Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, March 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 2.8	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
December projection	2.3 to 3.0	3.0 to 3.5	3.0 to 3.7	2.3 to 2.5	2.0 to 3.2	2.8 to 4.0	2.5 to 4.2	2.2 to 3.0
Unemployment rate	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
December projection	7.4 to 7.7	6.8 to 7.3	6.0 to 6.6	5.2 to 6.0	6.9 to 7.8	6.1 to 7.4	5.7 to 6.8	5.0 to 6.0
PCE inflation	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
December projection	1.3 to 2.0	1.5 to 2.0	1.7 to 2.0	2.0	1.3 to 2.0	1.4 to 2.2	1.5 to 2.2	2.0
Core PCE inflation[3]	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	
December projection	1.6 to 1.9	1.6 to 2.0	1.8 to 2.0		1.5 to 2.0	1.5 to 2.0	1.7 to 2.2	

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 December projections were made in conjunction with the meeting of the Federal Open Market Committee on December 11–12, 2012.

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.

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Table 1.A. Economic projections for the first half of 2013*
(in percent)

Central tendencies and ranges

	Central tendency	Range
Change in real GDP	2.2 to 2.6	1.8 to 3.0
PCE inflation	1.1 to 1.6	1.1 to 2.0
Core PCE inflation	1.4 to 1.6	1.4 to 2.0

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	2.5	1.1	1.4
2	2.2	1.3	1.4
3	2.6	1.1	1.5
4	2.4	1.1	1.5
5	2.4	1.2	1.5
6	2.4	1.4	1.8
7	2.4	1.6	1.4
8	2.3	1.5	1.6
9	2.4	1.1	1.5
10	2.2	1.2	1.5
11	2.1	1.3	1.5
12	1.8	1.4	1.4
13	2.3	1.2	1.5
14	2.3	1.8	1.4
15	2.5	1.8	1.6
16	2.9	1.6	1.6
17	3.0	2.0	2.0
18	2.8	1.4	1.4
19	2.3	1.3	1.6

* 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	2.3 to 3.0	2.2 to 3.2
PCE inflation	1.5 to 1.8	1.4 to 2.0
Core PCE inflation	1.6 to 1.8	1.5 to 2.0

Participants' projections

Projection	Change in real GDP	PCE inflation	Core PCE inflation
1	2.7	1.5	1.6
2	2.6	1.5	1.6
3	3.0	1.5	1.7
4	3.0	1.7	1.7
5	3.2	1.4	1.7
6	2.8	1.4	1.6
7	2.2	1.8	1.8
8	2.3	1.9	1.8
9	2.8	1.5	1.7
10	2.8	1.6	1.7
11	2.5	1.7	1.5
12	2.2	1.8	1.8
13	2.5	1.4	1.7
14	2.3	1.8	1.6
15	2.7	1.8	1.6
16	2.9	1.8	1.6
17	3.0	2.0	2.0
18	3.2	1.8	1.8
19	2.7	1.7	1.6

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

Table 2. March 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	2.6	7.4	1.3	1.5	0.13
2	2013	2.4	7.6	1.4	1.5	0.13
3	2013	2.8	7.3	1.3	1.6	0.13
4	2013	2.7	7.5	1.4	1.6	0.13
5	2013	2.8	7.3	1.3	1.6	0.13
6	2013	2.6	7.5	1.4	1.7	0.13
7	2013	2.3	7.5	1.7	1.6	0.13
8	2013	2.3	7.4	1.7	1.7	0.13
9	2013	2.6	7.5	1.3	1.6	0.13
10	2013	2.5	7.4	1.4	1.6	0.13
11	2013	2.3	7.5	1.5	1.5	0.13
12	2013	2.0	7.6	1.6	1.6	0.13
13	2013	2.4	7.5	1.3	1.6	0.13
14	2013	2.3	7.5	1.8	1.5	0.13
15	2013	2.6	7.4	1.8	1.6	0.13
16	2013	2.9	7.2	1.7	1.6	0.13
17	2013	3.0	6.9	2.0	2.0	1.00
18	2013	3.0	7.0	1.6	1.6	0.13
19	2013	2.5	7.3	1.5	1.6	0.13
1	2014	3.4	6.8	1.7	1.8	0.13
2	2014	3.2	7.0	1.6	1.7	0.13
3	2014	3.4	6.8	1.6	1.7	0.13
4	2014	3.8	7.1	1.4	1.7	0.13
5	2014	3.5	6.7	1.8	1.9	0.13
6	2014	3.4	6.9	1.6	1.8	0.13
7	2014	2.6	6.8	1.9	1.8	1.00
8	2014	2.9	6.9	2.0	2.0	0.13
9	2014	3.2	7.0	1.5	1.7	0.13
10	2014	3.3	6.9	1.7	1.8	0.13
11	2014	3.3	7.0	1.5	1.5	0.13
12	2014	2.6	7.0	1.9	1.9	1.00
13	2014	3.2	7.0	1.5	1.7	0.13
14	2014	3.5	6.4	2.0	1.9	0.13
15	2014	2.9	7.0	1.8	1.7	0.13
16	2014	3.0	6.9	2.0	2.0	0.50
17	2014	3.0	6.2	2.0	2.0	2.75
18	2014	3.2	6.1	2.1	2.1	1.75
19	2014	3.2	6.7	2.0	2.0	0.13

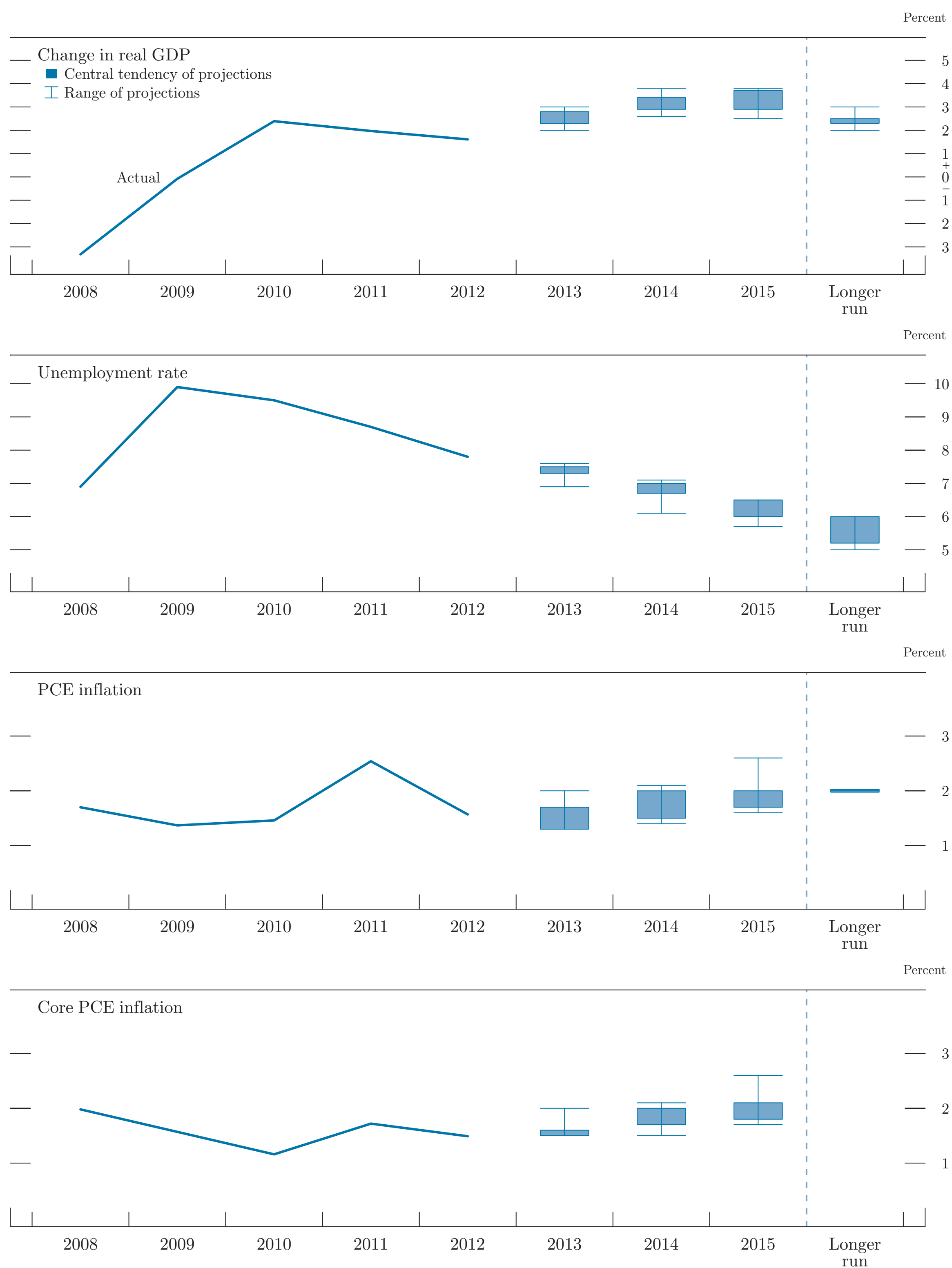
Table 2. *(continued)*

Projection	Year	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
1	2015	3.8	6.1	2.1	2.1	0.50
2	2015	3.5	6.3	1.7	1.8	1.00
3	2015	3.7	6.2	1.9	1.8	0.75
4	2015	3.7	6.0	1.6	1.9	1.25
5	2015	3.5	6.0	2.0	2.1	1.25
6	2015	3.7	6.1	1.7	1.9	0.50
7	2015	2.9	6.2	2.0	2.0	3.00
8	2015	3.0	6.3	2.0	2.0	1.25
9	2015	3.5	6.3	1.6	1.7	0.50
10	2015	3.4	6.4	1.9	1.9	0.50
11	2015	3.5	6.5	2.0	1.8	0.50
12	2015	2.9	6.5	2.0	2.0	2.00
13	2015	3.6	6.3	2.0	2.0	0.50
14	2015	3.5	5.7	2.0	2.0	1.00
15	2015	3.2	6.5	1.9	1.8	0.50
16	2015	3.2	6.5	2.0	2.0	1.25
17	2015	2.5	6.0	2.0	2.0	4.50
18	2015	2.8	6.0	2.6	2.6	3.75
19	2015	3.4	6.0	2.1	2.1	0.13
1	LR	2.5	5.2	2.0		4.00
2	LR	2.0	5.4	2.0		4.00
3	LR	2.3	5.3	2.0		3.80
4	LR	2.3	6.0	2.0		4.50
5	LR	2.3	5.5	2.0		4.00
6	LR	2.3	5.2	2.0		3.25
7	LR	2.1	6.0	2.0		4.00
8	LR	2.5	5.2	2.0		4.50
9	LR	3.0	5.4	2.0		4.00
10	LR	2.3	5.5	2.0		4.30
11	LR	2.2	5.4	2.0		4.00
12	LR	2.3	5.5	2.0		4.30
13	LR	2.5	5.2	2.0		4.00
14	LR	2.3	5.0	2.0		3.50
15	LR	2.5	6.0	2.0		4.00
16	LR	2.5	5.5	2.0		4.00
17	LR	2.5	6.0	2.0		4.50
18	LR	2.3	6.0	2.0		4.25
19	LR	2.3	6.0	2.0		3.50

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

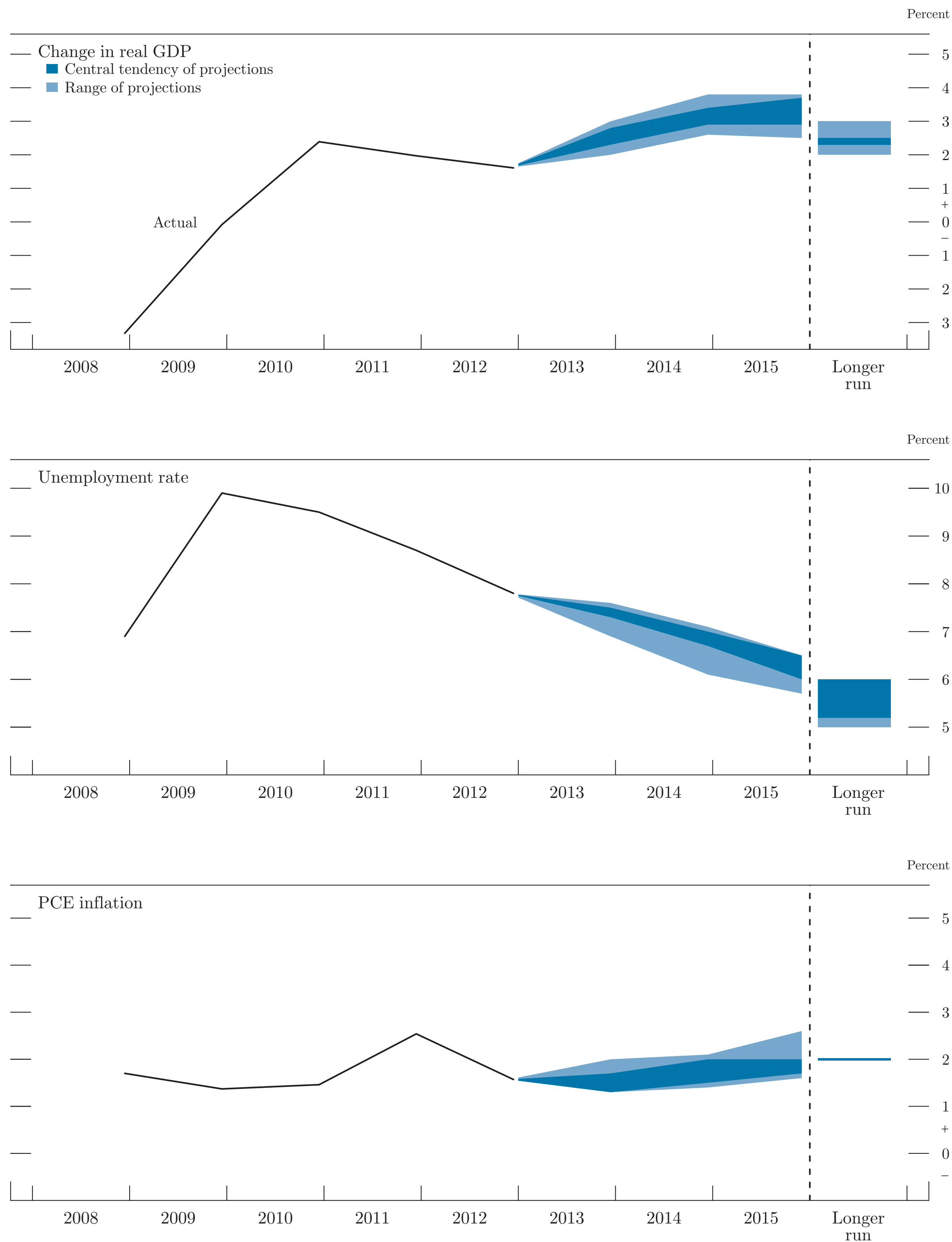
Projection	Year of first increase	Change in real GDP	Unemployment rate	PCE inflation	Core PCE inflation	Federal funds rate
19	2016	3.4	5.4	2.2	2.2	0.5

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



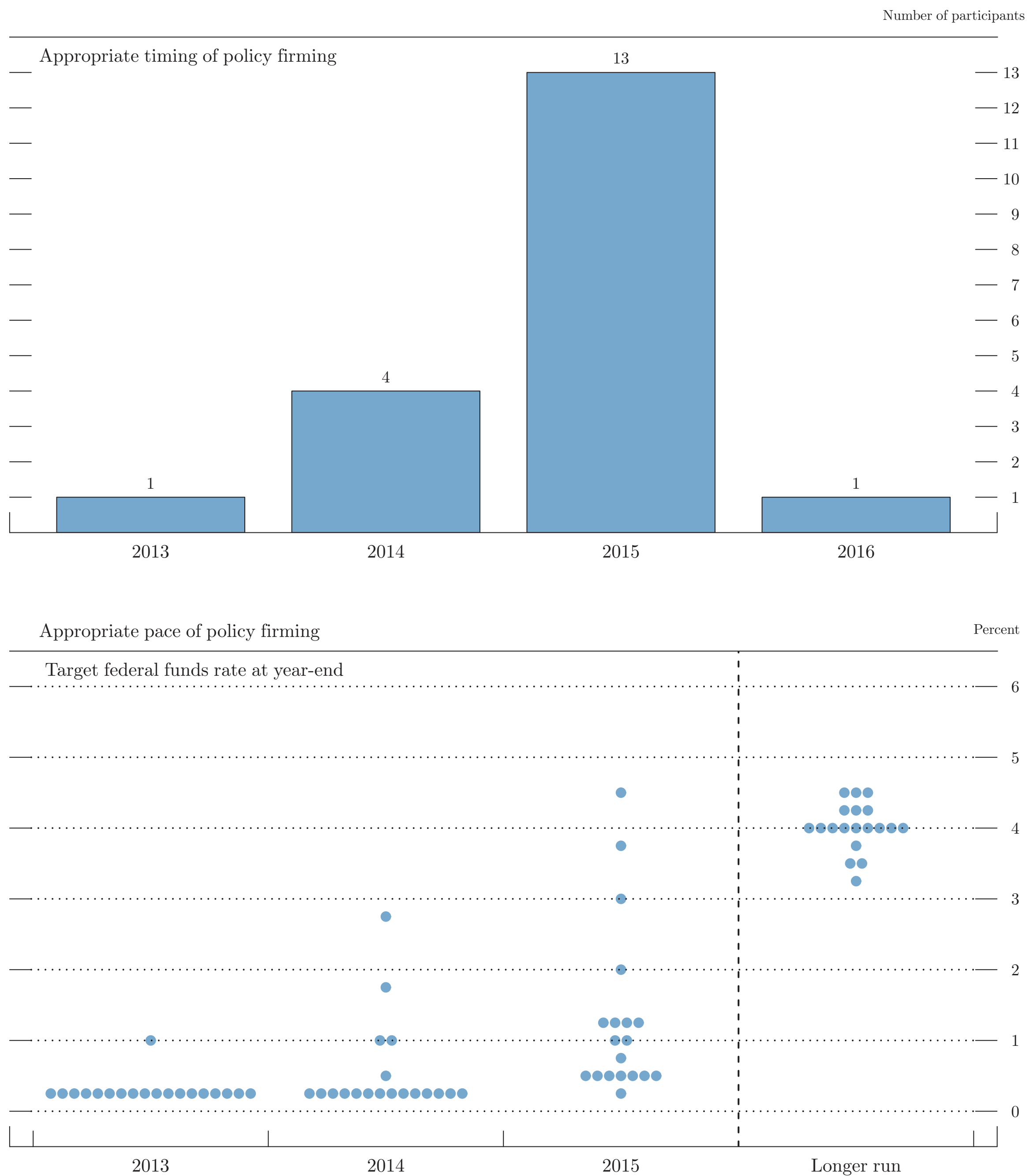
Note: Definitions of variables are in the general note to table 1. The data for the actual values of the variables are annual.

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.

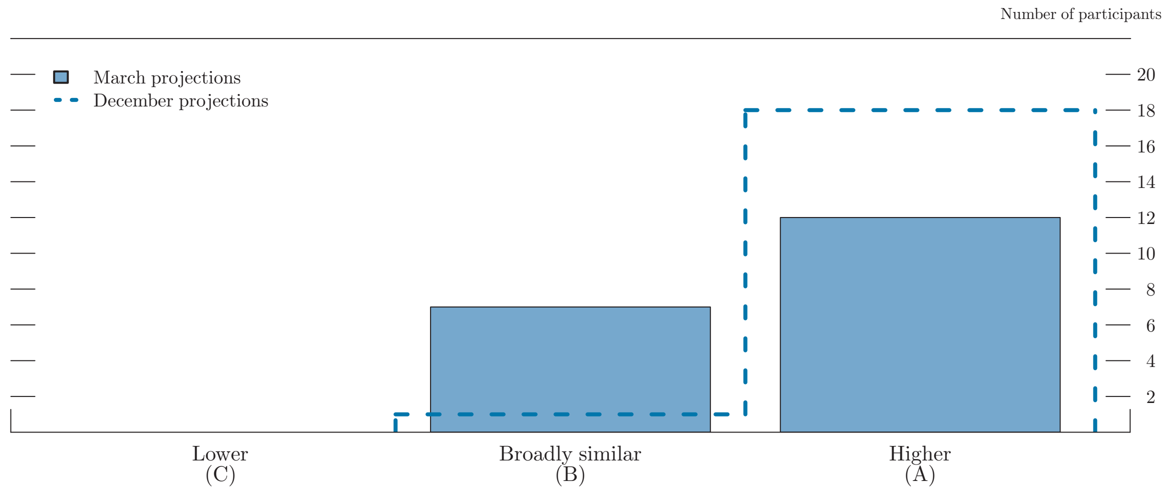
Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy, March 2013



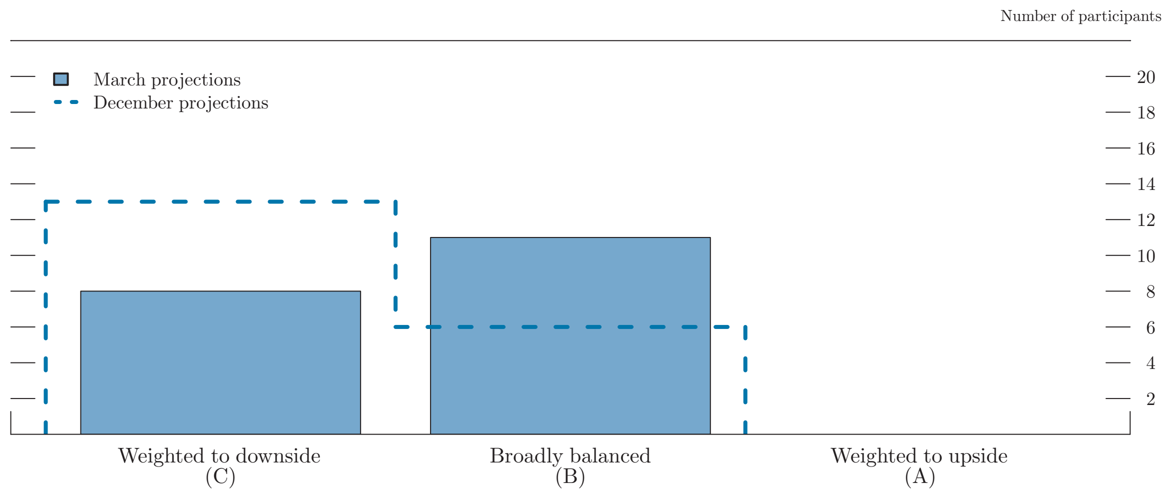
NOTE: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target federal funds rate from its current range of 0 to 1/4 percent will occur in the specified calendar year. In December 2012, the numbers 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, 2, 3, 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.

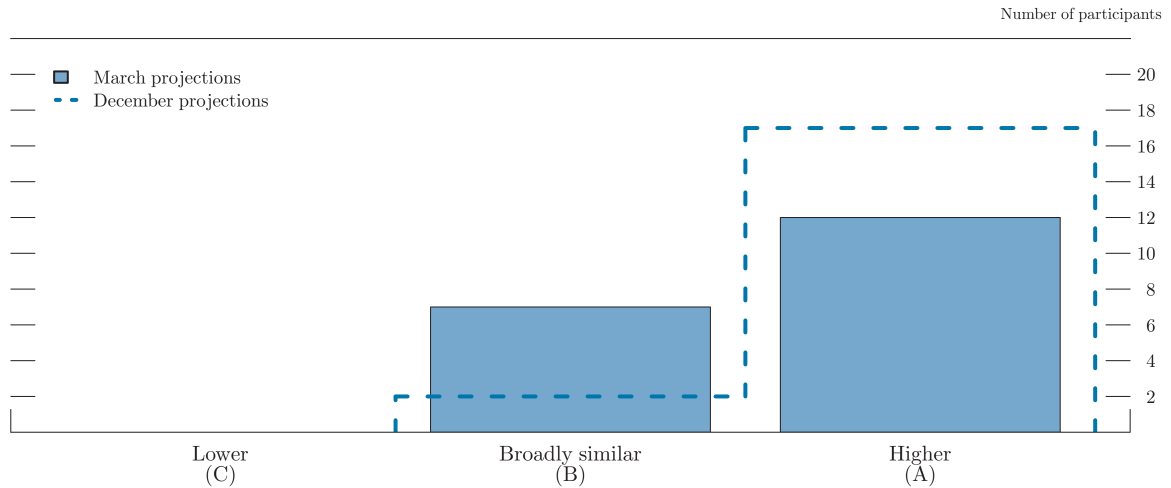


Individual responses

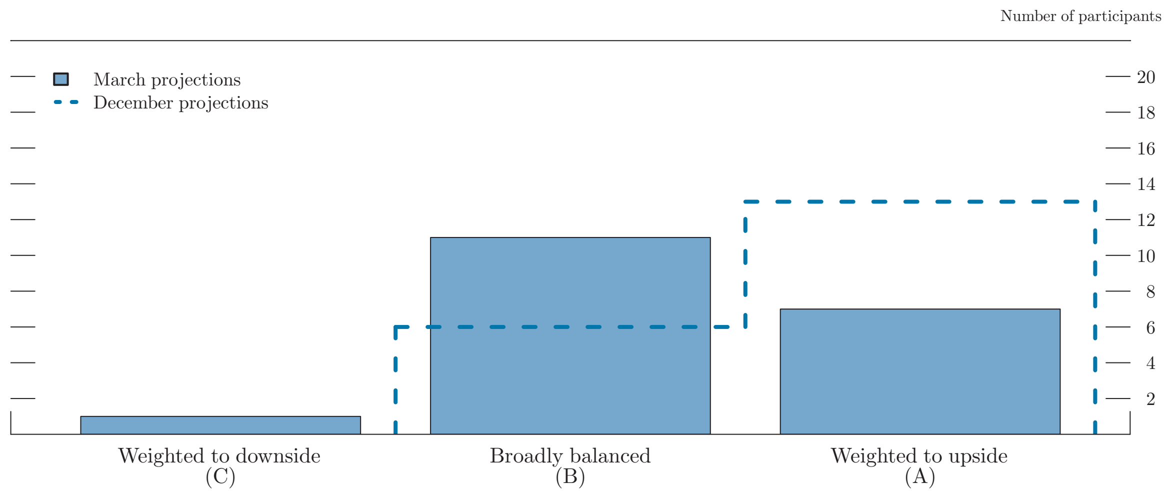
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2(a)	A	B	A	B	A	B	A	A	B	A	A	A	A	A	B	B	A	B	A
2(b)	C	C	C	B	B	C	B	B	C	C	B	B	C	B	C	B	B	B	B

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.

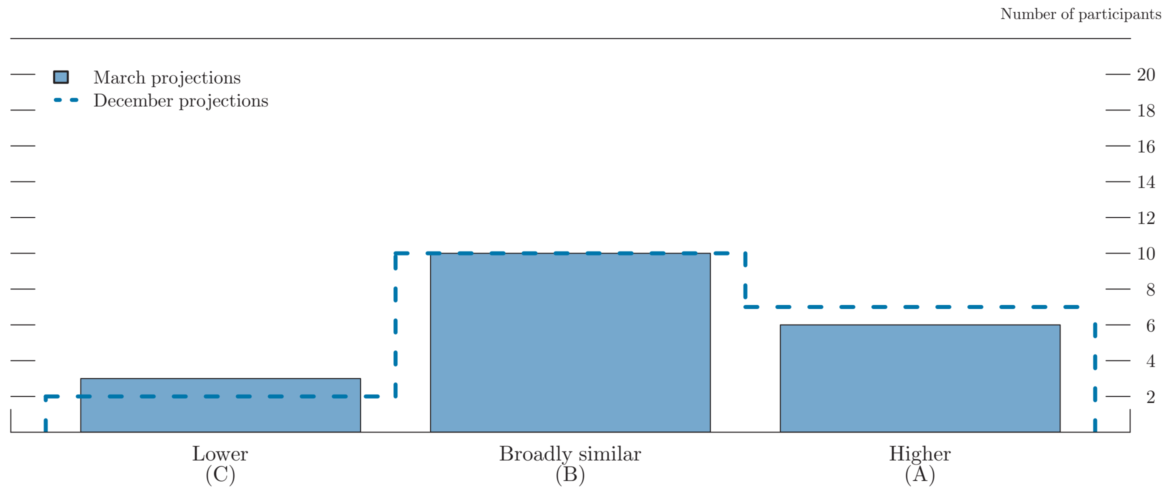


Individual responses

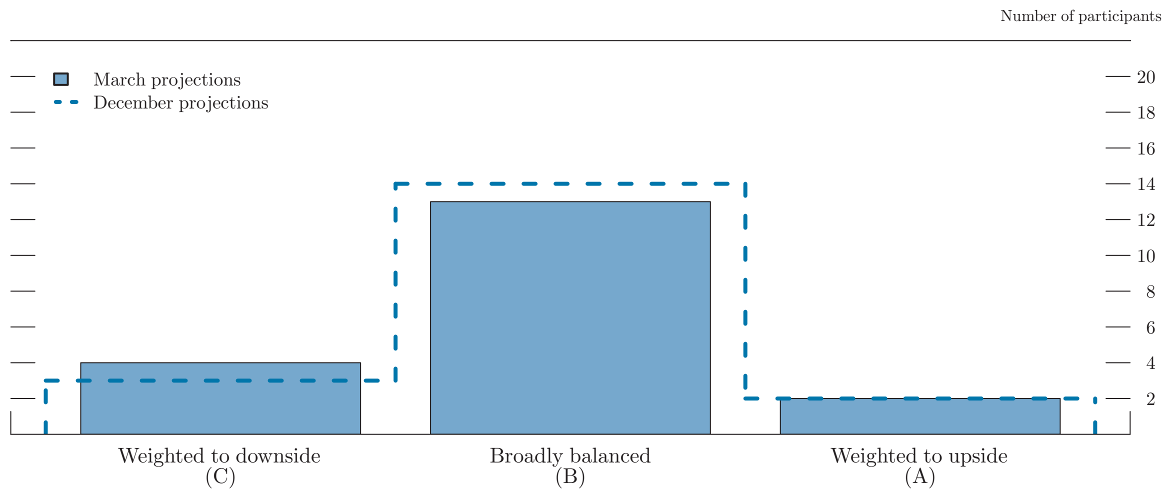
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2(a)	A	B	A	B	A	B	A	A	A	A	A	A	A	A	B	B	B	B	A
2(b)	A	B	A	B	B	A	B	C	A	A	B	B	A	B	A	B	B	B	B

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.

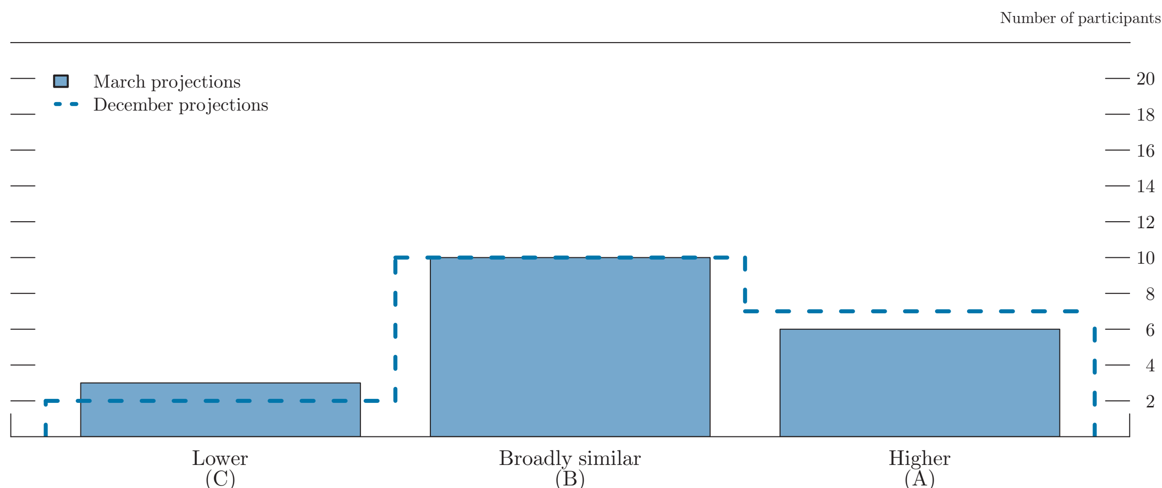


Individual responses

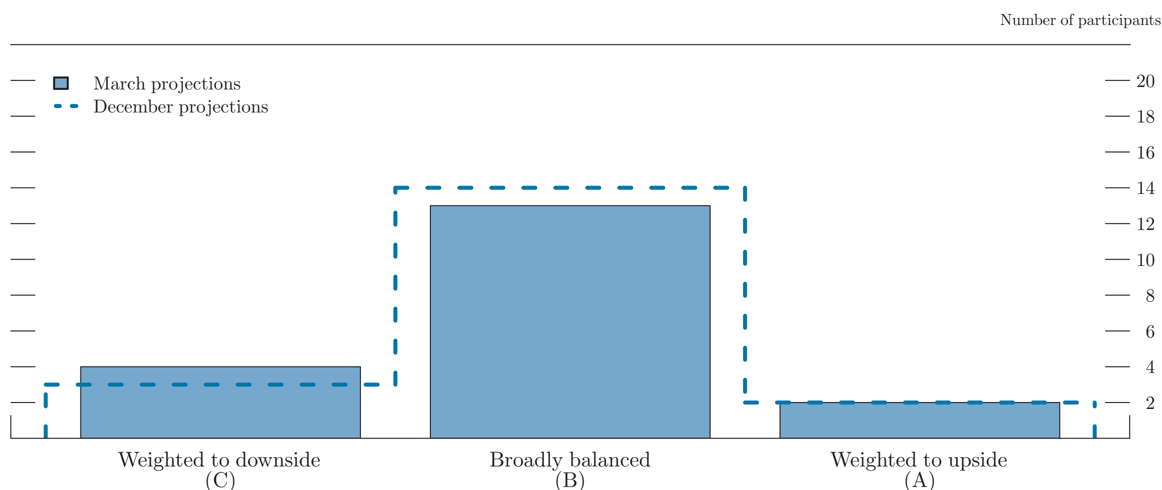
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2(a)	B	C	A	B	B	B	C	B	A	B	B	A	C	A	B	B	A	B	A
2(b)	C	B	B	B	B	C	B	B	B	B	B	A	C	B	B	B	A	B	C

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

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

Respondent 4: N/A

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: Mean inflation in my outlook converges to 2 percent within 3 years. Unemployment should get to around 6 percent within 3 or 4 years. We may already be at trend real GDP.

Respondent 8: N/A

Respondent 9: N/A

Respondent 10: N/A

Respondent 11: N/A

Respondent 12: N/A

Respondent 13: N/A

Respondent 14: 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; analysis of recent long expansions (1980s and 1990s) suggests the unemployment rate could be somewhat 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). 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 2014-15 and remain near that level thereafter.

Respondent 15: N/A

Respondent 16: I anticipate that full convergence will be achieved within six years.

Respondent 17: The convergence process may be somewhat shorter than 5-6 years

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

Respondent 19: It would be faster than five years under appropriate monetary policy.

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: Since December, we have gotten past the fiscal cliff and the risk of a severe European crisis has declined somewhat. Hence, 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 explicit 2 percent numerical objective for inflation. Hence, uncertainty about inflation is lower than in the past two decades.

Respondent 3: N/A

Respondent 4: N/A

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: Estimates of the long-run trend in real GDP are highly uncertain at this time, and I do not believe that the unemployment rate gives an accurate signal of the extent of slack in the economy, so point forecasts for real activity and labor market conditions are unusually uncertain at this time. Growth may accelerate to more typical rates, or growth could remain near 2 percent for some time to come. Inflation expectations are probably more firmly anchored following the FOMC's consensus statement, and uncertainty is correspondingly lower than in the past.

Respondent 8: N/A

Respondent 9: I have retained my judgment of the level of uncertainty attached to my inflation projections at "higher". My level of uncertainty remains high given the significant amount of increased communication of FOMC members regarding individual views of appropriate policy. For example, it is possible that inflation expectations could shift notably higher at some point if market participants were to come to think that the level of policy accommodation or the size of the balance sheet were too large to carry out a successful exit or were otherwise inconsistent with price stability. I view such potential perceptions as being formed by comments that FOMC members may make to the public which confuse markets from the direction that the FOMC has committed to take.

I have also retained my judgment of the level of uncertainty attached to my unemployment projection to "higher". Not knowing for sure whether labor markets are improving because of firm decisions to correct for too many layoffs previously, not knowing the full dynamics of how discouraged workers will react once conditions improve,, and generally not understanding the contours of the relationship between GDP growth and unemployment, I currently believe the level of uncertainty attached to my unemployment rate projection to be higher than the level of uncertainty over the past 20 years.

Respondent 10: Continued uncertainties on the real side include US fiscal policy (including CR, debt limit), Europe (Cyprus?), oil prices, growth in the emerging markets, possible structural damage from the crisis and recession, and our lack of experience with recoveries from financial crises in developed economies and with unconventional monetary policies. Core inflation is well anchored by stable expectations and resource slack. Commodity prices have been generally flat to down (except for isolated events like the drought), so uncertainty about inflation overall is in the normal range.

Respondent 11: N/A

Respondent 12: Several factors contribute to heightened uncertainty, including the European debt crisis, U.S. fiscal policy, slowing world growth, and ongoing changes in the regulatory environment. In addition, the Federal Reserve's unconventional policies are a source of uncertainty because they have no precedent.

Respondent 13: N/A

Respondent 14: 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 have not changed significantly from those at the time of the December 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.

Respondent 15: At this point, uncertainty looks to be broadly similar to the norms of the last 20 years.

Respondent 16: Several important uncertainties have been at least partially resolved.

Respondent 17: 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 18: N/A

Respondent 19: 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: Our baseline assumption regarding budget negotiations over the sequester are similar to the Tealbook, but we think the risks are tilted to more fiscal austerity over the medium term. We also think the risks to U.S. growth from abroad are tilted to the downside (both from weaker foreign GDP and a stronger dollar). We see some upside risk that virtuous cyclical dynamics will build more favorably than we have anticipated, but the odds of this occurring seem smaller than the downside scenarios. Our forecast for real activity implies that the degree of resource slack in the economy will remain meaningful until late in the projection period. We assume that well-anchored inflation expectations will assert a sufficient lift to prices to more than offset this slack and return inflation to target by 2015. We may, however, be overestimating the pull from expectations, or the degree to which they will remain well anchored if we face a much-longer streak of low incoming inflation numbers or if the FOMC appears to waver on its commitment to policy accommodation.

Respondent 2: Risks to GDP growth are still skewed to the downside, though this is a closer call than in December. First, fiscal policy is a smaller downside risk now. Sequestration, though a drag on growth and a downside risk, is less quantitatively important than the fiscal cliff. Second, the European situation remains fragile, though a severe crisis is less likely than at times last year. Finally, it continues to be the case that negative shocks could have particularly severe effects, because of the continuing vulnerability of the financial system as well as the limited ability of fiscal and monetary policy to offset them.

In contrast to the risk weighting on growth, risks to unemployment are broadly balanced. The downside risk weighting for GDP growth is an upside risk for unemployment. But other risks to the unemployment outlook are skewed to the downside. For example, labor-force participation might be lower than my modal forecast assumes.

Inflation risks are also balanced.

Respondent 3: N/A

Respondent 4: N/A

Respondent 5: N/A

Respondent 6: N/A

Respondent 7: N/A

Respondent 8: Recent over-prediction of the unemployment rate indicates a deviation in the Okun relationship that may persist in the near-term.

Respondent 9: N/A

Respondent 10: Real factors cited above are mostly downside risks. The ZLB creates an asymmetric policy response which in turn imparts downside risk. However, these risks have continued to moderate relative to last summer, and there are some upside risks if housing, business sentiment, or US fiscal issues are more favorable than expected. Upside risks to inflation are primarily from commodity prices and, to a lesser extent, from an upward drift in inflation expectations. These upside risks are balanced by the possibility of tamer-than-expected commodity prices or continuation of high levels of slack.

Respondent 11: N/A

Respondent 12: The risks to inflation are skewed to the upside due to monetary policy being highly accommodative for a long time, the possibility that removing accommodation will begin too late, and long-term fiscal imbalances.

Respondent 13: N/A

Respondent 14: 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 two SEPs. The risks to the real activity outlook have shifted from a downside weighting in December to roughly balanced. Two factors primarily underlie this shift. First, with sequestration now incorporated in our central forecast, we lowered the probability of fiscal restraint beyond that in our central forecast. Second, the somewhat more encouraging real economic data 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 shifted to the downside.

Respondent 15: I believe the risks are weighted primarily to the downside for GDP growth and to the upside for unemployment. In the medium term, fiscal policy issues in both Europe and the United States pose downside risks to growth and upside risks to unemployment. I judge the overall risks to inflation as balanced, with a downside risk that slow growth could pull down inflation and an upside risk that a large balance sheet could eventually cause inflation expectations and, in turn, inflation to rise.

Respondent 16: N/A

Respondent 17: 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 18: N/A

Respondent 19: I remain concerned about our ability to respond effectively to downward shocks to inflation and inflation expectations.

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: We believe the Committee's current commitment to hold the federal funds rate near zero at least as long as the unemployment rate remains above 6-1/2 percent and the outlook for inflation remains below 2-1/2 percent constitutes appropriate policy with regard to the funds rate. Such a rule likely is an adequate approximation to the optimal control policy under commitment. However, in light of downward influences on our outlooks for growth and inflation, we believe that appropriate policy requires a greater degree of accommodation than we assumed in December. Accordingly, we assume a continuation of the open-ended LSAP program into early 2014; extending the program would reinforce the FOMC's commitment to the maintenance of substantial monetary accommodation and thus have beneficial influences on the forecasts of both growth and inflation.

Under our economic forecast, we hit the 6-1/2 percent unemployment threshold in late 2015. At that time, our forecast for inflation over the following one to two years will be 2-1/4 percent. However, as noted earlier, we see some downside risks to this inflation projection. If these risks materialize, then appropriate policy would delay lift off.

Respondent 2: Output and unemployment gaps are large and persistent, and inflation remains moderately 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 second half of 2015, when the unemployment rate falls below 6-1/2 percent. 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 assessment of the costs and benefits of continuing unconventional actions.

Respondent 3: 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 4: Unemployment reaches 6.5% in mid-2015 and lift-off begins. I have assumed increases in the fed funds target of .25% at each meeting once lift-off begins.

Respondent 5: I am assuming we continue to follow our threshold policy. Since in my forecast unemployment falls below 6.5% in about the first quarter of 2015, and since I expect inflation to be in the 2% range at that time, it seems appropriate that we would begin gradually raising the funds rate in 2015 Q1, and resume using something that looks roughly like the inertial Taylor 99 rule.

Respondent 6: My path for the federal funds rate accords closely with Tealbook although I have assumed a lower long-run equilibrium value of the funds rate, consistent with staff estimates based on the three-factor yield curve model of the expected nominal short rate ten years ahead, which currently stand around 3.25%. The reduced value of the equilibrium funds rate reflects, in my view, persistent drags on aggregate demand, including tight fiscal policy, and somewhat slower growth in potential output. Appropriate monetary policy, given the zero lower bound constraint, involves holding the funds rate lower for longer than would be prescribed by standard rules, such as Taylor 1999 or the outcome based rule. The Committee's thresholds-based guidance, coupled with staff's assumption that the funds rate follows inertial Taylor 1999 post-liftoff captures this basic principle.

Respondent 7: Once real GDP growth rises significantly, we will want to raise the federal funds rate in order to keep inflation near 2 percent.

Respondent 8: 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, provided 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 9: The key factors informing my judgment regarding lift-off in 2015 include review of a set of economic indicators that together do not yet suggest that a "virtuous cycle" is firmly underway that would justify an early monetary policy contraction. Firms appear now to be hiring, but the unemployment rate remains elevated. For their part, households are enjoying more wealth effects, and household confidence has improved, but real disposable incomes remain flat. With the sequester, fiscal impetus is not substantial to provide necessary stimulus. Accordingly, my view of appropriate monetary policy is that it must remain accommodative as long as it can continue to deliver meaningful support, and provided that any costs in terms of price stability, financial stability, market functioning, and effects of lower remittances can be managed effectively.

Respondent 10: Projected path is consistent with thresholds guidance and optimal control simulations.

Respondent 11: N/A

Respondent 12: 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.

Respondent 13: I am assuming that the committee begins to increase the federal funds rate when unemployment declines below 6.5% in mid-2015, as suggested by the thresholds. I expect that inflation will be around 2% at that time.

Respondent 14: 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. While a number of the recent data releases have been relatively more encouraging, the indicators since September still point to a substandard expansion. In particular, even with the February labor market report, our assessment is that the labor market outlook has not improved substantially. Financial conditions have improved, but are not yet fully normal and are still susceptible to sharp reversals depending upon developments. Furthermore, we see the "whatever it takes" policy approaches 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) and improved financial conditions. In these circumstances, 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 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 recent behavior of nominal and real Treasury yields and productivity growth, 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 near the end of 2013, so we expect that pace of purchases under the current program will begin to slow in 2013Q4 and then end in 2014Q1.

Respondent 15: I currently anticipate that conditions will warrant raising the federal funds rate target at the end of 2015. The unemployment rate will reach the 6 1/2 percent threshold in the fourth quarter of that year. In addition, the recovery will be far enough along that inflationary pressures will be rising, with a nontrivial probability that expected future inflation will be approaching the 2 1/2 percent threshold. Therefore, to preserve the stability of long-term inflation expectations, I believe it will be appropriate to begin reducing the amount of monetary stimulus at that point.

Respondent 16: "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 is not so reliant on large downward movements in short-term interest rates. The formulation and communication of such a strategy would strengthen the recovery more reliably than our current form of forward guidance, allowing us to move away from the zero bound relatively 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 and a targeting rule for nominal GDP. In applying these rules I assumed policy inertia and that the natural real rate of interest is temporarily depressed.

Respondent 17: Inflation and inflation expectations will be the main drivers of the removal of accommodation. Economic growth will be slightly above trend in 2013 and beyond; unemployment will decline slowly. The Committee will find it necessary to adjust policies to prevent inflation from rising above its target.

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 Q2/2014.

Respondent 19: 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 the medium-term outlook for inflation remains below 2.5%.

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
March survey	15	4
December survey	11	8

Respondent 1: Yes
We assume asset purchases continue through early 2014 and total about $750 billion more than the Tealbook.

Respondent 2: Yes
Relative to Tealbook, I expect LSAPs to continue for about an additional quarter and cumulate to an additional $250b in purchases.

Respondent 3: Yes
Appropriate monetary policy entails additional LSAP at a pace of roughly $85 billion per month until the end of 2013. By then, the pace of growth in real economic activity is well established and sufficient to engender expectations of a substantial improvement in the labor market.

Respondent 4: Yes
I assume that purchases will continue after midyear but at a lower level with additional purchases ultimately reaching 250 billion more than is assumed in the TealBook.

Respondent 5: No
N/A

Respondent 6: Yes
Given that inflation is projected to undershoot the Committee's 2 percent objective over the entire forecast horizon while unemployment declines only slowly toward its longer-run normal level, I have assumed around $500 billion in asset purchases in addition to those incorporated in the Tealbook baseline. My current assessment is that the efficacy of these purchases accord with staff assumptions and the marginal costs do not at this point exceed the benefits. I assume that these purchases continue until there is a substantial improvement in the outlook for the labor market. In my projection, which assumes such purchases, it would be hard to rationalize a judgment that there had been substantial improvement in the outlook for the labor market before the end of 2013.

Respondent 7: Yes
I favor immediate cessation of long-term asset purchases and reinvestment of maturing mortgage-backed securities.

Respondent 8: No
N/A

Respondent 9: Yes
Given my forecast, I believe there is the possibility that more than $500 billion may be necessary for a total amount of large scale asset purchases.

Respondent 10: Yes
Given my projections for output, unemployment, and inflation, I would expect asset purchases to continue at current rates until approximately August or September, then begin to slow through the end of the year.

Respondent 11: Yes
I assume approximately $250 billion more in asset purchases than assumed in the Tealbook.

Respondent 12: Yes
I believe the benefits of asset purchases are small, while the potential costs to market functioning and financial instability from "reaching for yield" are larger. In addition, the efficacy of additional asset purchases may have declined. A larger balance sheet also greatly increases the likelihood of capital losses and zero remittances to the Treasury for several years, which could put the Federal Reserve's independence, credibility, and reputation at risk. Therefore, I believe we should tilt purchases toward Treasury securities, begin tapering our purchases, and end the purchases by the end of the year.

Respondent 13: Yes
I assume that we will begin to taper purchases at mid-year and bring them to an end by around the end of 2013.

Respondent 14: 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 about $1 trillion in purchases. Our assumed program thus would last 9 months longer and total $500 billion more than the program assumed in the Tealbook. However, that path and 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 of an accommodative stance based on a portfolio of tools would enhance the efficacy of policy in these circumstances.

Respondent 15: No
N/A

Respondent 16: Yes
Although I was not in favor of the current program, having begun a series of asset purchases I do not believe that we ought to stop them cold turkey. Instead, purchases ought to be phased out, with tapering starting no later than June.

Respondent 17: Yes
I anticipate following the Committee's 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 18: Yes
I assumed a continuation of asset purchases during the second half of 2013. Based on an improving economy, I also assumed a tapering of these purchases.

Respondent 19: No
N/A

Forecast Narratives

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

Respondent 1: The key factors shaping the forecast are the same as they have been for some time. Our baseline assumption is that fiscal policy in the U.S. will result in net restraint on the order of magnitude assumed in the Tealbook and that Europe will muddle through their problems without a meltdown. Accordingly, over time, these sources will exert diminishing drags on spending, both directly and indirectly through their effects on household and business confidence. More fundamentally, with the support of accommodative monetary policy and improved household and business balance sheets, domestic private demand should gain momentum as we move through the projection period. Furthermore, pent-up demands for capital goods and consumer durables should provide an impetus for above-trend growth. Demand from abroad also is assumed to firm in 2014 and 2015, as Europe emerges from recession and growth in Asia recovers to a more robust pace.

We expect that resource gaps will be meaningful until late in the projection period, and thus be a restraining factor on inflation for some time. However, under our view of appropriate policy, sufficient monetary accommodation will be in place–and will be expected to remain in place–to result in inflation drifting up some over the forecast period. Importantly, we assume that credible commitment to our accommodative policy stance will support inflation expectations and push inflation back up to target by 2015.

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. Some headwinds are slowly easing. For example, consumer balance sheets are improving; banking and credit conditions are strengthening; and the housing sector has turned the corner. At the same time, other headwinds remain intense. For example, fiscal policy has turned increasingly contractionary, with sequestration an additional drag on activity this year. The global economy remains weak. Uncertainty about economic prospects has diminished somewhat but continues to weigh on consumer and, especially, business spending.

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 somewhat below the FOMC's 2 percent inflation target for the next few years.

Respondent 3: Incoming data have been more upbeat than anticipated. Supported by solid gains in household net worth, consumer spending is holding up well despite the expiration of the payroll tax cut at the beginning of the year. Business spending in equipment and software is recovering from the pause experienced in the second half of last year, in the context of an economic environment which is less uncertain. Since December, some of the uncertainty surrounding fiscal policy has dissipated, while ongoing economic and political challenges in Europe are having a limited impact on financial markets, at least for now. With lower uncertainty and pessimism about current and expected conditions – which is also reflected in higher equity valuations – firms are stepping up the pace of hiring. Recent payroll gains have been somewhat larger than expected, and readings for initial claims for unemployment insurance have come down noticeably. Overall, while some of the strength in activity likely reflects a bounce back from a highly uncertain environment and weather related disruptions in the second half of last year, we interpret the incoming data as indicating more underlying resilience than previously

thought. Fiscal policy, however, is now expected to restrain economic activity this year by more than what was anticipated in December. This additional restraint from fiscal policy offsets the more positive outlook for private sector demand. As a result, the forecast for this year and next has not changed significantly.

Since the projected pace of activity is about unchanged relative to December, the outlook continues to be conditioned on LSAP of $85 billion per month until the end of 2013. This stimulus contributes to a more robust upturn in activity, so that GDP growth this year is expected to be close to 3 percent despite the important restraint from fiscal policy. We continue to view LSAP as effective in stimulating the interest-sensitive sectors of the economy. Moreover, rather than becoming less effective, a policy of maintaining the current low level of rates should increase the availability of credit to a broader range of households and small businesses, whose propensity to spend could prove to be greater than for the population now having access to credit. With the policy stimulus, the unemployment rate is expected to fall to 7.3 percent by the end of this year. The unemployment rate is projected to near 6 percent, with inflation running somewhat below target, by the end of the forecast horizon.

Risks to the real economic outlook continue to be skewed to the downside. There is high uncertainty about the ultimate size of the sequester. It is possible that full sequestration, rather than the more benign compromise assumed in our baseline forecast, will remain in place and restrain activity this year more than we anticipate. Moreover, despite the improvements in financial markets witnessed recently, the situation in Europe remains vulnerable to bouts of severe stress.

Respondent 4: My forecast is a bit stronger than the TealBook baseline. I expect a strengthening housing recovery to continue to stoke momentum. I believe that the supply of housing units will remain tight and drive prices higher. And I expect the shortfall in existing homes for sale to be partially filled by additional new construction. I assume the wealth effect of higher house prices will give some boost to consumer spending. However, I still have not seen any sign of the confidence spark that leads to the robust growth in the housing-led recovery alternative simulation in the TealBook. Finally, I think household formation will be a significant factor in housing demand but that tight credit conditions faced by the new households will result in even more pressure on rental housing.

Respondent 5: The basic narrative I have in mind is one where the economy is beginning to show clear signs of momentum on a number of dimensions–housing, retail sales, business capital spending, etc. And uncertainties regarding both fiscal policy and Europe are fading. These would all point to 2013 being a good bit stronger than 2012. Against this is the drag that will be caused by the sequester in the coming quarters. The biggest near-term risk I see is that this drag will be larger than expected, and will undermine some of the increased confidence and forward momentum that are seeing. Nevertheless, at this point it seems to me that the risks on the upside and the downside are fairly evenly balanced.

Respondent 6: Recent data pertaining to the labor market, housing, and consumer spending have contained some upside surprises, strengthening my confidence in the underlying momentum in private demand. All in all, the U.S. economy appears to be expanding at a moderate pace and, the labor market is showing some signs of improvement with payroll employment growing at an average pace of around 205,000 over the last four months, up from 154,000 over the previous four months. That said, unemployment remains quite elevated and there has been a small further decline in labor force participation. Recovery in the housing market has gained traction, and we're seeing stronger construction and sales and a more rapid rebound in house prices than I had anticipated. The recovery in housing appears to be attributable at least in part to exceptionally low mortgage rates. Low interest rates, as well as rising house and equity prices, also appear to be supporting solid growth in spending on motor vehicles and other consumer durables. Incoming evidence, albeit preliminary, suggests that consumer spending is holding up reasonably well in the face of recent tax increases. Offsetting these positives

is the news that Congress has allowed the sequester to go into effect on March 1 as scheduled–a development which will exert noticeable and unanticipated fiscal drag over the remainder of the year. In addition, the European downturn is proving more sizeable than previously anticipated. All in all, I expect there to be sufficient momentum in both consumption and investment spending for the economy to grow at a trendlike pace over the coming year but I anticipate little progress in bringing down the unemployment rate over the remainder of this year. While we have seen improvement in the labor market since September, I am concerned that it owes more to disappointing productivity growth than to above trend growth in output and, as over the last several years, this progress may not prove to be persistent. Both headline and core PCE prices have been rising significantly below the Committee's 2 percent objective and I expect that with substantial slack in the labor market and very subdued compensation, this situation will persist over the forecast period. Moreover, inflation expectations appear to be well-anchored and measures of longer-run inflation expectations have been stable. With lingering and considerable uncertainty about fiscal policy and continued potential for renewed turbulence in global financial markets relating to European developments, I see the risks to growth as skewed to the downside. These risks, combined with little further scope for monetary policy to respond, result in risks to the outlook for inflation that are skewed to the downside.

Respondent 7: N/A

Respondent 8: Business uncertainty and lingering after-effects of the financial crisis continue to weigh on business activity, most notably firms' demand for labor and capital. I expect fiscal tightening to contribute further to sub-par growth. However, business sentiment is improving and the appetite for business expansion appears to be growing. While rising sentiment has not yet caused me to revise my baseline forecast, it has prompted me to move my assessment of the growth risks from weighted to the downside, to broadly balanced. I continue to see inflation risks as being broadly balanced.

Respondent 9: My central economic outlook is currently shaped by a sense of cautious optimism. Many indicators have improved; i.e., employment is improving, and household wealth driven by improvements in shareholder value and home values are growing. Stresses from Europe appear to be quiet, for the time being. However, other indicators do not yet point to the existence of a strong virtuous cycle that could provide the momentum necessary to remove the risk that the recovery could flounder. Other indicators that need to move in tandem, such as improvements in business confidence and capital expenditures and growth in real disposable income, are not yet robust.

Respondent 10: Several factors raise the possibility of moderately stronger growth: the increasingly well-established turn in housing; supportive financial conditions arising from reduced global financial stress, a healthier banking system, and accommodative monetary policy; and less drag from state and local governments. Higher stock and house prices are helpful, but the stronger dollar could slow exports. There is some risk of a rise in longer-term rates that could also slow growth. The employment data revision reinforces the sense that employment conditions are improving somewhat, with beneficial effects for confidence, income, and spending. In the near term there will be bounceback from the drought and superstorm Sandy. However, we have seen periods of stronger growth before that proved temporary, so caution in upgrading projections is warranted. Importantly, federal fiscal policy is likely to pose a significant drag on growth of 1 to 1.5 percentage points (I am less sanguine than staff that a significant modification of the sequester will be achieved).

Core inflation remains well anchored by stable expectations and slack at just below 2 percent. Geopolitical and other influences on global commodity prices have not been a source of much volatility, The softness of commodity prices is a little surprising given faster global growth.

Respondent 11: There is an increasingly strong case that the headwinds created by the financial crisis have substantially diminished. Substantial deleveraging has been achieved by households, though it is hard to determine whether there is a new normal for household debt that may stretch the process out beyond what prior experience would suggest.. Similarly, the residential housing market has pretty clearly stabilized. Again, though, this good news is qualified by what is likely an artificially low inventory that could rise significantly as foreclosed, or temporarily rented houses come back on the market.

If diminishing headwinds remains a positive, fiscal developments remain a significant negative. The duration of the sequester, and its impact for as long as it lasts, remain difficult to project. My sense is that a full sequester would have somewhat greater negative effects on the economy than is suggested by running the reduced federal spending through a macro model, Along with the drag already created by the tax package earlier in the year, the impact of sequester – much less a possible package making additional short-term cuts – makes it highly unlikely that the economy picks up too much momentum for the next couple of quarters.

Respondent 12: While higher taxes and full sequestration are negative factors for economic growth, I continue to expect a moderate economic recovery over the next several years with a gradual reduction in the unemployment rate. Sequestration is likely to subtract from growth this year. However, continued gains in labor markets, strength in housing and business investment, and an extremely accommodative monetary policy contribute to growth.

Uncertainty about fiscal policy, a potential slowdown in global growth, and expectations of higher taxes and more regulation pose risks to medium to long-term economic growth. On the upside, recent indicators on labor markets and housing suggest that the household sector may be even more supportive of growth going forward.

Turning to inflation, I expect inflation in 2013 will be about 1 1/2 percent and that maintaining our accommodative monetary policy (federal funds rate, forward guidance, and asset purchases) would lead to an increase in inflation in 2014 and 2015 above 2 percent. Therefore, I think that an earlier end to asset purchases and an earlier lift-off in the funds rate are needed to maintain inflation close to our 2 percent objective.

Respondent 13: I expect the economy to strengthen gradually but meaningfully during the course of the year and to continue to do so in 2014.

Respondent 14: 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 2.7% in 2013 and 2.9% in 2014, little different from December. 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 $92.50 for 2013Q4, and is unchanged at $90.00 for 2014Q4. This round, our federal fiscal assumptions differ some from the Tealbook: whereas the Tealbook has assumed a "modified sequester" in its forecast, we instead have incorporated full sequestration into our forecast. Our assessment of the additional fiscal restraint from assuming the full sequester rather than a modified sequester is a reduction of the 2013 real GDP growth rate of about 0.4 percentage points. 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 December. Given the impact of previously anticipated actions as well as the introduction of sequestration, we expect that the fiscal drag will be substantially greater in 2013 than in recent years, in large part because of the expiration of the payroll tax holiday, higher tax rates for higher-income taxpayers, and the implementation of

sequestration. This holds down the growth rate of real PCE and the personal saving rate over the first half of the year. Growth of real GDP over 2013H1 is likely to be around 2 1/4% (annual rate).

In 2013H2, we expect growth also to be around 2 1/4% (annual rate), reflecting two opposing factors: the greater drag from sequestration (we expect the impact to peak in Q2 and Q3) and the subsiding of headwinds such as those from household deleveraging and restricted access to credit. 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. Furthermore, world growth begins to pick up as the Euro area emerges from recession and Japan as well as emerging economies respond to fresh policy stimulus. Finally, the monetary accommodation in the US 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 be diminished, 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 1/2%, with business fixed investment providing a greater contribution. The unemployment rate is expected to decline by about one full percentage point over the year to 6 1/2%. These trends continue into 2015, with projected growth at a similar rate as in 2014 and the unemployment rate falling below 6%.

The increase of the total PCE deflator in 2013 is now expected to be 1.8%, reflecting opposing factors of somewhat higher-than-expected energy prices and somewhat lower than expected core PCE inflation (near 1 1/2% rather than the 1 3/4% expected in December). In 2014, as the economy begins to establish greater forward momentum and to reduce slack, we expect both total and core inflation to move gradually higher to around 2% for both. With inflation expectations anchored, inflation remains near its objective in 2015.

Respondent 15: I expect the economy to recover at a moderate rate from 2013 through 2015, reflecting a range of forces. On the positive side, I expect that low interest rates and expanding credit availability will stimulate interest-sensitive sectors; the housing recovery will continue to broaden and spill over to consumer spending and labor markets; and the healing labor market will support the economy's usual self-correcting forces. However, fiscal policy is likely to restrain growth throughout the forecast horizon, and the ongoing sovereign debt situation in Europe will contribute to uncertainty.

In this environment, I expect inflation to remain near 2 percent from 2013 through 2015. Recent inflation readings have been soft, outside of the February surge in gasoline prices that already looks to be unwinding. But with inflation expectations remaining well-anchored, recovery in the labor market will gradually push wage growth back toward historical norms, helping to limit disinflationary pressures.

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 16: Recent data are encouraging. There is a growing feeling that the recovery is entering a phase in which downside risks are no longer quite so prominent. Europe has become less of a preoccupation: uncertainty about European finances and the European outlook weighs less heavily on U.S. firms' decision making. Indeed, there are indications that the Europeans' problems are increasingly seen, on this side of the pond, as opportunities. Although still hesitant to expand their operations through hiring and CAPEX, U.S. corporations, flush with cash, have begun seeking

acquisitions here and abroad. This may be the last gasp of payroll "rationalization" in advance of a more substantial improvement in the labor market outlook. Disgust with fiscal policy and fiscal policymakers has, if anything, increased, but outside of the defense and medical sectors, businesses are, so far, unfazed by the sequester.

Inflation remains under control, in both directions. Deflation is not a serious concern.

Respondent 17: 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 be 2 percent over the forecast horizon. 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 18: I continue to think that the economy will progress in the near term. I am assuming a reasonable resolution of fiscal issues and that the European sovereign debt crisis does not intensify.

Respondent 19: I think that my central outlook is not all that different from the Tealbook's. 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 give rise to above-target inflation for some period of time.

I see multiple risks to the outlook.

1. There is uncertainty about the US fiscal situation, but I see the resultant risks as being balanced around my baseline outlook.

2. Inflation expectations could move downward. Currently, I feel that we're in a little bit of a "Wile E. Coyote" situation - we really have few policy tools available to combat a significant fall in inflation expectations. Fortunately, the public hasn't looked down yet!

3. The long-run unemployment rate consistent with 2% inflation may well move upwards in the next year or two. We need to stay alert to this possibility. Unlike risk (2), we do have tools that will allow us to respond to this outcome.

Forecast Narratives (continued)

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

Respondent 1: We have marked down our historical estimates of potential output growth, with the result of moving our assumption for the current level of the GDP gap closer to that in the Tealbook. Like the Tealbook, we made this change to better reconcile the GDP growth data with developments in the labor market. The reduction in the gap implies a smaller cyclical bounceback in growth. However, our projected degree of resource slack at the end of 2015 is about the same as in our December submission. The drag from federal fiscal policy in our current forecast is close to what we had assumed in December. The incoming data on inflation surprised on the downside, and we have marked down our projection accordingly.

Respondent 2: Since December, the data on spending and labor markets have been stronger than expected and, with stronger equity markets and housing prices, household balance sheets have improved. In addition, having skirted the fiscal cliff, fiscal uncertainty is somewhat lower. In my forecast, this momentum has been more than offset by reality of greater near-term fiscal contraction as well as a stronger dollar. Specifically, sequestration is a notable drag on economic activity over the next few quarters. With weaker growth, my unemployment path is a touch higher this year.

Reflecting recent data, core PCEPI inflation is a bit weaker in the first half of this year.

In terms of longer-run relationships, I am less concerned about permanent scarring effects from the challenging labor market environment of the past few years. Hence, I have lowered my longer-run unemployment estimate a bit. On its own, this revision would slightly raise the level of longer-run potential output. However, recent productivity data have continued to disappoint, and I now expect a lower longer-run growth rate of potential output. Consistent with this change, I have also reduced my estimate of the longer-run natural rate of interest.

Respondent 3: Changes to the real forecast have been minor, with stronger private sector growth offsetting a larger drag from fiscal policy. There have been no changes to the inflation forecast.

Respondent 4: My forecast is not substantially different from my previous submission.

Respondent 5: Given the roughly offsetting effects of recent better-than-expected data readings and the worse-than-expected sequester outcome, my forecasts for output growth are very close to those in the previous SEP. At the same time, I have adjusted my forecasts for unemployment down by a couple of tenths, in light of both recent labor market data, as well as the more general tendency seen in the last couple of years for unemployment to outperform relative to output–a tendency which I am now implicitly assuming will have a slightly greater degree of persistence going forward than I had previously thought. Or said differently, I am marking down potential output growth just a touch, which implies that unemployment will come down a bit faster for a given path of realized output growth.

Respondent 6: My forecast has changed only marginally since the December 2012 SEP. I adjusted downward my unemployment forecast marginally to take account of recent data. I also slightly reduced my estimate of longer run GDP growth and slightly raised my estimate of the longer-run fed funds rate. .

Respondent 7: The longer we experience real GDP growth close to 2 percent, the more weight I place on the possibility that we are already at trend, with little meaningful economic slack. Consequently, I have lowered my longer-run growth outlook since the last SEP.

Respondent 8: My forecast today is essentially unchanged from what I submitted in December.

Respondent 9: Since the December SEP, my forecasts have improved slightly for several reasons. First, I think that structural impediments in the economy (such as credit constraints arising from, e.g., improvement in the functioning of the HARP program and slight reductions in the amount of put-backs by the GSEs) have been slightly relieved, meaning that financial market variables are transfering to effects in the real economy with less attenuation. Secondly, I believe that the FOMC's credibility to communicate effectively its intent to provide growth-enhancing support has improved, to the ultimate benefit of possibly assisting in the ability to see more positive effects on the real economy. Thirdly, downside risks to the outlook emanating from Europe have been slightly (but probably only temporarily) reduced.

Respondent 10: Not much overall change. Data flow has been generally positive (employment report, UI claims, ISMs, retail sales, house prices, orders and shipments). Markets continue to signal greater optimism. However, federal fiscal policy is shaping up to be somewhat more restrictive than anticipated.

Respondent 11: Somewhat better than expected incoming data since December, particularly on job creation (including significant upward revisions in numbers for late last year).

Respondent 12: Since the December SEP, I have reduced my forecast for growth and increased my forecast for unemployment in 2013 and 2014 due to the fiscal cliff deal and sequestration. However, my forecasts for 2015 are basically unchanged. With somewhat weaker near-term growth, I have pushed the date for lift-off in the federal funds rate to 2014.

Respondent 13: The economy is a little stronger and my business contacts a little more optimistic. The fiscal negotiations have been less disruptive than I expected. In addition, there is reason to believe that we will get through the rest of this year without a government shutdown, a debt ceiling crisis, or significant additional near term fiscal tightening. On balance, that has led me to raise my GDP number for 2013.

Respondent 14: The resolution of the "fiscal cliff" at the turn of the year was roughly in line with our expectations in the December SEP, so it had little effect on our outlook. However, the implementation of sequestration was not anticipated, and we have raised the amount of fiscal drag for this year. In addition, we see a larger decline in federal government expenditures in 2014 than we previously had anticipated.

We had expected the end of the payroll tax holiday to have a significant restraining effect on consumer spending in the first quarter of this year. So far, the data on consumer spending have been stronger than we had expected, and hence we have raised our near-term projection for real PCE. Because of this and some additional surprises in other spending categories, our Q1 projection of real GDP growth projection has increased about one percentage point since the beginning of the year to around 2 1/2%. The effects of the stronger recent data and expected greater fiscal drag roughly offset, so the 2013 (Q4/Q4) real GDP growth projection is little changed from that in December, in part because we do not expect that the recent strength of consumer spending will be sustained. These surprises also had little net effect on the real activity forecast in the subsequent years of our projection.

The core inflation data at the end of 2012 were somewhat lower than we projected in December. In response, we have reduced modestly our near-term projections for core PCE inflation. However, because we see much of the reduction reflecting temporary factors, we have not made significant changes to our medium-term inflation projections.

Respondent 15: There have been three key developments since the December SEP. First, the incoming private sector data related to GDP growth and labor markets have been somewhat stronger than I had anticipated. In particular, the unemployment rate has surprised to the downside in the last several forecasting rounds. Second, fiscal policy over the next several years is likely to be a greater headwind compared with my previous forecast. Taking into account these developments, I see these factors as roughly offsetting in terms of their effects on GDP growth, but I have modestly reduced my expected path for the unemployment rate. The third development is that recent inflation readings have surprised to the downside, including those related to food price inflation, though I expect this softness to be transitory.

Respondent 16: The modal outlook has changed little relative to what I had previously submitted. Reflecting recent data releases, my projected path for the unemployment rate is modestly lower than before, as are my near-term inflation projections. The important change is that downside risks to the outlook have been trimmed.

Respondent 17: My forecast is the same as in the last SEP

Respondent 18: My inflation outlook has changed because I anticipate that our accommodative monetary policy will produce inflation in excess of 2 percent. I have made some minor adjustments to real GDP growth and inflation for 2013 based on recent data.

Respondent 19: The private sector has been stronger than I would have anticipated. That's led me to shift my assessment of risks to real economic activity to be balanced, as opposed to "weighted to the downside".

Forecast Narratives (continued)

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

Respondent 1: Relative to the Tealbook, we are projecting a somewhat lower unemployment rate by 2015, largely because we assume a quicker return of the natural rate to its long-run level. We are projecting somewhat higher inflation, in part reflecting the signalling effects of the more accommodative monetary policy in our forecast. Finally, we do not see as large of an increase in longer-term interest rates, in part due to our LSAP assumption and in part to be consistent with readings from our asset pricing models.

Respondent 2: I assume that sequestration is a slightly larger drag on the economy this year. Nevertheless, my forecast is broadly similar to the Tealbook projection.

Respondent 3: My forecast is conditioned on more policy stimulus than in the Tealbook. This additional stimulus supports a faster pace of GDP growth. When conditioned on the same policy assumptions, the two forecasts are very similar.

Respondent 4: N/A

Respondent 5: As before, I am very close to the Tealbook, though a shade more optimistic, particularly for unemployment.

Respondent 6: N/A

Respondent 7: With a lower amount of slack, I see a sustained period of above-trend growth as less likely. Inflation returns to 2 percent more rapidly. And I think the labor force participation rate is likely to decline more rapidly than in the Tealbook, and thus the unemployment rate should fall more rapidly.

Respondent 8: My inflation forecast follows a path closer to our longer-term inflation objective. Otherwise there are no important differences between my outlook and the Tealbook.

Respondent 9: N/A

Respondent 10: Slightly more pessimistic about sequester. Slightly more optimistic about potential growth.

Respondent 11: No major analytical differences.

Respondent 12: In comparison with Tealbook, I see greater inflationary pressures in the next few years from a 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. In addition, since I believe that the benefits of assets purchases are small while the potential costs are larger, I would tilt asset purchases toward Treasury securities, begin to taper asset purchases, and end them by the end of the year.

Respondent 13: N/A

Respondent 14: 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 mid-2013 as the Tealbook assumes. Because of the greater size and duration in the balance sheet over the forecast horizon, we thus assume that term premia rise to normal levels more slowly than in the Tealbook.

On fiscal policy, we assume that the full sequester will continue through the year, or that any substitute that is passed will have a similar fiscal restraint. We thus have somewhat more fiscal drag in our forecast than the "modified sequester" in the Tealbook. Our assessment of the difference between the full and modified sequester is similar to that of the Tealbook, about 1/4 percentage point on real GDP growth.

We see some of the headwinds restraining economic growth subsiding somewhat more quickly in 2014 than in the Tealbook. Thus we expect the output gap to begin to close more quickly that year, and our 2014 real GDP growth forecast is modestly above that of the Tealbook.

We expect a greater decline in the unemployment rate in 2014 than is projected in the Tealbook, even accounting for the differences in the GDP forecasts and having similar projections for the labor force participation rate. The source of this difference appears to be a different interpretation of labor market dynamics as expansions mature.

Besides the difference in the unemployment rate, 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 near 2% whereas the Tealbook has inflation fairly flat through 2015. 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 amount of downside risks that could emanate from fiscal policy after the realization of sequestration. For inflation, we agree 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 leaves uncertainty about both real activity and inflation above normal levels.

Respondent 15: My forecast is broadly similar to the Tealbook, with GDP growth rising over the forecast horizon and the unemployment rate moving lower. 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. One notable difference is that I do not expect as much disinflationary pressure on headline PCE inflation as the Tealbook forecasts; my forecast for headline PCE inflation is much closer to 2 percent.

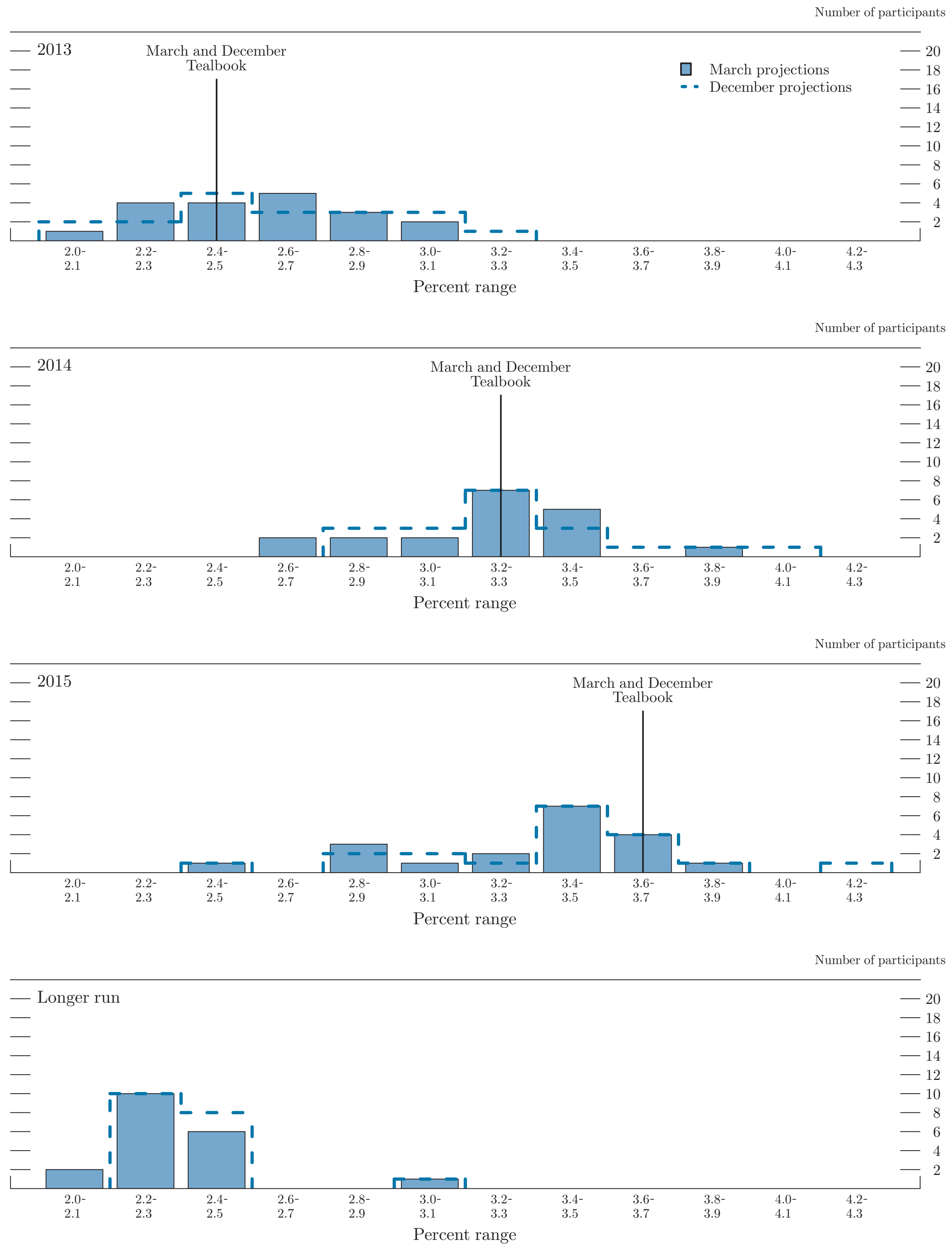
Respondent 16: I see somewhat faster GDP growth this year than does the Tealbook, with a correspondingly more rapid reduction in the unemployment rate. My inflation forecasts converge to 2 percent more quickly than do the Tealbook's. These differences imply that there is less need for monetary-policy accommodation.

Respondent 17: My forecast calls for stronger growth, higher inflation, and tighter monetary policy in 2013 than the Tealbook. I anticipate a lower unemployment rate than the Tealbook in 2013 and 2014.

Respondent 18: I anticipate faster real GDP growth in 2013 and slower real GDP growth in 2015 than the Tealbook. For 2013-2015, I foresee lower unemployment than the Tealbook. Finally, I anticipate an overshooting of inflation before its convergence to 2 percent.

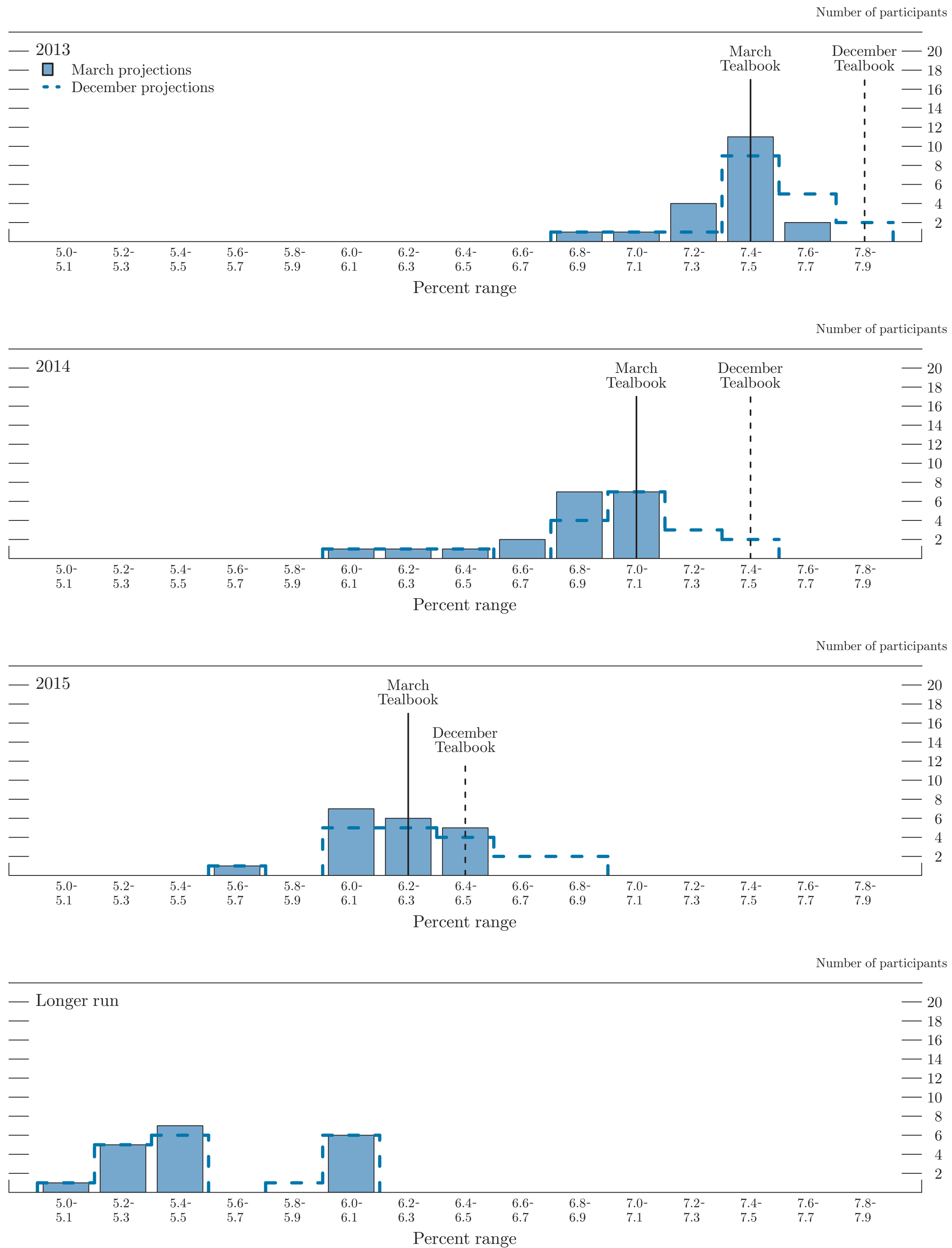
Respondent 19: My forecast has unemployment falling more rapidly and inflation being higher than does the Tealbook. That's because my path of appropriate policy is different than the Tealbook's assumed policy path.

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



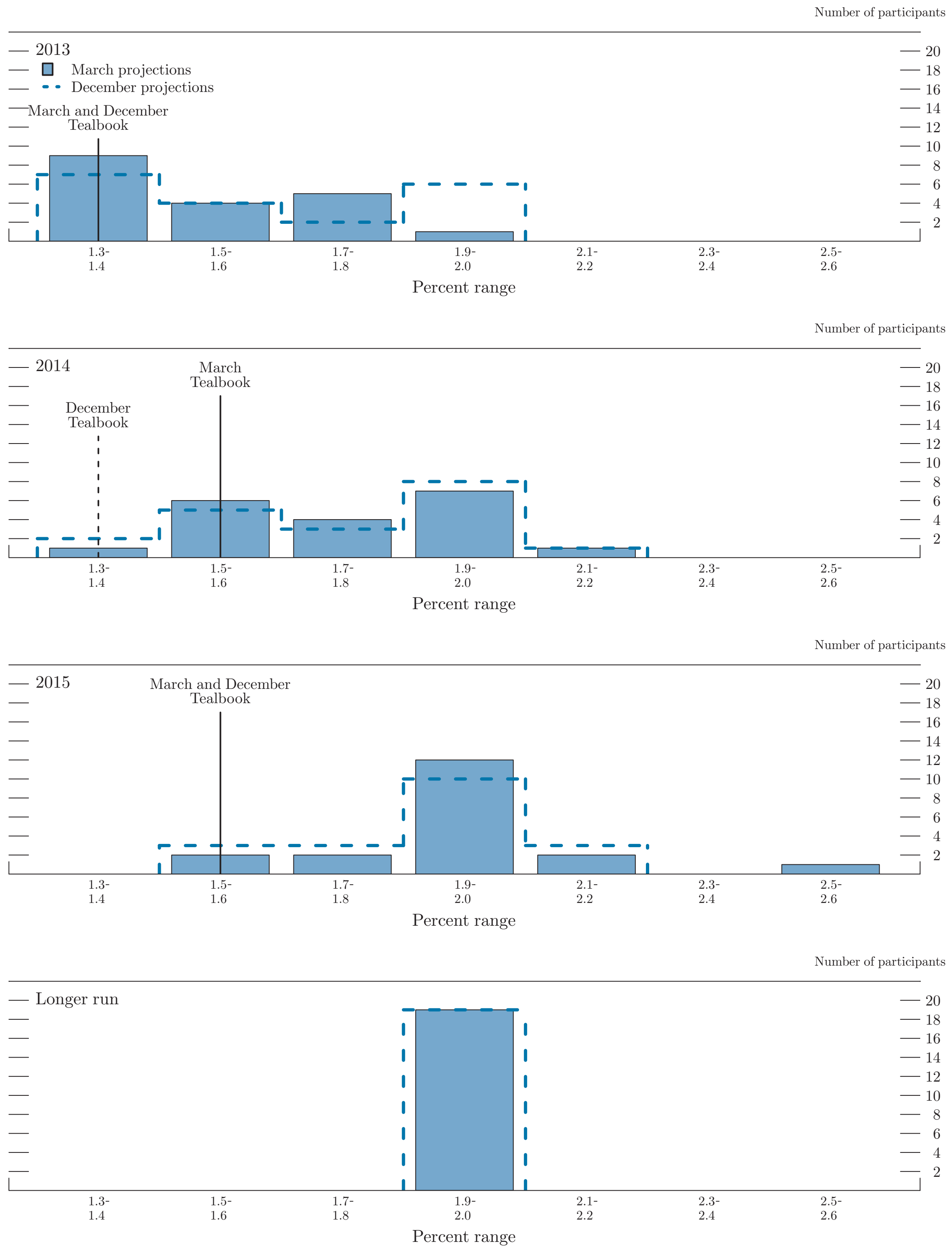
NOTE: Definitions of variables are in the general note to table 1.

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



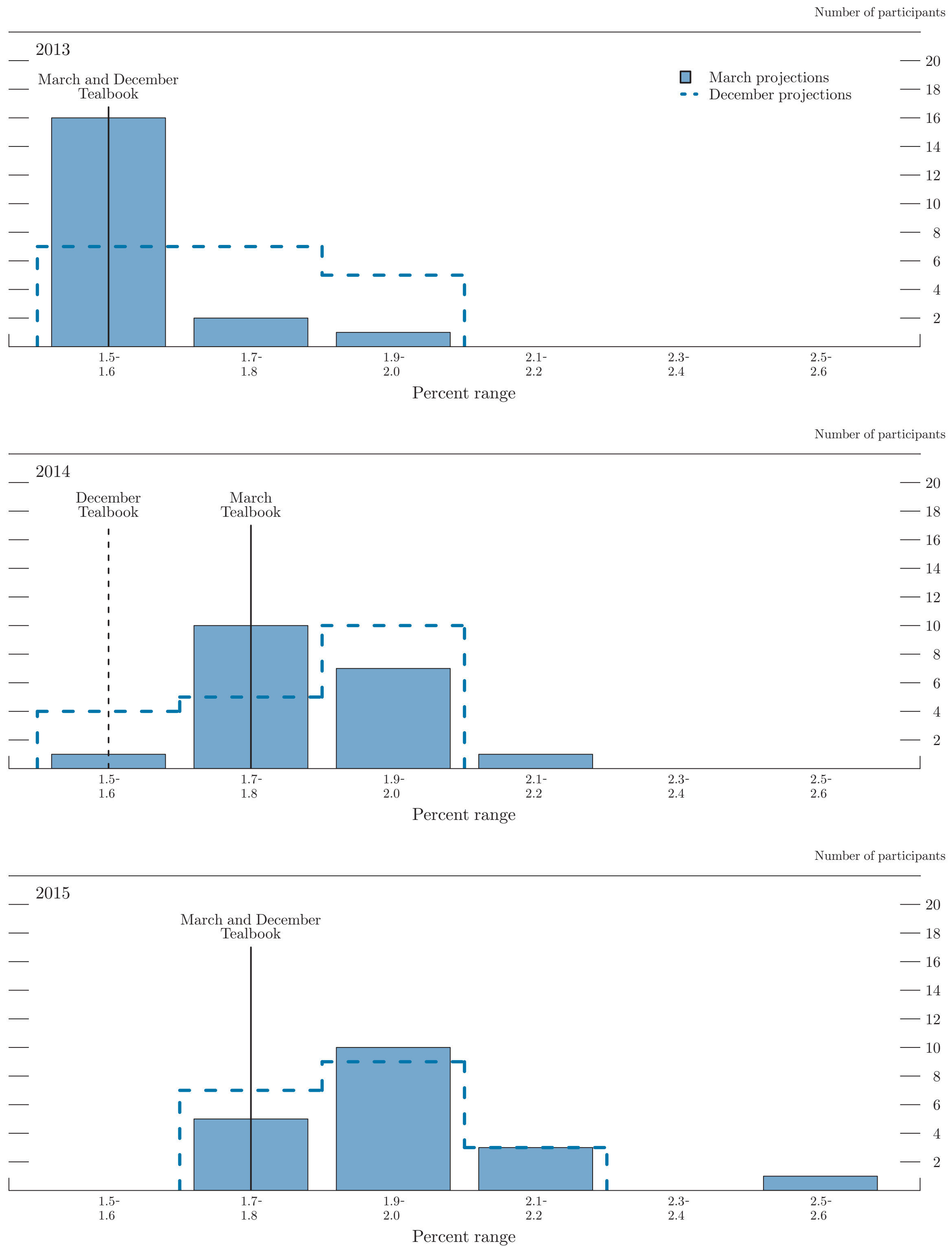
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2013–15 and over the longer run



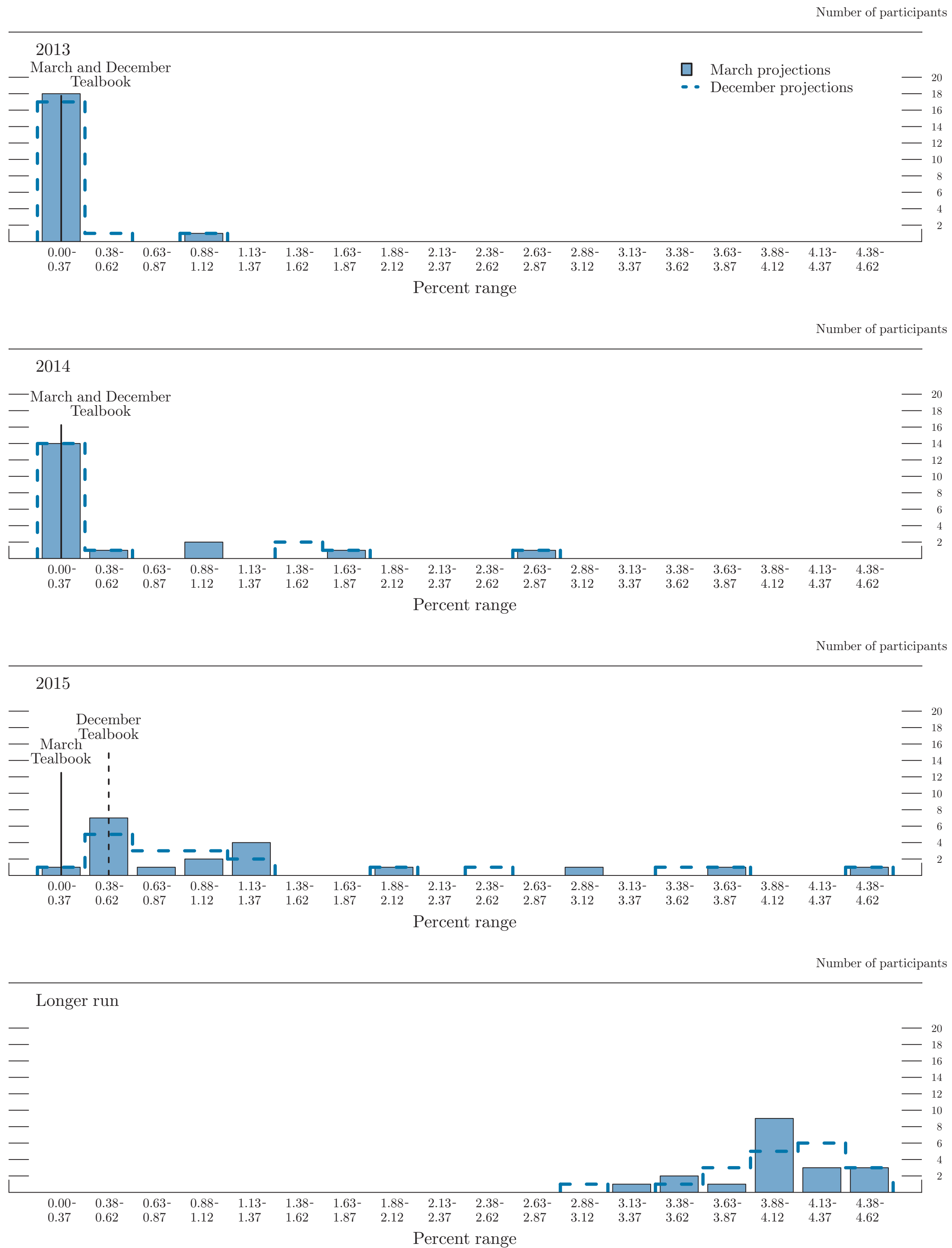
NOTE: Definitions of variables are in the general note to table 1.

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



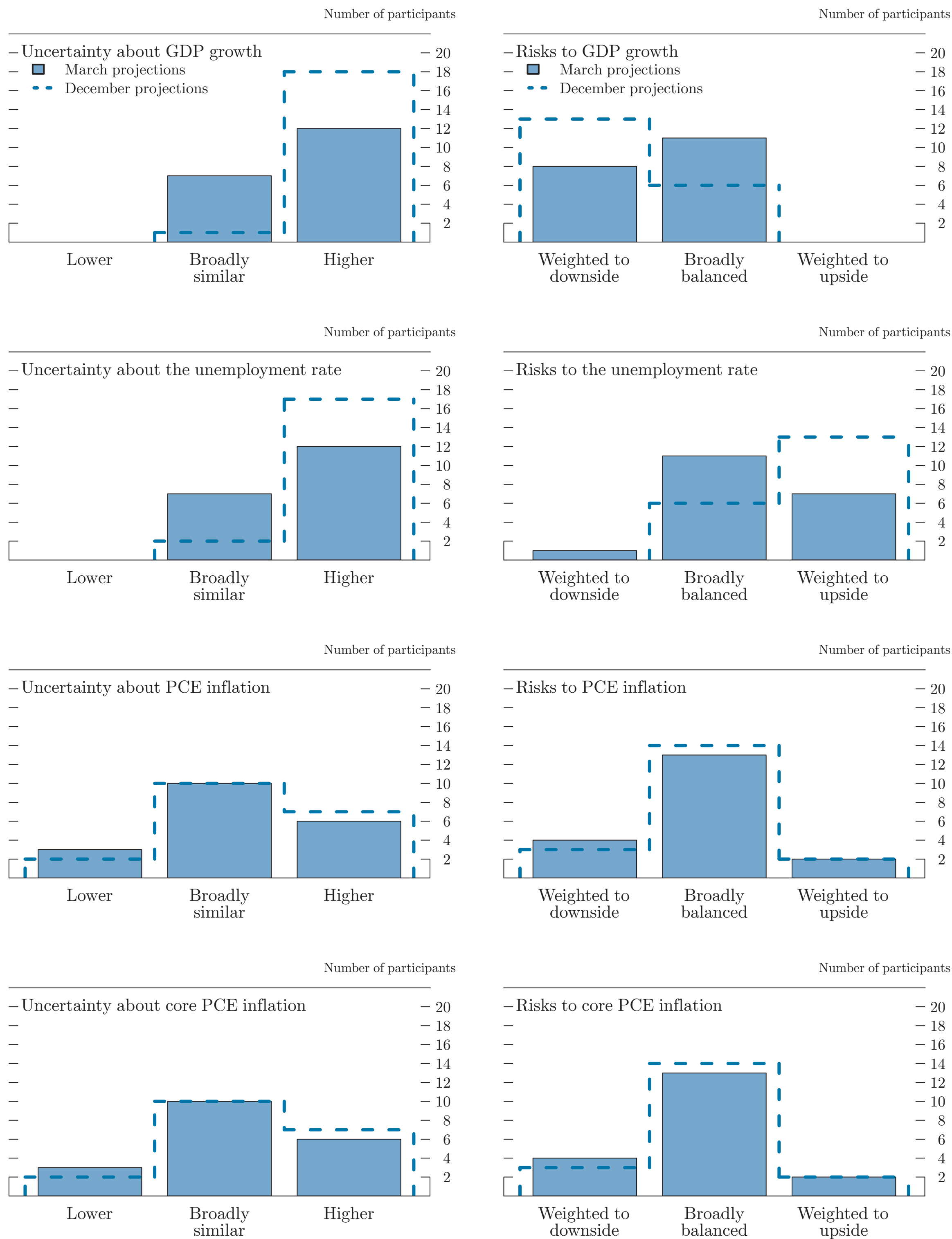
Note: Definitions of variables are in the general note to table 1.

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



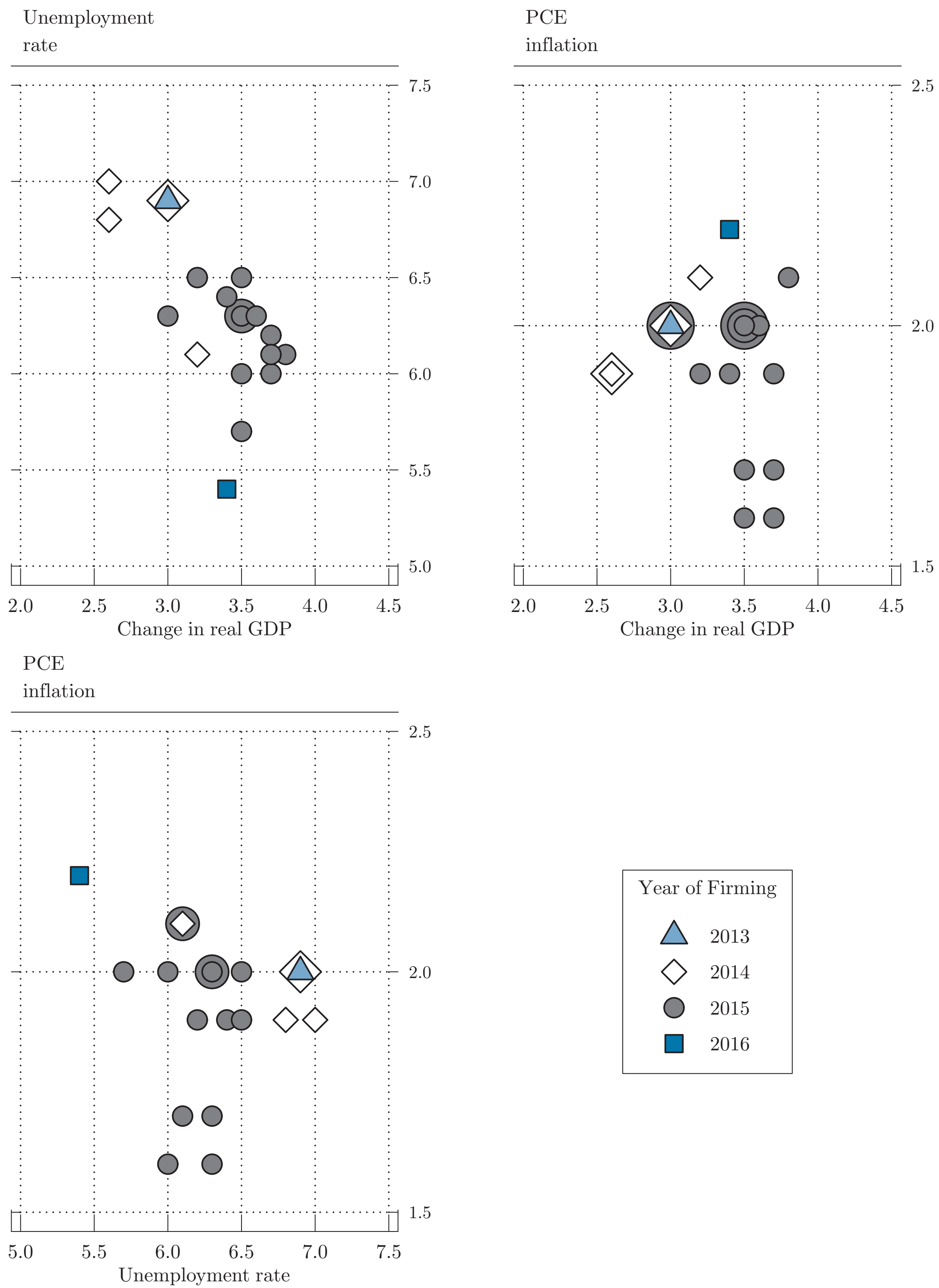
Note: The target federal funds rate is measured as the level of the target rate at the end of the calendar year or in the longer run.

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.