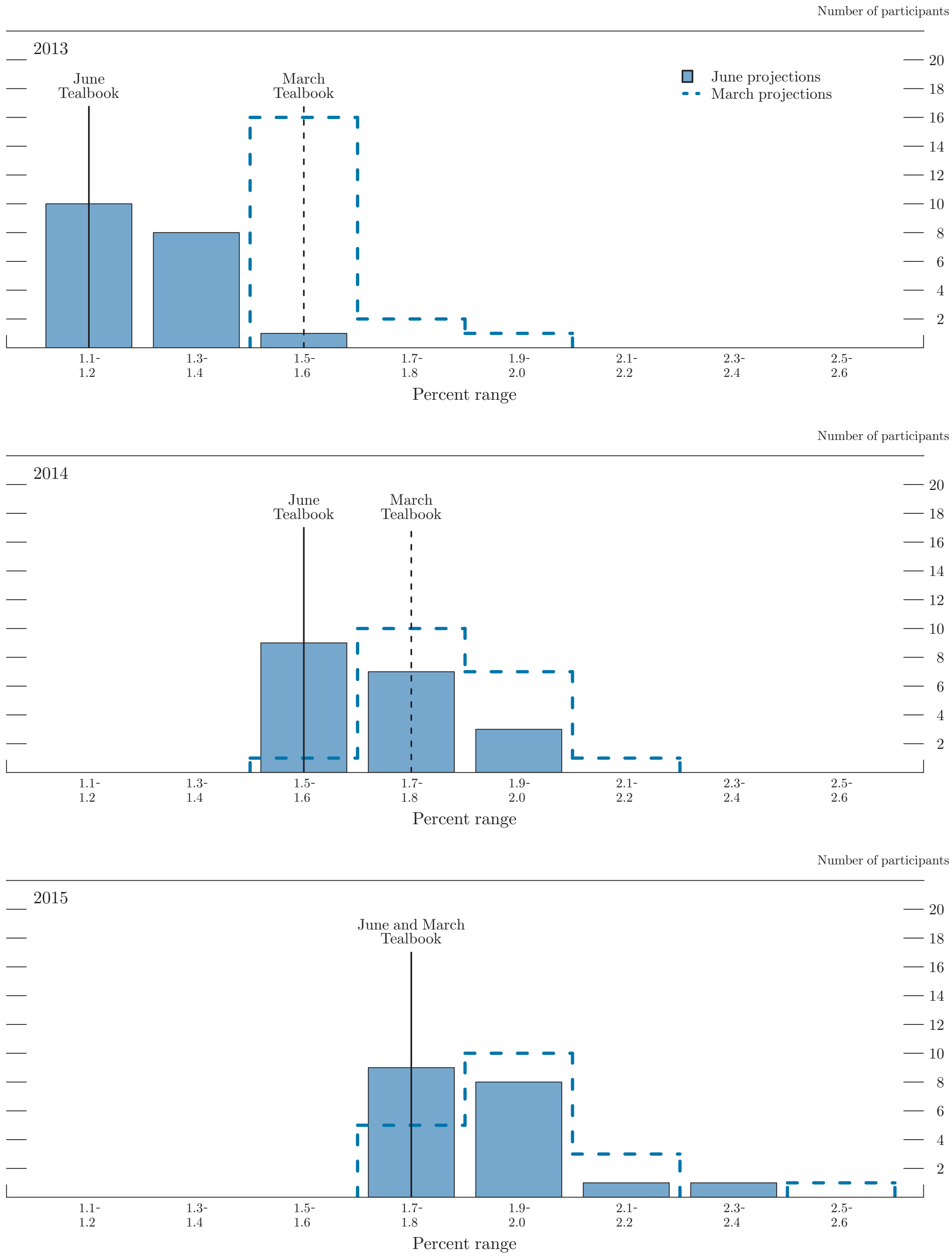
Note: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2013–15 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, 2013–15

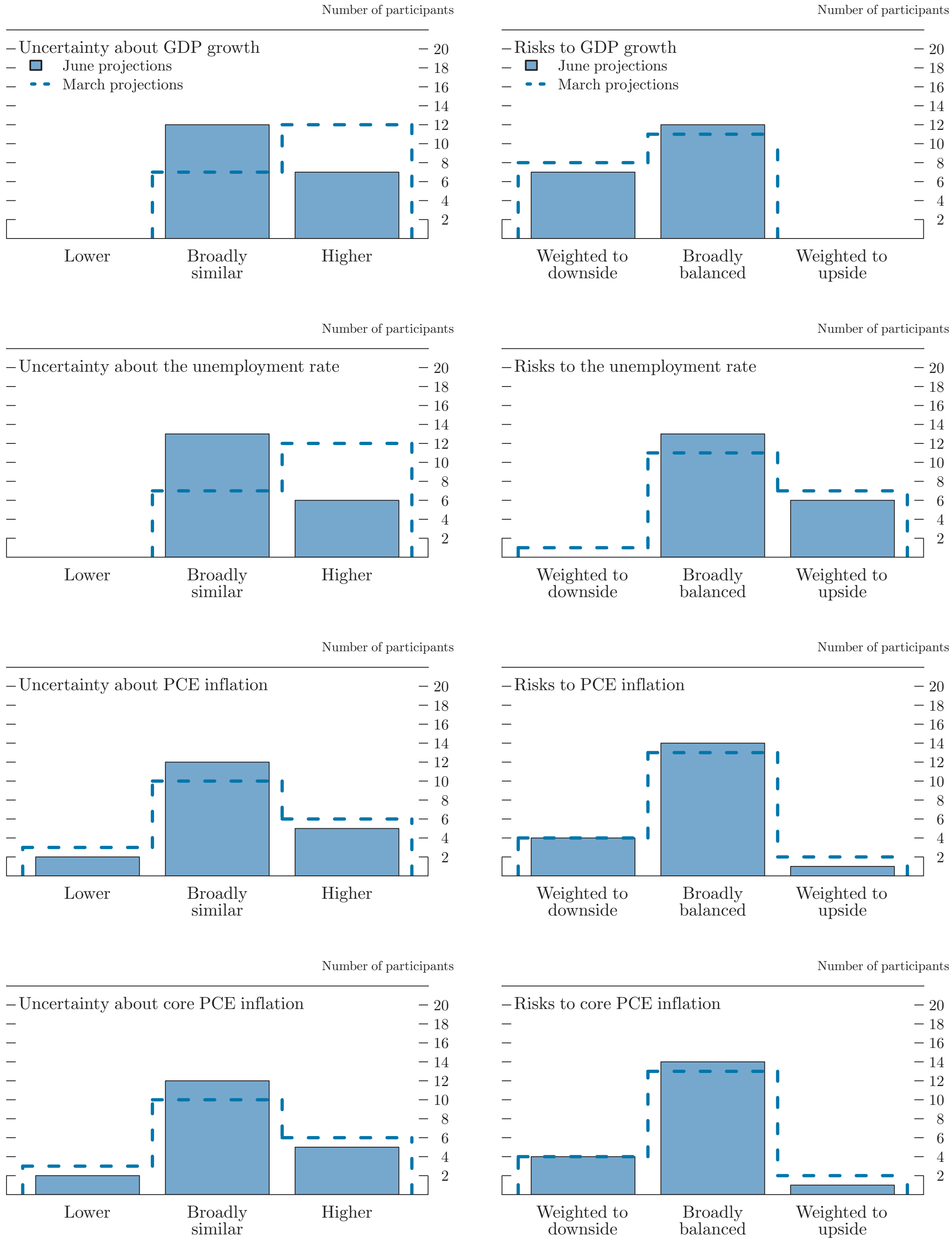


NOTE: Definitions of variables are in the general note to table 1.

Figure 3.E. Distribution of participants' projections for the target federal funds rate, 2013–15 and over the longer run

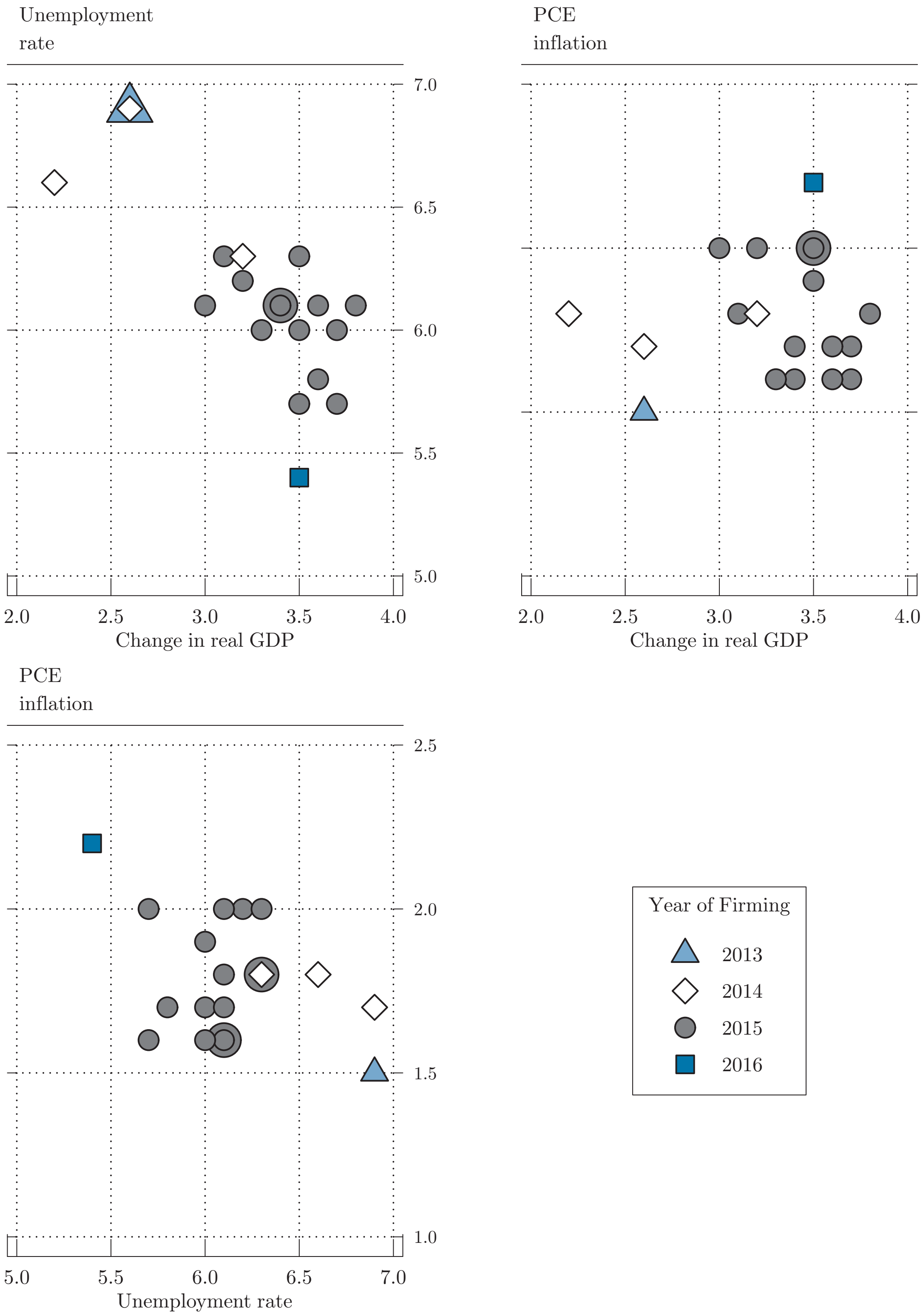
Note: The target federal funds rate is measured as the level of the target rate at the end of the calendar year or in the longer run.

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.