# Table 1: Economic Projections of Federal Reserve Governors and Reserve Bank Presidents [1]

| | 2008 | 2009 | 2010 |
|---|---|---|---|
| **Central Tendencies** | | | |
| Real GDP Growth | 0.3 to 1.2 | 2.0 to 2.8 | 2.6 to 3.1 |
| *January projections* | *1.3 to 2.0* | *2.1 to 2.7* | *2.5 to 3.0* |
| Unemployment Rate | 5.5 to 5.7 | 5.2 to 5.7 | 4.9 to 5.5 |
| *January projections* | *5.2 to 5.3* | *5.0 to 5.3* | *4.9 to 5.1* |
| PCE Inflation | 3.1 to 3.4 | 1.9 to 2.3 | 1.8 to 2.0 |
| *January projections* | *2.1 to 2.4* | *1.7 to 2.0* | *1.7 to 2.0* |
| Core PCE Inflation | 2.2 to 2.4 | 1.9 to 2.1 | 1.7 to 1.9 |
| *January projections* | *2.0 to 2.2* | *1.7 to 2.0* | *1.7 to 1.9* |
| **Ranges** | | | |
| Real GDP Growth | 0.0 to 1.5 | 1.8 to 3.0 | 2.0 to 3.4 |
| *January projections* | *1.0 to 2.2* | *1.8 to 3.2* | *2.2 to 3.2* |
| Unemployment Rate | 5.3 to 6.0 | 5.2 to 6.3 | 4.8 to 5.9 |
| *January projections* | *5.0 to 5.5* | *4.9 to 5.7* | *4.7 to 5.4* |
| PCE Inflation | 2.8 to 3.8 | 1.7 to 3.0 | 1.5 to 2.0 |
| *January projections* | *2.0 to 2.8* | *1.7 to 2.3* | *1.5 to 2.0* |
| Core PCE Inflation | 1.9 to 2.5 | 1.7 to 2.2 | 1.3 to 2.0 |
| *January projections* | *1.9 to 2.3* | *1.7 to 2.2* | *1.4 to 2.0* |

1. Projections of real GDP growth, PCE inflation and core PCE inflation are fourth-quarter-to-fourth-quarter growth rates, i.e. percentage changes from the fourth quarter of the prior year to the fourth quarter of the indicated year. PCE inflation and core PCE inflation are the percentage rates of change in the price index for personal consumption expenditures and the price index for personal consumption expenditures excluding food and energy, respectively. Each participant's projections are based on his or her assessment of appropriate monetary policy. The range for each variable in a given year includes all participants' projections, from lowest to highest, for that variable in the given year; the central tendencies exclude the three highest and three lowest projections for each variable in each year.

# Table 1a

## Economic Projections for the First Half of 2008[1]

### Central Tendencies and Ranges

| | Central Tendency | Range |
|---|---|---|
| **Real GDP Growth** | -0.5 to 0.5 | -0.5 to 0.6 |
| **Total PCE Inflation** | 3.5 to 4.0 | 3.0 to 4.4 |
| **Core PCE Inflation** | 2.1 to 2.4 | 2.0 to 2.5 |

### Participants' Projections

| Projection | Real GDP Growth | Total PCE Inflation | Core PCE Inflation |
|---|---|---|---|
| 1 | 0.0 | 4.0 | 2.3 |
| 2 | -0.4 | 3.8 | 2.1 |
| 3 | -0.5 | 3.6 | 2.1 |
| 4 | 0.5 | 3.3 | 2.4 |
| 5 | -0.5 | 3.8 | 2.2 |
| 6 | 0.5 | 3.0 | 2.2 |
| 7 | -0.1 | 3.6 | 2.4 |
| 8 | 0.0 | 4.0 | 2.2 |
| 9 | 0.4 | 4.4 | 2.4 |
| 10 | -0.4 | 4.0 | 2.2 |
| 11 | 0.0 | 3.5 | 2.0 |
| 12 | -0.4 | 3.8 | 2.2 |
| 13 | 0.2 | 3.5 | 2.3 |
| 14 | 0.0 | 3.7 | 2.2 |
| 15 | 0.6 | 3.9 | 2.2 |
| 16 | 0.0 | 3.8 | 2.3 |
| 17 | 0.5 | 3.5 | 2.5 |

1. Growth and inflation are reported at annualized rates.

# Table 1b

## Implied Economic Projections for the Second Half of 2008[1]

### Central Tendencies and Ranges

| | Central Tendency | Range |
|---|---|---|
| **Real GDP Growth** | 1.0 to 1.9 | 0.5 to 2.9 |
| **Total PCE Inflation** | 2.5 to 3.2 | 2.3 to 3.6 |
| **Core PCE Inflation** | 2.2 to 2.4 | 1.7 to 2.7 |

### Participants' Projections

| Projection | Real GDP Growth | Total PCE Inflation | Core PCE Inflation |
|---|---|---|---|
| 1 | 1.6 | 2.6 | 2.3 |
| 2 | 0.8 | 2.4 | 2.1 |
| 3 | 2.9 | 2.4 | 1.7 |
| 4 | 2.5 | 2.3 | 2.4 |
| 5 | 0.5 | 2.8 | 2.2 |
| 6 | 1.5 | 2.6 | 2.2 |
| 7 | 1.1 | 2.8 | 2.4 |
| 8 | 1.0 | 3.6 | 2.4 |
| 9 | 1.2 | 2.6 | 2.4 |
| 10 | 1.6 | 2.6 | 2.2 |
| 11 | 0.4 | 3.3 | 2.2 |
| 12 | 1.0 | 2.6 | 2.4 |
| 13 | 1.6 | 3.1 | 2.7 |
| 14 | 1.6 | 2.5 | 2.2 |
| 15 | 2.4 | 2.9 | 2.2 |
| 16 | 1.6 | 2.6 | 2.5 |
| 17 | 1.9 | 3.5 | 2.5 |

1. Projections for the second half of 2008 implied by participants' April projections for the first half of 2008 and for 2008 as a whole. Growth and inflation are reported at annualized rates.

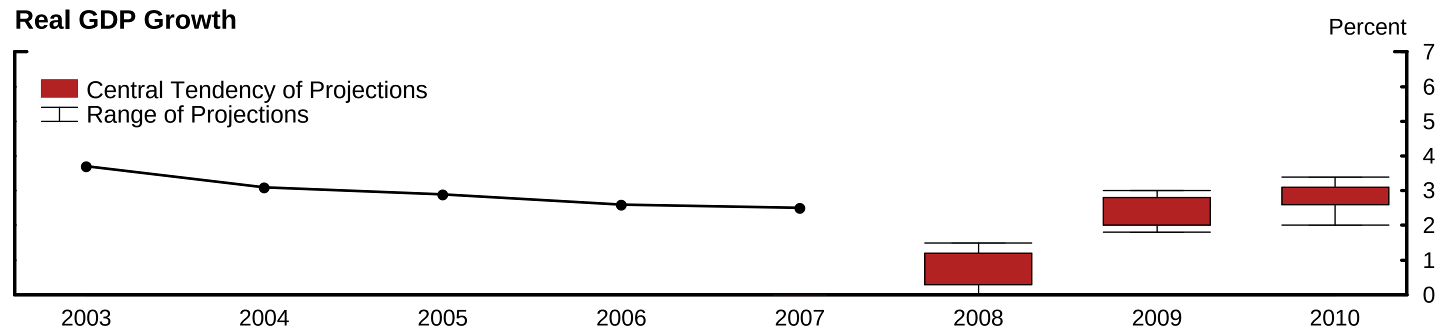
# Table 2: April Economic Projections

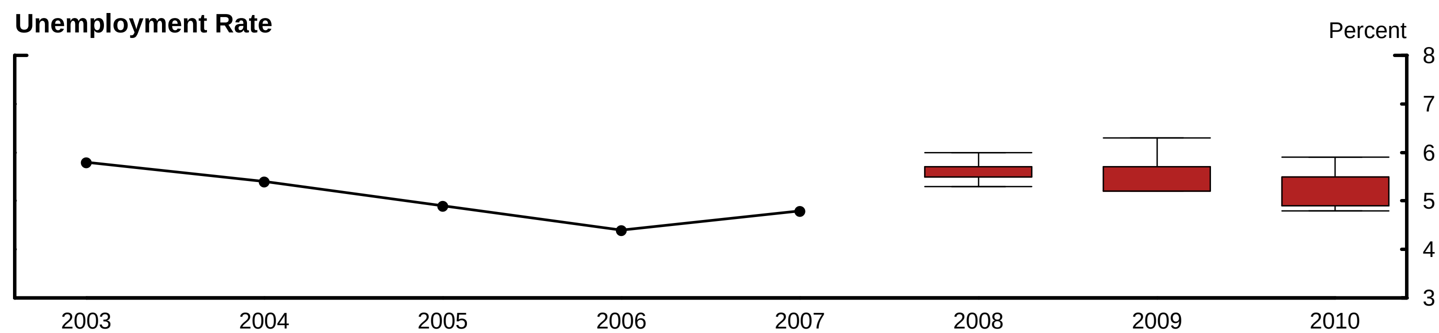
| Respondent | Year | | GDP Growth | Unemployment Rate | Total PCE Inflation | Core PCE Inflation |
|---|---|---|---|---|---|---|
| | | | | | | |
| 1 | 2008 | | 0.8 | 5.4 | 3.3 | 2.3 |
| 2 | 2008 | | 0.2 | 5.7 | 3.1 | 2.1 |
| 3 | 2008 | | 1.2 | 5.8 | 3.0 | 1.9 |
| 4 | 2008 | | 1.5 | 5.6 | 2.8 | 2.4 |
| 5 | 2008 | | 0.0 | 5.6 | 3.3 | 2.2 |
| 6 | 2008 | | 1.0 | 5.6 | 2.8 | 2.2 |
| 7 | 2008 | | 0.5 | 5.7 | 3.2 | 2.4 |
| 8 | 2008 | | 0.5 | 5.5 | 3.8 | 2.3 |
| 9 | 2008 | | 0.8 | 5.7 | 3.5 | 2.4 |
| 10 | 2008 | | 0.6 | 5.7 | 3.3 | 2.2 |
| 11 | 2008 | | 0.2 | 6.0 | 3.4 | 2.1 |
| 12 | 2008 | | 0.3 | 5.7 | 3.2 | 2.3 |
| 13 | 2008 | | 0.9 | 5.5 | 3.3 | 2.5 |
| 14 | 2008 | | 0.8 | 5.5 | 3.1 | 2.2 |
| 15 | 2008 | | 1.5 | 5.3 | 3.4 | 2.2 |
| 16 | 2008 | | 0.8 | 5.5 | 3.2 | 2.4 |
| 17 | 2008 | | 1.2 | 5.5 | 3.5 | 2.5 |
| | | | | | | |
| 1 | 2009 | | 2.8 | 5.2 | 2.0 | 2.0 |
| 2 | 2009 | | 2.5 | 5.6 | 1.9 | 2.0 |
| 3 | 2009 | | 3.0 | 5.5 | 1.7 | 1.8 |
| 4 | 2009 | | 2.7 | 5.3 | 2.2 | 2.0 |
| 5 | 2009 | | 2.0 | 5.8 | 2.0 | 2.0 |
| 6 | 2009 | | 2.6 | 5.7 | 2.0 | 2.0 |
| 7 | 2009 | | 2.4 | 5.6 | 2.0 | 1.9 |
| 8 | 2009 | | 2.0 | 5.8 | 2.8 | 2.1 |
| 9 | 2009 | | 2.0 | 5.4 | 2.4 | 2.2 |
| 10 | 2009 | | 2.3 | 5.7 | 2.0 | 1.8 |
| 11 | 2009 | | 1.8 | 6.3 | 2.3 | 1.7 |
| 12 | 2009 | | 2.4 | 5.2 | 2.0 | 2.0 |
| 13 | 2009 | | 2.3 | 5.5 | 2.1 | 2.1 |
| 14 | 2009 | | 3.0 | 5.2 | 1.8 | 1.9 |
| 15 | 2009 | | 2.7 | 5.2 | 1.7 | 2.0 |
| 16 | 2009 | | 2.0 | 5.3 | 2.1 | 2.1 |
| 17 | 2009 | | 3.0 | 5.2 | 3.0 | 2.2 |

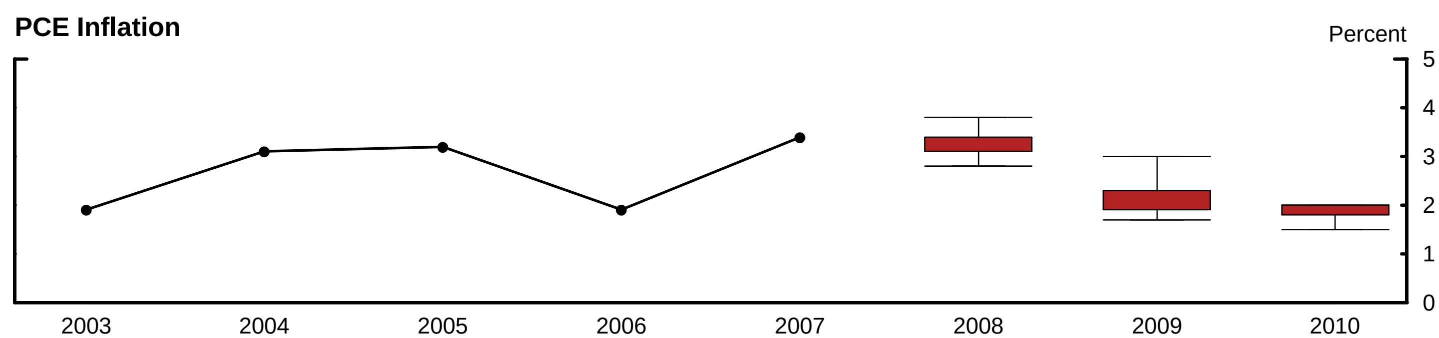
## Table 2 (continued): April Economic Projections

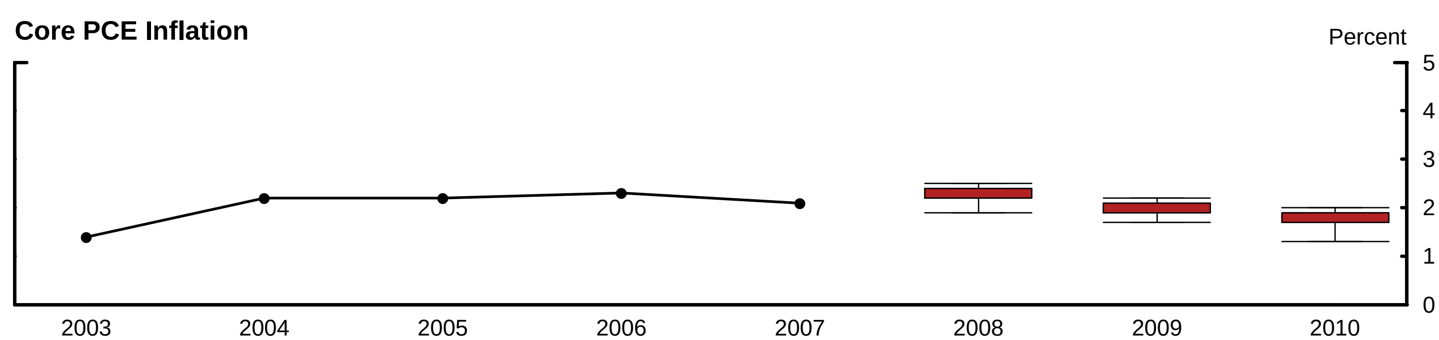
| Respondent | Year | | GDP Growth | Unemployment Rate | Total PCE Inflation | Core PCE Inflation |
|---|---|---|---|---|---|---|
| | | | | | | |
| 1 | 2010 | | 3.0 | 4.9 | 1.8 | 1.8 |
| 2 | 2010 | | 3.1 | 5.3 | 2.0 | 2.0 |
| 3 | 2010 | | 2.6 | 5.2 | 1.8 | 1.8 |
| 4 | 2010 | | 2.7 | 5.1 | 1.7 | 1.7 |
| 5 | 2010 | | 3.0 | 5.6 | 1.8 | 1.8 |
| 6 | 2010 | | 3.0 | 5.4 | 1.9 | 1.8 |
| 7 | 2010 | | 2.6 | 5.3 | 1.8 | 1.8 |
| 8 | 2010 | | 2.8 | 5.5 | 2.0 | 1.8 |
| 9 | 2010 | | 2.0 | 5.3 | 2.0 | 2.0 |
| 10 | 2010 | | 3.2 | 5.4 | 1.8 | 1.7 |
| 11 | 2010 | | 3.2 | 5.9 | 1.5 | 1.3 |
| 12 | 2010 | | 2.9 | 4.9 | 1.9 | 1.9 |
| 13 | 2010 | | 2.5 | 5.5 | 1.8 | 1.8 |
| 14 | 2010 | | 3.0 | 4.9 | 1.7 | 1.7 |
| 15 | 2010 | | 3.4 | 4.8 | 2.0 | 2.0 |
| 16 | 2010 | | 2.5 | 5.0 | 1.9 | 1.9 |
| 17 | 2010 | | 2.7 | 5.0 | 2.0 | 1.5 |

# Chart 1: Central Tendencies and Ranges of Economic Projections*



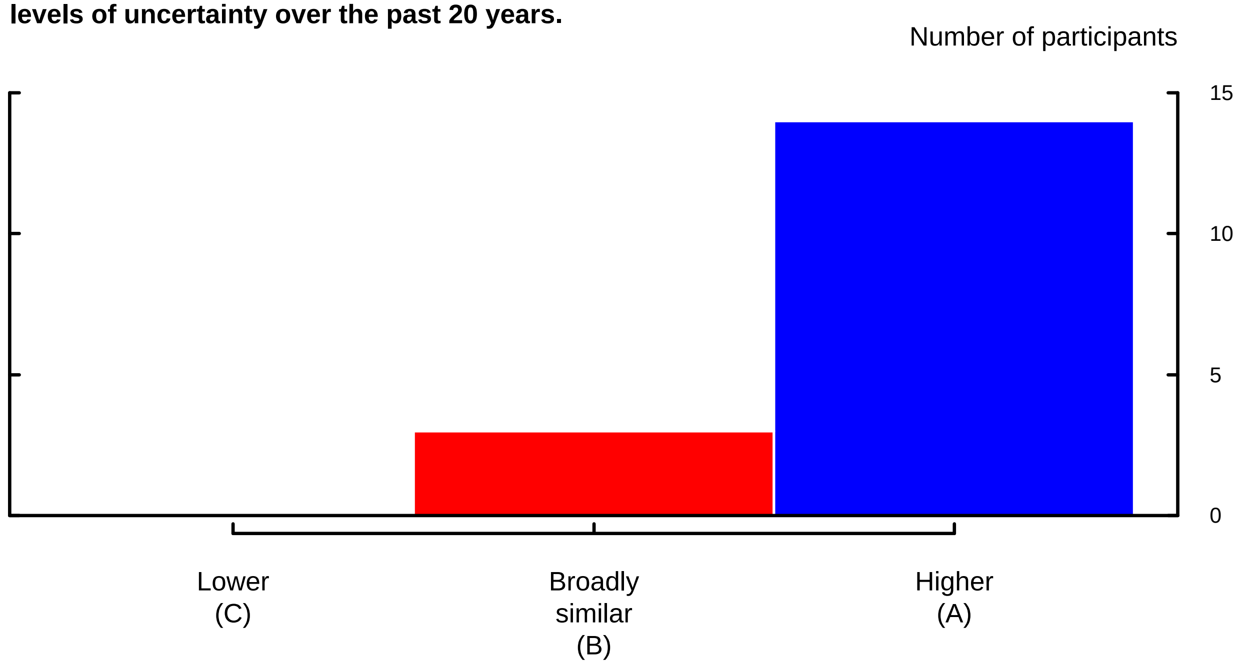



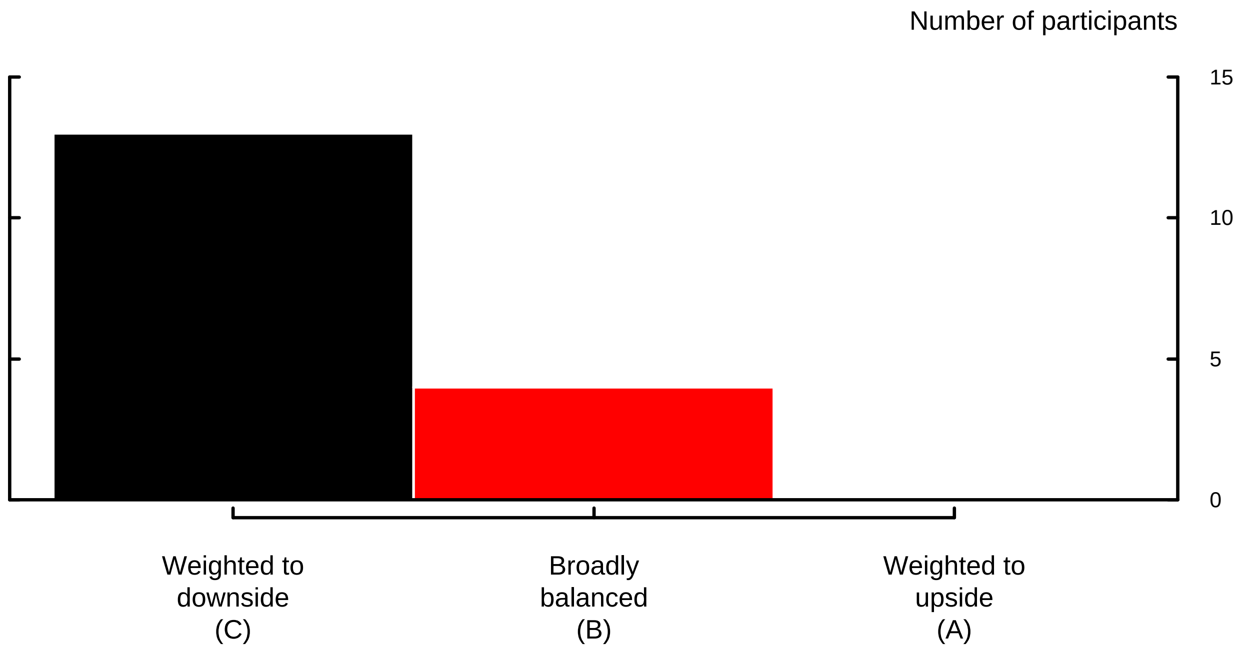

* See notes to Table 1 for variable definitions.

# 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.**

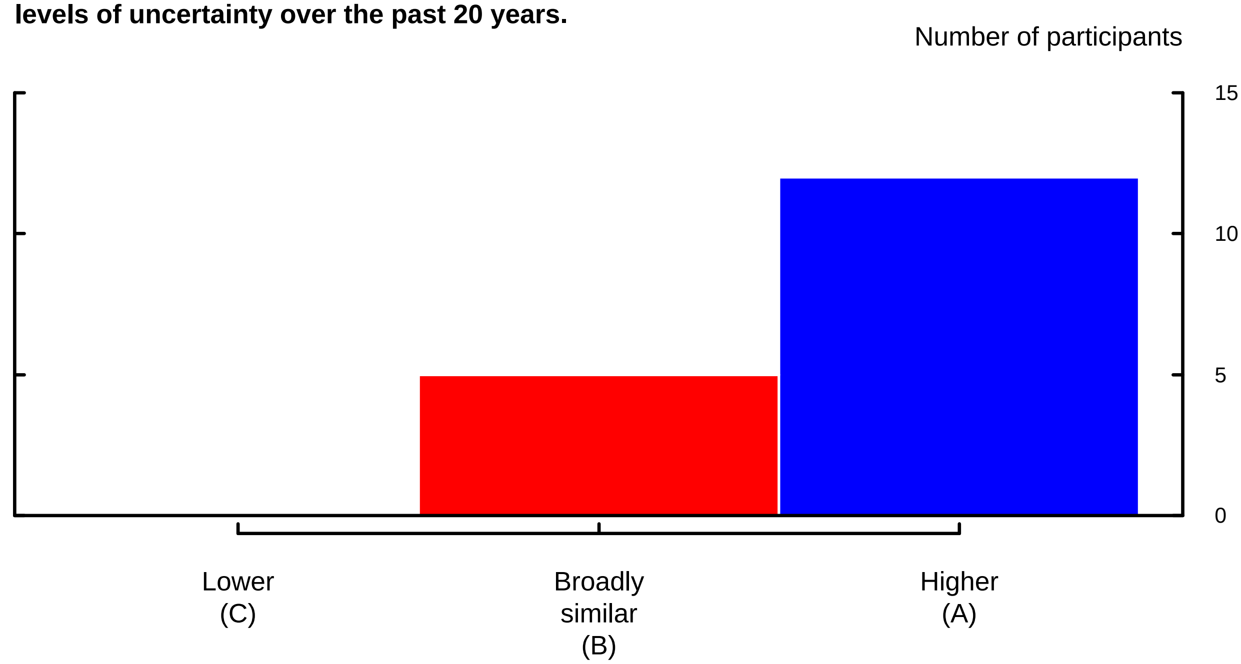



**Individual Responses**

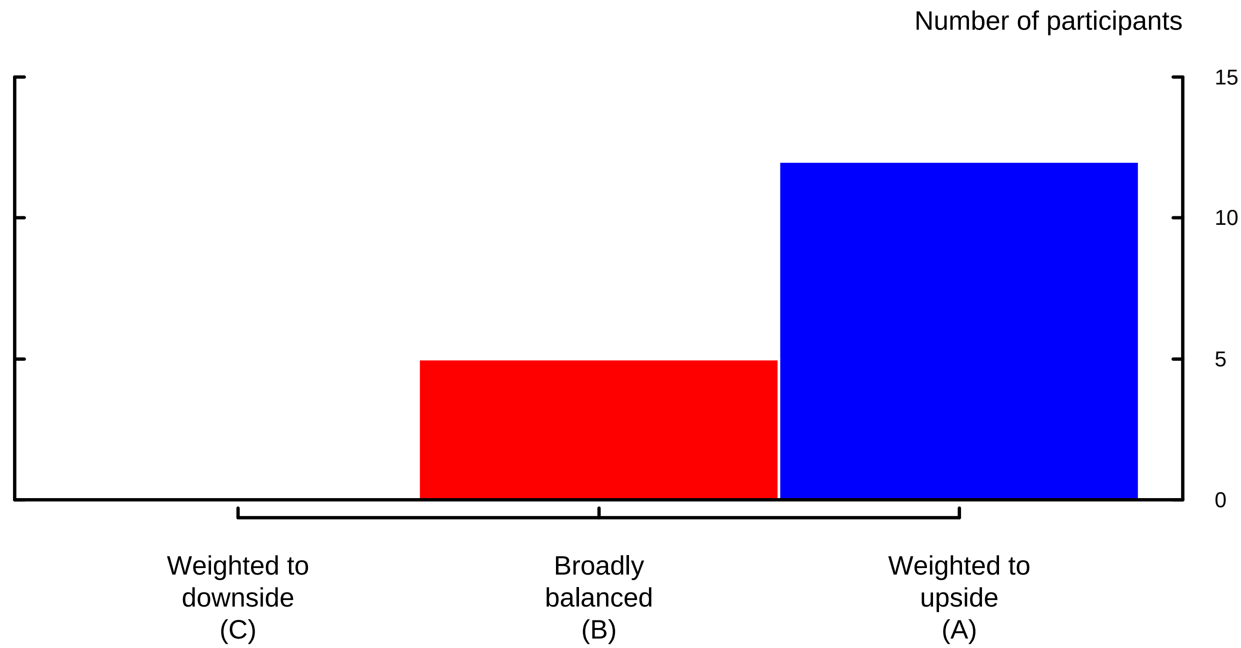
| Respondent | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2(a) | A | A | A | B | A | A | A | A | A | A | A | A | B | A | A | A | B |
| 2(b) | C | C | C | B | B | C | C | C | C | C | C | C | B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

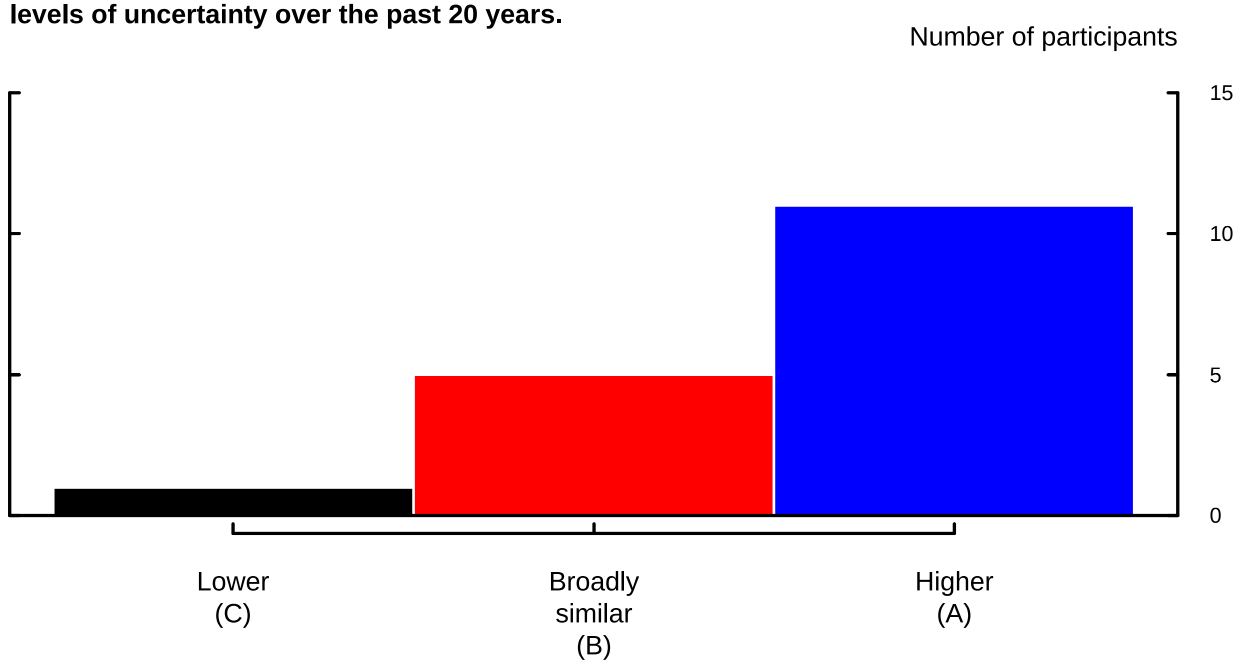



**Individual Responses**

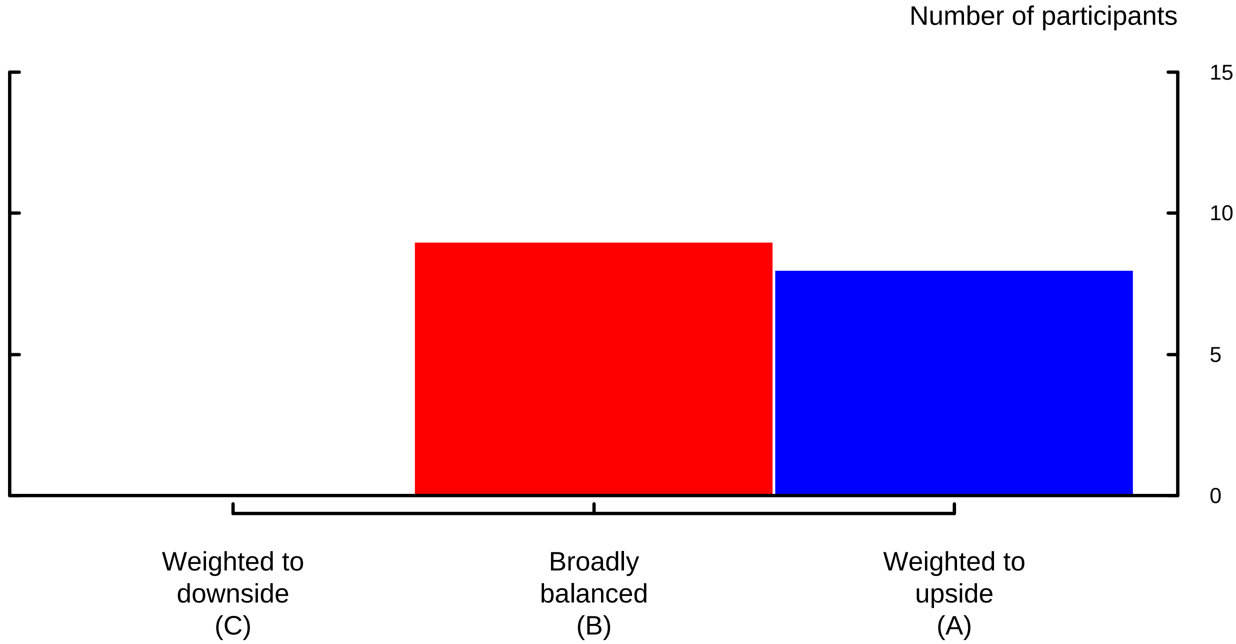
| Respondent | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2(a) | A | A | A | B | B | A | A | A | B | A | A | A | B | A | A | A | B |
| 2(b) | A | A | A | B | B | A | A | A | B | A | A | A | B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

## Uncertainty and Risks - Total 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.**

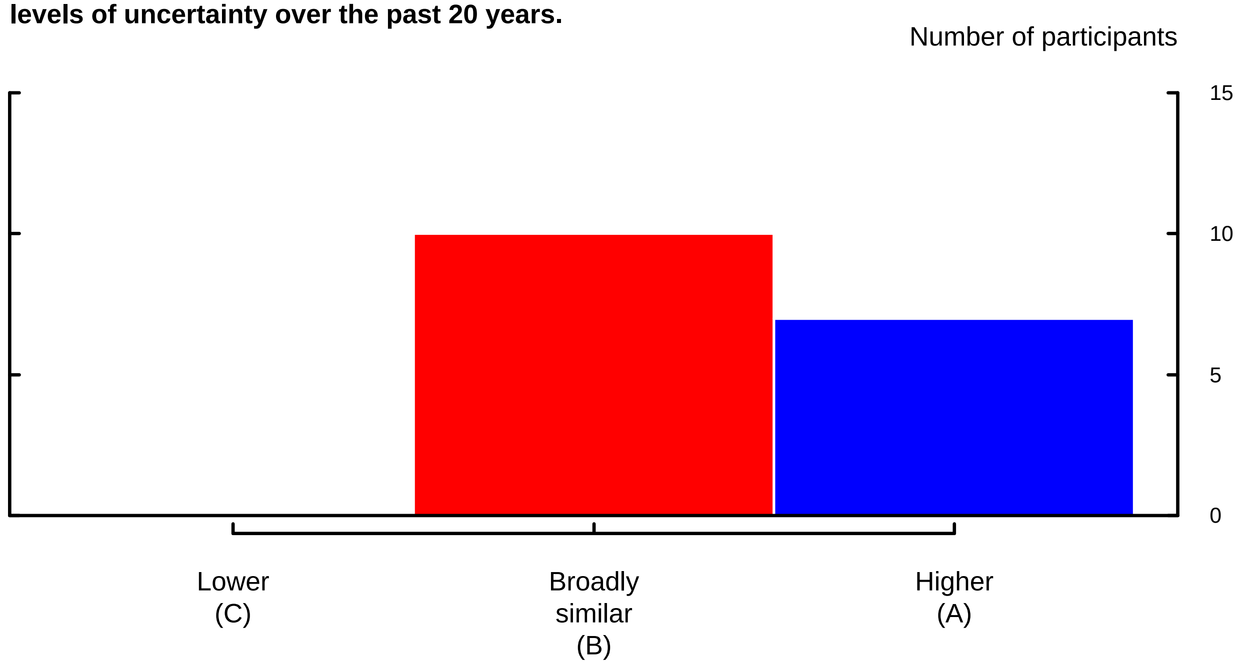



**Individual Responses**

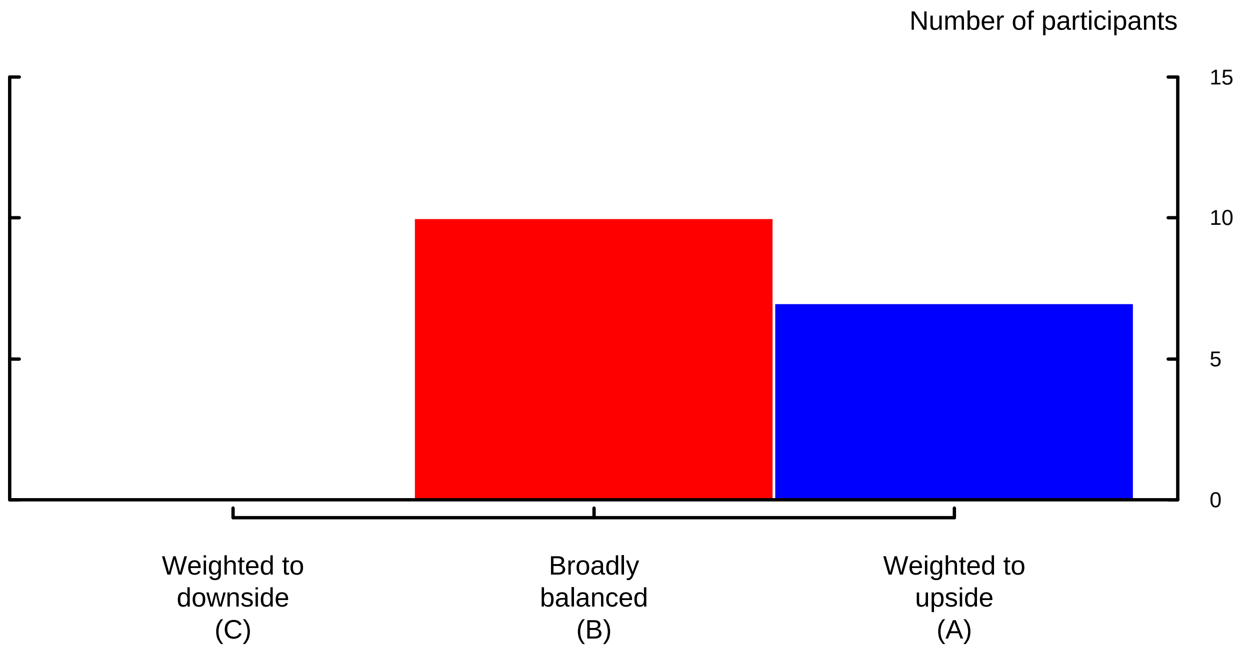
| Respondent | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2(a) | A | B | A | B | A | A | A | A | A | A | C | A | A | B | B | A | B |
| 2(b) | A | B | B | A | B | A | A | A | A | B | B | B | A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

# 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2(a) | A | B | A | B | B | B | A | A | A | B | B | B | A | B | B | A | B |
| 2(b) | B | B | B | A | B | A | A | A | A | B | B | B | A | B | B | A | B |

# Forecast Narratives

## 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:**
Higher uncertainty around GDP growth reflects the uncertainty about the evolution of financial markets and their effects on spending. Higher uncertainty around prices reflects a sense we do not understand the reasons for the persistent surprises on energy and other commodity prices and about the resulting feedthrough to core prices. In addition, elevated uncertainty about the output gap translates into elevated uncertainty about inflation.

**Respondent 2:**
N/A

**Respondent 3:**
Quantitative judgment based on standard deviation of FRBNY forecast distribution for GDP growth and core PCE inflation relative to those reported in Reifschneider and Tulip.

**Respondent 4:**
Uncertainty rises near cyclical turning points. This time is similar.

**Respondent 5:**
There is greater uncertainty associated with my projections of GDP growth in comparison with the experience of the past 20 years because of the severity of problems in financial institutions and markets and questions about the effectiveness of fiscal policy stimulus. There is also greater than "normal" uncertainty attached to my projections of PCE inflation because of the volatility of energy and other commodity prices.

**Respondent 6:**
N/A

**Respondent 7:**
No Comments

**Respondent 8:**
N/A

**Respondent 9:**
N/A

**Respondent 10:**
N/A

**Respondent 11:**
I attach more uncertainty to the path of GDP and unemployment in recessions than in expansions. Under appropriate monetary policy, the uncertainty surrounding inflation ought to be lower than it has been over the last 20 years.

**Respondent 12:**
N/A

**Respondent 13:**
N/A

**Respondent 14:**
The size and persistence of the financial shock and housing cycle raise the forecast uncertainty for real economic activity.

**Respondent 15:**
N/A

**Respondent 16:**
N/A

**Respondent 17:**
N/A

# Forecast Narratives

## 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:**
Although financial conditions have stabilized, a further sudden deterioration still seems more likely than a sudden unexpected improvement, and hence the downside risks to growth and employment. For total inflation, commodity prices seem more likely to rise unexpectedly than to fall, based on recent history. For core, this upside risk is off set by the downside risk to growth.

**Respondent 2:**
On GDP growth, I do see more downside risk than upside risk, but by much less than my January projection. Thus if the scale was more nuanced, I would have checked off something in between broadly balanced and weighted to downside. Similarly on the unemployment rate, I would have checked off something in between weighted to upside and broadly balance.

**Respondent 3:**
Quantitative judgment based on the difference between projection and expected value from FRBNY forecast distribution.

**Respondent 4:**
I have revised down my growth forecast since January. Risks to growth are balanced relative to my new forecast. Given the monetary policy accommodation in the pipeline and the year-to-date data on inflation and inflation expectations, inflation risks remain to the upside.

**Respondent 5:**
N/A

**Respondent 6:**
It is still highly uncertain whether the economy has fully shifted into a recessionary regime, but the potential for it do so is an important risk.

We could be wrong about the degree of persistence in the recent good news on core inflation. And the current low level of gasoline margins suggests a risk of larger increases in consumer energy prices.

**Respondent 7:**
I believe the downside risks to the economy are nearly balanced with the upside risks to inflation.

**Respondent 8:**
N/A

**Respondent 9:**
N/A

**Respondent 10:**
Risks to total inflation are broadly balanced but perhaps a bit to the upside, due to possibility that increases in energy and food prices may continue.

**Respondent 11:**
N/A

**Respondent 12:**
N/A

**Respondent 13:**
N/A

**Respondent 14:**
The severity of the financial shock and housing collapse have consistently exceeded expectations and provide some downside risks for real activity.

**Respondent 15:**
N/A

**Respondent 16:**
N/A

**Respondent 17:**
N/A

# Appropriate Monetary Policy

## 3. Does your view of the appropriate path of interest rates differ materially from the interest rate assumed by the staff in the Greenbook?

| YES | NO |
|---|---|
| 14 | 3 |

**Respondent 1:** Yes
Assumed a 25 bp decrease at this meeting followed by a period of stability and a gentle rise in 09 and 10 as financial conditions improve and the output gap closes.

**Respondent 2:** Yes
I condition on 25 basis point cut at the April FOMC meeting and possibly another 25bp by the June FOMC meeting, then back up to 3.0 by early 2009.

**Respondent 3:** Yes
FFR target at 2.0% by the end of 2008Q2 at the latest. Then renormalized with the target rate at 3.5% by end of 2009 and 4.25% in 2010. In the short-run the risks are to the downside around this path with a similar magnitude to the model based probabilities shown in the Bluebook box on the likelihood of reaching low rates, in the medium term they are more balanced.

**Respondent 4:** Yes
My policy path is considerably steeper than the Greenbook baseline policy path assumption. My forecast calls for the funds rate to begin rising in 2008Q4, reaching 4.0 percent some time in 2009Q3, and remaining there in 2010. In my view, in order to keep inflation from rising, the FOMC needs to be aggressive in taking back the insurance it has put in place.

**Respondent 5:** Yes
I do not expect the Federal funds rate to decline quite as much in 2008 as in the Greenbook, and I expect it to rise somewhat more in 2010 than the Greenbook projection.

**Respondent 6:** Yes
We've assumed a roughly flat funds rate path for the rest of the year, followed by a rising path similar to market expectations beginning in early 2009.

**Respondent 7:** No
N/A

**Respondent 8:** Yes
The appropriate near-term funds-rate path lies somewhat above the Greenbook assumption.

**Respondent 9:** Yes
Assume rates are lowered to 2% at upcoming meeting, and then increase slowly starting 4Q 2008

**Respondent 10:** No
N/A

**Respondent 11:** Yes
Appropriate policy would be designed to bring about 1.5 percent overall PCE inflation within a couple of years. That is likely to require raising the funds rate later this year or early next year.

**Respondent 12:** Yes

I assume some increase in the federal funds rate during 2009.

**Respondent 13:** Yes
I assume the federal funds rate remains at 2.25 percent through the end of this year. I then assume the funds rate begins to increase significantly in 2009 and returns to neutral by the first half of 2010.

**Respondent 14:** Yes
I assume that the funds rate falls to 1-3/4 percent by the end of the current quarter (as in Greenbook) and remains there until the second half of 2009. It gradually rises to 2-1/2 percent in 2009.Q4 and to 4-1/4 percent in 2010.Q4.

**Respondent 15:** Yes
The appropriate path for the Federal Funds rate involves more easing in the near term (roughly 50 basis points of additional easing) than what is assumed in the Greenbook. Monetary policy then remains on hold until late 2009. At that point, the Federal Funds rate starts to increase gradually, reaching 2 $\frac{1}{2}$ percent by the end of 2010. The assumed accommodative stance for the Federal Funds rate provides the stimulus necessary to bring the unemployment rate down to our estimate of the NAIRU by the end of the forecast horizon. At the same time, the policy stance is consistent with achieving a target inflation rate as measured by core PCE inflation of 2.0 percent.

**Respondent 16:** No
N/A

**Respondent 17:** Yes
My judgement is that the FOMC will need to raise interest rates materially, and sooner, than the path currently projected in the Greenbook in order to achieve a goal of 1.5 percent on core PCE inflation in 2010.

# Forecast Narratives

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

**Respondent 1:**
The drag from housing abates slowly over the second half of the year and next year. Credit availability remains very tight for a few quarters and improves gradually thereafter allowing the effects of the low federal funds rate gradually to show through to slightly above-trend growth. GDP growth is also helped over time by the assumed leveling out of energy prices and by a continued boost from net exports. Lower house prices and reduced credit availability weigh on consumer spending and the savings rate rises gradually. In the near term, recessionary tendencies–evidenced in part by very depressed consumer and business confidence– hold down spending, but not by as much as in the Greenbook forecast.

**Respondent 2:**
I am getting somewhat more optimistic that we may have turned a corner in the credit markets and that they will keep on improving. (However, I have been disappointed before and I would not count on this outcome..) As a result of the better tone in the credit markets, I see less downside risk and a lower probability of a serious adverse feedback loop developing. Nonetheless, the widening of credit spreads and the tightening in the Senior Loan Officer Survey will make growth extremely weak in 2008 and will slow the recovery. This is why I am slightly more pessimistic on output growth and unemployment than the greenbook.

With the current and projected slack in the economy and long-run inflation expectations around 2.0% (they may be slightly higher today, but I think they will come down with the coming economic slack), I see inflation coming down to 2.0% and remaining there for the rest of the forecast horizon. I do worry that high commodity prices could cause inflation expectations to rise a little bit, but the current slack and downside risks to economic activity would tend to lower inflation. Thus I see the risks around my inflation forecast as being symmetric.

**Respondent 3:**
Our central projection has the US economy going through a mild recession in 2008H1. By the second half of 2008 growth recovers, aided by the preemptive path of monetary policy, various initiatives to foster market functioning and fiscal stimulus. Growth remains near its potential rate through 2009-10 implying we see only a narrowing rather than a complete closing of the output gap in this period. Although we judge the economy will experience a mild recession or just skirt one as the most likely near-term outcome, the chance of a mild recession turning into a more severe downturn is relatively high.

Within the central scenario the bulk of the correction in housing production will be completed by mid-2009 and residential investments large drag on GDP will be over. The decline in housing prices will continue through the end of 2009 with about an 11% peak to trough drop using the OFHEO repeat sales index. Outside of housing and autos we judge the inventories of US business to be relatively lean. Further, the balance sheets of non-financial firms appear to be relatively robust for the onset of a recession. These factors produce a very shallow recession with a somewhat tepid recovery. Net exports provide a boost to GDP growth in 2008 and 2009. In the labor market we expect demographic changes, industry mix and, most importantly, the lack of a very tight labor market at the business cycle peak to produce a labor market peak to trough increase in the unemployment rate of less than 1.5 percentage points.

We project a continued very gradual moderation in core inflation with total inflation running well above core in 2008H1 due to higher food and energy prices but then moving in line with the core projection as the forecast horizon increases. This path is based on inflation expectations remaining well-contained, our assessment of the FOMC inflation objective, and the opening of an output gap in 2008 along with little evidence of the pass-through of higher energy and food costs to labor compensation.

The risks to our central projection are substantial. The main short-term one is that the ongoing turmoil in financial markets further restricts the supply of credit exacerbating contractionary forces which in turn leads to a further tightening of credit conditions and so on. While the preemptive easing of monetary policy and the new liquidity facilities provide some insurance against such an adverse feedback loop, it is difficult to know whether they will be sufficient given the uncertainty around house prices and the exposure of the financial sector to house price declines. Over the medium term a major risk is that trend productivity growth will be below our conditioning assumption. A related risk is a steeper-than-assumed rise of the personal saving rate resulting from negative housing and stock market wealth effects, if consumers assess future prospects to be weaker either because of weaker productivity growth or because of a protracted contraction. The effects of these medium term risks might also be amplified by the fragile state of financial markets.

For inflation, we see the risks as roughly balanced. There are risks on the downside if the recession is deeper and longer than in our central scenario. However, potential pass-through of higher costs stemming from higher energy and commodity prices, the decline in the exchange value of the dollar and a possible lower trajectory for productivity raises some upside concern. Further, the behavior of some measures of inflation expectations over the last few months suggests that private agents might have less confidence in the FOMCs commitment to price stability than in earlier periods in the 2000s expansion when total inflation was running above core.

The combination of this risk profile, the heightened uncertainty present in recessions and the ongoing volatility in financial and commodity markets produces elevated uncertainty around our central projection compared to typical levels.

**Respondent 4:**
The incoming data since January – in particular, readings on business fixed investment, consumer spending, and employment – have been somewhat weaker than expected in my January projection. In addition, financial disruptions have been wider spread and more persistent than incorporated in my January forecast. Thus, I have revised down my forecast for growth and employment in 2008H1. I assume trend growth of 2.7 percent, but there remains considerable uncertainty around that number. I expect the economy to pickup in 2008H2 and back to trend in 2009, as the effects of the monetary accommodation already put in place are felt, the housing correction stabilizes, and financial market conditions stabilize. I assume a relatively small impact of the tax rebates on consumer spending this year. In this forecast, I assume a long-run neutral funds rate of about 4.0 percent. Given the monetary policy easing already in place, there may be more upward pressure on core inflation in 2009 and 2010 than in my baseline forecast, and this would necessitate a period of an above-neutral funds rate to restrain expectations and bring inflationary pressures back to a rate consistent with my long-run goal.

**Respondent 5:**
Given the magnitude of problems in financial institutions and markets, my outlook for ’08 and ’09 is influenced significantly by the ”headwinds” episode of the early 1990s as well as the evident recent deterioration in the economy and the time required to work off excess inventories in the housing sector. However, I expect that these problems will have diminished appreciably by 2010 and that the economy will expand at a pace modestly above trend in that year. With appropriate monetary policy, I expect core inflation to decline to an acceptable rate by 2010.

**Respondent 6:**
We asssume that financial headwinds dissipate over the forecast period, but remain significant enough to hold growth below potential through the first half of 2009. The speed at which the improvement takes place is highly uncertain, and presents two-sided risks to the growth forecast.

Our base forecast has housing markets bottoming out late this year or early next year. There is a risk, however, that continued declines in housing prices and reduced credit availability could weigh more heavily on construction.

The build up of a modest level of resource slack should help to offset the effects on inflation of higher energy and commodity prices and the weaker dollar. The effect of world-wide demand on commodity prices adds considerable uncertainty to the inflation outlook.

**Respondent 7:**
Deterioration in consumer sentiment, higher energy costs, and a tightening of credit terms leads to a significant slowdown in consumer spending that is only partially offset in QII and QIII by the fiscal stimulus. The inventory of unsold homes and financial market uncertainty continue to weigh on the residential housing market, dampening residential construction throughout 2008 and into 2009. Growth abroad continues to contribute to improving net exports. However, deterioration of business sentiment, accompanied by more restrictive financial conditions, dampen nonresidential investment.

The risks to my outlook include a substantial further deterioration in financial conditions, a weakening in growth abroad, higher commodity and energy prices, and a potential upward drift in inflation expectations.

**Respondent 8:**
– Credit-market headwinds will persist, delaying the economy's return to normal growth.

– Globalization will provide support for the economy through net exports, and will help restrain wage inflation, but also contributes to upward pressure on commodity prices.

– Oil and food prices continue to trend upward, as demand-pull forces dominate.

**Respondent 9:**
Significant uncertainty for 2008 with respect to impact of financial institutions weakness on broader economy (credit channel)

**Respondent 10:**
1) Housing continues weak, with residential construction declines moderating over the year but still subtracting from growth till early in 2009 2) Consumption is restrained by high oil prices, housing price declines, weakening labor market, tighter credit conditions, and poor sentiment. Together with housing, this leads to negative growth in the first half. However, fiscal stimulus package provides some boost in the second half of 2008 3) With house prices declining, financial conditions remain stressed for the rest of the year as writedowns continue and bank capital becomes harder to raise. Tight credit conditions weaken not only consumer spending and housing demand but also nonresidential construction 4) Net exports provide a boost in both 2008 and 2009 5) A technical recession probably began around the beginning of 2008

6) Continued problems with credit quality, spreading outside of housing, keep credit tight into 2009. Growth improves but remains below potential growth rate. Recovery is largely "jobless". 7) By 2010, above-trend growth returns, but labor market recovers more slowly. 8) Major uncertainties and risks include the evolution of the housing market, especially house prices, and the closely linked development of financial conditions. Risks are primarily to the downside.

8) Stabilizing energy prices, not-too-rapid food price increases, and a softer economy and labor market

(slower growth in unit labor costs) reduce overall and core inflation beginning later this year. Uncertainty about food and energy prices is the principal source of risk – balanced or slightly to the upside.

**Respondent 11:**
The economy has entered a recession, but it is likely to be shallow and brief by post-war standards. Housing will continue to be a drag on growth this year, and business fixed investment will decline this year as well. Inflation is too high, and the public's inflation expectations are inconsistent with successful monetary policy.

**Respondent 12:**
The key risks remain the housing market and financial turmoil, and a negative feedback between the two, that could result in a substanial slowing of consumption and more balance sheet pressure for financial institutions.

**Respondent 13:**
(1) I expect weak growth in the first half of this year, with some pickup in the second half.

Near-term weakness is mostly due to continuing declines in residential investment and high energy prices. Tight financial conditions linger and restrain growth somewhat through early 2009. Strong export growth–driven by a decline in the dollar and strong foreign growth–provides near-term support.

(2) Beginning in the second half of 2008 and continuing through 2010, I expect an economic recovery to be driven by an accommodative monetary policy, the tax rebates to households, a less rapid pace of decline in housing, and some decline in energy prices.

(3) I expect inflation to moderate gradually over the forecast horizon due primarily to a leveling off of food and energy prices . Since I assume the effect of slack on inflation is modest at best, I do not expect near-term economic weakness to contribute to a rapid decline in inflation. In addition, since longer-term inflation is driven importantly by long-term inflation expectations, I am concerned that the recent increases we have seen in inflation expectations will limit the declines in actual inflation that I am expecting.

(4) Despite below trend growth, an accommodative monetary policy, higher energy and commodity prices, and greater dollar depreciation pose upside risks to the expected moderation in core and overall inflation.

**Respondent 14:**
Financial conditions remain fairly tight with elevated risk spreads and some dislocations in credit markets. Housing activity has shown few signs of stabilizing, labor market conditions continue to deteriorate, and consumer and business spending have slowed. The economy may be contracting, and there are substantial downside risks. Readings on headline inflation have been disappointing; however, inflation expectations remain fairly well anchored. Going forward, weaker growth in the U.S. economy should generate more slack in product and labor markets, thereby putting some downward pressure on inflation, and commodity prices should level out.

I assume that monetary policy remains accommodative over the next year. Coupled with the fiscal stimulus and growing exports, growth resumes in the second half of this year and rises above trend in 2009 and 2010. The unemployment rate rises gradually through early 2009 and then begins to drop toward the NAIRU of 4-3/4 percent. Core PCE inflation declines gradually to 1-3/4 percent in 2010, which I view as consistent with price stability. The funds rate falls to 1-3/4 percent and remains there for over a year before rising gradually to its equilibrium rate of 4 $\frac{1}{4}$ percent by the end of 2010.

**Respondent 15:**
Growth in the first half of this year has slowed significantly, to an average pace of half of one percent. The

ongoing retrenchment in residential investment is now coupled with weakness in consumer and business expenditures. High oil prices, declining household net worth, and a weakening labor market weigh heavily on the consumer. Businesses have responded to the softness in demand and to the uncertainties characterizing the current economic environment by trimming hiring and capital spending. The only demand component now showing strength is exports, thanks to a weak dollar and a world economy that is still robust. The pace of activity is expected to accelerate in the second half of this year. The fiscal and monetary policy stimulus will provide an impetus to consumers discretionary spending, while the drag from residential investment is expected to wane. Still, the economy is projected to grow at a pace slightly below potential, as monetary and fiscal policy impart only a partial offset to the unfavorable shocks buffeting the economy. In 2009, the economy continues to grow near potential, notwithstanding the large monetary stimulus underway. Households expenditures remain constrained by declining net worth associated with falling house prices, while residential investment is still weak as builders continue to bring inventories into better alignment with sales. The economy is then expected to grow significantly above potential in 2010, when households net worth starts to stabilize and the underlying monetary stimulus to all interest-sensitive components of demand becomes more apparent.

The unemployment rate peaks at 5.3 percent over the second half of this year, and starts to decline decisively only in 2010. Near-term readings of inflation are expected to stay somewhat elevated, as some of the increase in energy prices is passed through into core inflation. However, with increasing slack in labor markets, inflation is expected to moderate, and settle at 2 percent by 2009.

Risks to economic activity continue to be skewed to the downside, and incoming data continue to feed concerns that the economy may have fallen into a recession. While there have been improvements in financial markets, conditions have yet to return to normal. Tighter credit markets, coupled with the continually deteriorating housing market, have the potential to exert more restraint on spending than is currently embedded in our baseline forecast. In addition, the continued fragility in financial markets leaves credit markets vulnerable to event risks. A more pronounced decline in house prices than we are currently envisioning could severely impair financial markets functioning. The risks to the inflation outlook are broadly balanced. Emerging slack in the labor market should wield downward pressure on wages and prices. We continue to view the pass-through from oil and the dollar as fairly limited.

**Respondent 16:**
Disruptions in credit markets and continued weakness in real estate markets lead to zero growth in the first half of the year. The drag on economic activity from lingering problems in housing and financial markets gradually dissipates through the first half of 2009, and this contributes to modest growth starting in the second half of this year.

The possibility that financial market turmoil could flare up again, the possibility that nonresidential construction could deteriorate more rapidly than I expect, and the uncertain effect of rising energy prices on consumer and business spending convince me that the risks to real GDP growth remain weighted to the downside.

Continuing energy and commodity price developments, and the effect they might be having on inflation expectations suggest that the risks on inflation are weighted to the upside.

**Respondent 17:**
The threat that the U.S. economy might enter a debilitating, depression-like state because of financial market turmoil has receded. There is still some residual probability associated with this event, but it is substantially lower than it was earlier this year. This retreating probability is shaping private sector expectations for 2008 and 2009, leading to a more robust economy and a more worrisome inflation outlook than envisioned in the current Greenbook.

# Forecast Narratives (continued)

## 4(b). Please describe the key judgements and assumptions affecting your economic projections in the third year.

**Respondent 1:**
growth in y*=2.5; inflation of 1-3/4 percent is acceptable.

**Respondent 2:**
Long-run inflation objective at 2% on PCE deflator, NAIRU at 4 3/4% and potential GDP same as in greenbook.

**Respondent 3:**
We assume that long-term inflation expectations are between 2-2.5% for the CPI and the FOMC's inflation objective to be 1.5-2.0% for the PCE deflator and 2-2.5% for the CPI. Potential growth is 2.6% (in 2010 the retirement of baby boomers begins to have a perceptible impact on labor input), and that the output gap opens in 2008 and narrows in 2009-10. Our extended forecast also includes some implicit judgments about the likely ranges for the NAIRU and the neutral policy rate. Those judgments put the neutral policy rate in the region of 3.75% to 4.75% absent the current disruptions in financial markets and the NAIRU between 4.5% to 5%.

**Respondent 4:**
Real output is growing at about a trend pace of 2.7 percent in 2010, the unemployment rate is about at its natural rate of 5 to 5.25 percent, and inflation is running slightly above my long-term goal of 1.5 percent. As mentioned in 4(a), monetary policy easing may lead to upward pressure on core inflation and raises the risk that inflation expectations begin to move upward. If this happens, monetary policy would have to tighten more in 2009 than in my baseline forecast and possibly remain above a neutral rate in 2010 to keep inflation from rising.

**Respondent 5:**
The financial headwinds will have diminished significantly by 2010 and the adjustment in housing will be largely complete, permitting the underlying resilience and flexibility of the economy to show through. Monetary policy will have precluded any material deterioration in inflation expectations or appreciable acceleration in core inflation.

**Respondent 6:**
We expect growth to run somewhat above the rate of potenial, which we place at 2.6% per year. Our forecast has unemployment falling over the year, but remaining above its natural rate, which we place at 5.0%.

**Respondent 7:**
I have defined appropriate policy over this horizon as one that is consistent with achieving PCE inflation slightly less than 2 percent and I have adopted assumptions for labor productivity and employment growth that are consistent with potential GDP growth of 2.6 percent.

**Respondent 8:**
The unemployment rate remains elevated, due to the stretched-out credit cycle.

**Respondent 9:**
On path of returning to trend levels, but not at steady-state at end of projection period. Tax policy and trade policy uncertainty expected to impact 2010 economic perfomance negatively.

**Respondent 10:**
The inflation projections in 2010 reflect my views of the levels of inflation that combine a reasonable approx-

imation to price stability (allowing for measurement error) with some buffer against zero-bound problems.

The growth estimate for 2010 is above my estimate of potential growth, which is in the vicinity of 2.7, as it reflects a cyclical recovery. Likewise, the unemployment rate for 2010 is above my estimate of the NAIRU (around 4.8) because employment will lag the recovery.

**Respondent 11:**
Trend growth in GDP is about 2.7 percent, and overall inflation would average 1.5 percent under appropriate policy. Ongoing increases in energy prices will result in a divergence between overall and core inflation.

**Respondent 12:**
My judgments and assumptions are largely consistent with those described in the Greenbook, except that I assume the federal funds rate is higher in 2009 and 2010.

**Respondent 13:**
(1) Economic growth returns to potential in 2010. Demographic changes contribute to a fall in potential growth in 2009 and 2010. Potential growth is estimated to fall from 2.7 percent currently, to 2.6 percent in 2009 and 2.5 percent in 2010.

(2) Core PCE inflation remains slightly above desired levels in 2010.

(3) Monetary policy begins to tighten aggressively in 2009 and reaches neutral by the first half of 2010.

**Respondent 14:**
In 2010, my forecast shows inflation that is consistent with price stability. By the end of 2010, real GDP growth, the unemployment rate, and the real funds rate are all near their long-run sustainable levels.

**Respondent 15:**
Potential GDP growth is 2 $\frac{1}{2}$ percent. The NAIRU is 4 $\frac{3}{4}$ percent. The target inflation rate is 2.0 percent.

**Respondent 16:**
In making these projections, my staff and I have taken on board the housing assumptions in the Greenbook, and assumed the slight backing off of oil prices implied by futures markets. We have, however, assumed a less dramatic decline in employment than in the Greenbook and a smaller fiscal stimulus impact.

**Respondent 17:**
The 2010 numbers place output growth at the steady state rate and core inflation at target. Overall PCE inflation remains elevated because of longer-term relative price changes in the energy sector.

# Forecast Narratives (continued)

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

**Respondent 1:**
see last sentence of 4(a)

**Respondent 2:**
Not a big difference. I see a somewhat slower recovery because I think the effects of the financial disruption will take a long time to dissipate and will be a drag on growth.

**Respondent 3:**
We project higher trend growth of hours worked mainly because we assume that the secular decline in the labor force participation rate will occur later and more slowly than in the GB. We assume lower inflation persistence than does the GB.

In terms of short-term forecast details, consumption growth is stronger in our central projection than the GB in 2008H2 partly as we see less weakness in services. This stronger consumption profile produces a smaller positive contribution from net exports to growth. In our central projection the higher policy rate assumption leads to a slower rate of depreciation in the exchange value of the dollar.

**Respondent 4:**
I assume the labor force grows 0.8 to 1 percent per year. Nonfarm payroll employment growth declines by about 30 thousand jobs per month on average in 2008, and rebounds to around 120 thousand jobs per month on average in 2009 and 2010. In 2009 and 2010, the economy is growing at about trend.

**Respondent 5:**
I am less optimistic about 2009 than the Greenbook, largely because of the anticipated effects of financial headwinds. As a consequence, I have a somewhat higher rate of unemployment in 2009 and 2010.

**Respondent 6:**
As noted above, we have not assumed that the economy has necessarily shifted into a recessionary regime.

**Respondent 7:**
I forecast a less severe downturn for GDP in 2008, a more modest recovery in 2009, and a less robust growth rate in 2010.

**Respondent 8:**
The economy is slower to resume normal growth than is forecast in the Greenbook, and headline inflation moderates more gradually.

**Respondent 9:**
Expect materially weaker growth in 2009

**Respondent 10:**
Slightly more optimistic on potential growth, due to higher projection for MFP.

**Respondent 11:**
The path of monetary policy after mid-year is the main difference. I believe inflation is unlikely to subside at an appropriate pace without rate increases later this year or early next. A firmer policy path results in a more subdued recovery.

**Respondent 12:**
Broadly similar.

**Respondent 13:**
My near-term outlook for real GDP and unemployment is less pessimistic than Greenbook and my outlook for inflation is less optimistic. These differences lead to very different policy paths, with Greenbook's path for the federal funds rate substantially below my assumed path.

**Respondent 14:**
My forecast shows slightly faster growth than the Greenbook in 2008 and 2009, in part because of an assessment of more impetus from the fiscal package and slightly faster growth of potential output. The forecast unemployment paths in those two years are similar, but I foresee the real economy converging to long-run values by the end of 2010, rather than in 2012 as in Greebook. I am also slightly more optimistic on inflation.

**Respondent 15:**
Our forecast for the real economy is more optimistic than the Greenbooks in 2008. While the Greenbook is envisioning a recession, our outlook calls for a growth recession. Differences in the inflation outlook are the result of our lower implied sacrifice ratio once the economy moves considerably away from full employment, and of a higher inflation target than the one implicit in the Greenbook.

**Respondent 16:**
Because we project somewhat less near term weakness in labor markets, our near-term GDP forecast is not as pessimistic as in the Greenbook. Our longer term forecast does not incorporate a significant bounce back in growth, and so GDP growth only gradually returns to trend. We also see somewhat more inertia in the inflation rate going forward.

**Respondent 17:**
Relative to the current Greenbook, this forecast envisions a stronger real economy and a more challenging inflation scenario. The path for the federal funds rate could not remain essentially flat for 2.5 years in this forecast if the 2010 outcomes are to be achieved.

# Forecast Narratives (continued)

## 4(d). Please describe the key factors causing your forecast to change since the projections submitted ahead of the January FOMC meeting.

**Respondent 1:**
the credit restriction is more severe and the housing decline–both activity and prices–is steeper. For inflation, the resulting larger output gap is offset by higher energy and food prices than anticipated in January.

**Respondent 2:**
Although I am a little more upbeat than at the March FOMC, credit market conditions deteriorated more and the economy has turned out to be substantially weaker since the January projections. This caused me to lower my growth projections and to raised my unemployment projections.

**Respondent 3:**
At the time of the January projections we expected the US economy to skirt a recession with little growth in the first half of the year but a strong rebound in the second half, which is a similar pattern to the developments in late 2006 though mid 2007. The further deterioration in labor markets, the lack of any stabilization in housing and the large increase in energy prices along with the continued financial turmoil and declines in confidence have increased our assessment of the probability that the US economy will experience a recession in the first half of 2008. Further, we have lowered the strength of the recovery in 2008H2 and 2009 relative to January as we expect that tighter financial conditions and higher energy and commodity prices will weigh on US consumers and producers. At the same time the downside risks to this weaker central forecast have increased with additional evidence of a potential adverse feedback loop between financial conditions and the real economy.

Incoming data since January have led to little net change in our core inflation forecast in the near term but higher energy prices have driven up the near term forecast for total inflation. We have slightly increased our medium term inflation projection to reflect the higher levels of energy, food and commodity prices and the decline in the exchange value of the dollar. A range of models of inflation suggest that the higher total inflation of the last few months is unlikely to persist partly due to well-contained inflation expectations, as well as subdued labor compensation and the projected slowdown in the US economy.

The policy path underlying our central projection has been reduced in the near-term since January but we have not altered the assumed path for renormalization of real interest rates in 2009-10. Given our projection of a weaker recovery this implies a tighter stance of policy in 2009-10 in the medium run relative to standard policy rules than our January path.

**Respondent 4:**
The incoming data since January – in particular, readings on business fixed investment, consumer spending, and employment – have been somewhat weaker than expected in my January projection. In addition, financial disruptions have been more wider spread and more persistent than incorporated into my January forecast. Thus, I have revised down my forecast for growth and employment in 2008H1. Monetary policy easing has been more aggressive than I assumed in my January forecast. I assume the FOMC begins raising the funds rate in 2008Q4 as I did in my January forecast, but from a lower level. Monetary policy easing risks unanchoring inflation expectation so the funds rate needs to increase over the forecast horizon to 4.0 percent by 2009Q3.

**Respondent 5:**
There are only two material changes, both of which are reflected in the 2008 forecast. The weakness evident in the economy currently has led to a reduction in real growth for the year and greater unemployment than expected previously. And PCE inflation is expected to run higher than earlier anticipated because of devel-

opments in energy and other commodity prices.

**Respondent 6:**
In line with the deterioration of the economy since January, our outlook has worsened somewhat.

Financial headwinds still constrain the outlook, but market functioning appears to have improved to some degree.

The core inflation outlook has improved somewhat given the recent inflation data and the somewhat greater projected slack in the economy.

**Respondent 7:**
A higher path for energy prices combined with a greater and more prolonged deterioration in the housing market have resulted in a downward adjustment to my real growth projection in 2008. A modest boost to economic activity stemming from fiscal stimulus is now assumed in 2008. Higher commodity prices, and particularly energy costs, are now expected to exert greater upward pressure on the PCE inflation measure in 2009. However, pass-through effects to the core measures are expected to be contained by a slower growth trajectory.

**Respondent 8:**
Energy prices have been higher than anticipated, and the drag from residential investment has been somewhat greater than anticipated.

**Respondent 9:**
Deeper weakness projected for credit channel

**Respondent 10:**
Data indicate that we may have switched regimes to a recession scenario, with a stronger cumulative downward dynamic. Consumption, employment data have weakened, although exports have helped IP and spending on equipment and software somewhat. Financial crisis continues and will be an important drag, though not necessarily worse than expected in January.

**Respondent 11:**
The data on employment, nonresidential construction and household consumption have been weaker than expected, so I now believe that a recession has begun. Energy and food prices have increased more rapidly than anticipated, and the rise in inflation expectations between January and early March was unexpected.

**Respondent 12:**
Since the last projection, we had reports relating to consumption, the labor market, and the housing market that were softer than anticipated so I marked down GDP growth and marked up the unemployment rate in 2008.

**Respondent 13:**
Further weakness in housing and nonresidential construction, and significant increases in energy prices, led to a reduction in my near-term outlook for growth. Higher food and energy prices led to greater upward pressure on overall and core inflation than I previously thought. In addition, based on discussions with my business contacts, inflation psychology has worsened.

**Respondent 14:**
Despite easier monetary policy and greater fiscal stimulus than expected at the time of the January FOMC meeting, I have lowered my forecast for 2008 real GDP growth by $\frac{3}{4}$ percentage point. This reflects tighter credit conditions, weaker housing and consumption data, and higher commodity prices (notably, a jump in

crude oil prices of about $25 per barrel). Higher prices for food and energy are also largely responsible for the upward revision in my 2008 PCE inflation forecast of  of a percentage point. However, the pass through of these higher prices remains fairly modest, and my core inflation forecast has risen only slightly.

**Respondent 15:**
The economy is currently weaker than we were previously projecting. Deteriorating labor market conditions and widespread weakness in demand have increased the risk of a recession. In 2009 and 2010, headline GDP projections are not too different, but they are conditioned on a much more accommodative path of monetary policy. The inflation outlook has not changed materially.

**Respondent 16:**
In general, we have kept the broad trajectory of our January projections, though commencing from a lower level for growth and a higher level for inflation. These adjustments were made as a result of incoming data suggesting more real-side weakness and spillover from the financial markets than we anticipated in January along with dissappointing readings on inflation.

**Respondent 17:**
N.A.

## Chart 2(a): Distribution of Participants' Projections (percent)

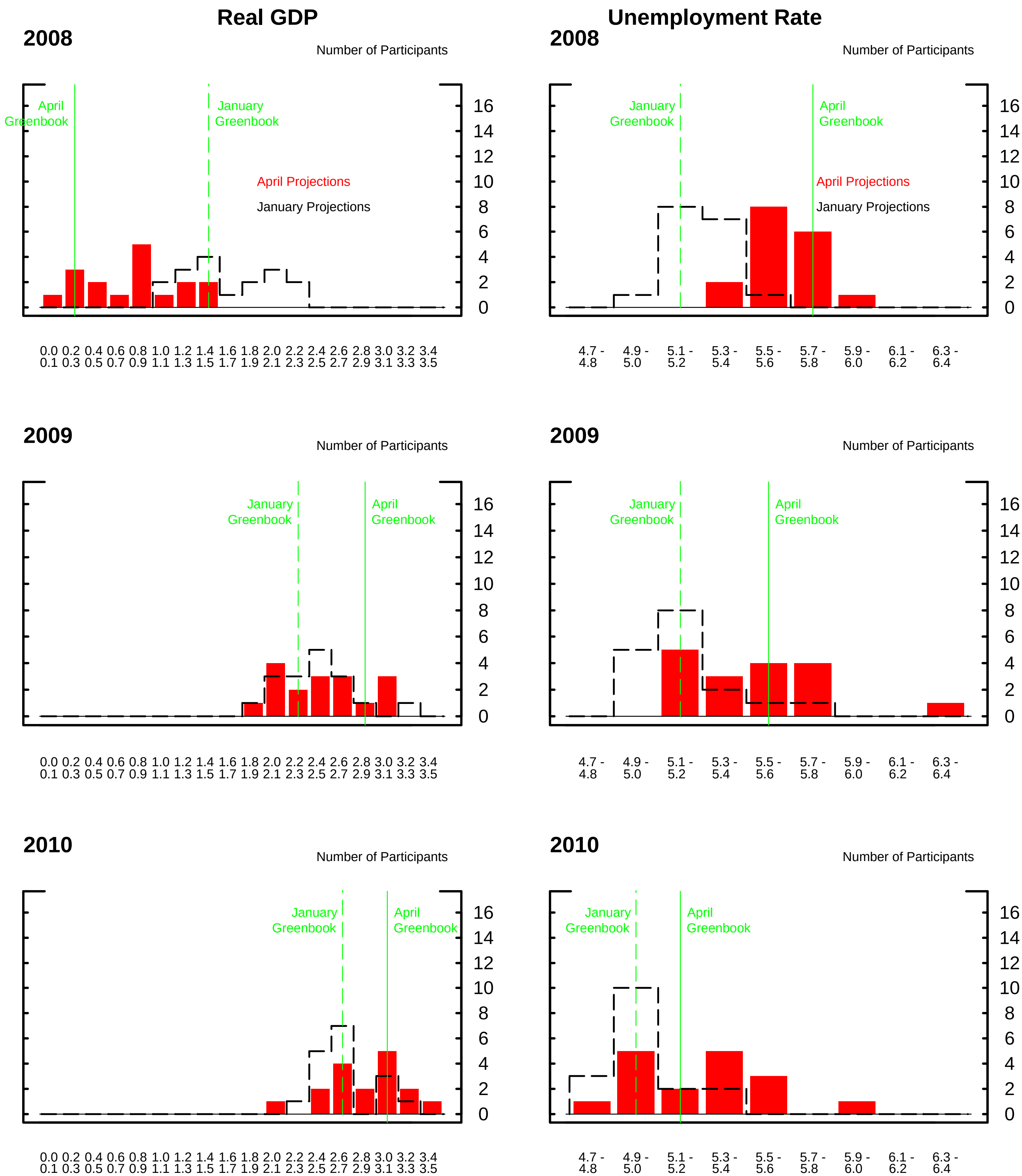


**Chart 2(b): Distribution of Participants' Projections (percent)**