The Advantages of Probabilistic Survey Questions

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The views presented here are those of the author and do not necessarily reflect those of the Federal Reserve Bank of New York, or the Federal Reserve System.
Survey of Consumer Expectations

- A nationally representative, monthly internet-based survey of a rotating panel of ~ 1,300 household heads.
  - Respondents on the panel for up to 12 months.

- The survey has a **core monthly module** on expectations about macro-economic and household level variables.
  - Inflation, earnings growth, change in home prices and individual spending items, HH income growth, HH spending growth, taxes, government debt, credit access, job search.

- In addition, special **monthly ad-hoc questions** and **annual surveys** on special topics.
  - **Rotating ad-hocs**: Credit access; Labor Market; Spending; Floating (insurance; ACA; Gas prices).
  - **Annual surveys**: Housing; Labor Market; Saving and Assets.
In your view, what would you say is the percent chance that, over the 12-month period between May 2018 to May 2019, …

<table>
<thead>
<tr>
<th>Event Description</th>
<th>% Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>the rate of inflation will be 12% or higher</td>
<td>_______</td>
</tr>
<tr>
<td>the rate of inflation will be between 8% and 12%</td>
<td>_______</td>
</tr>
<tr>
<td>the rate of inflation will be between 4% and 8%</td>
<td>_______</td>
</tr>
<tr>
<td>the rate of inflation will be between 2% and 4%</td>
<td>_______</td>
</tr>
<tr>
<td>the rate of inflation will be between 0% and 2%</td>
<td>_______</td>
</tr>
<tr>
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<td>_______</td>
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<td>_______</td>
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<tr>
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<td>_______</td>
</tr>
</tbody>
</table>

% Total  _______
Survey of Consumer Expectations - July 2015

The New York Fed’s Survey of Consumer Expectations (SCE) provides timely and comprehensive information about consumer expectations through three broad categories: inflation, labor market and household finance. The SCE contains monthly insight about how consumers expect overall inflation and prices for food, gas, housing, education and medical care to change over time. It also provides Americans’ views about job prospects and earnings growth, as well as their expectations about future spending and access to credit. The SCE also provides measures of uncertainty in expectations for the main outcomes of interest. Expectations are available by age, income, education, numeracy and geography. Get more details about the survey...

The median consumer inflation expectations at both the short and medium term horizon continue to be stable. Home price change expectations rose to 3.5%, their highest level this year. Median earnings growth as well as household spending growth expectations increased from the prior month. Labor market expectations (such as voluntary quits and likelihood of finding a job) also continued to improve. Credit availability expectations were largely unchanged.

Main Survey Results
+ Inflation
+ Labor Market
+ Household Finance

SCE HOUSING SURVEY

The SCE Housing Survey, conducted annually since February 2014, collects rich and high-quality information on consumers’ experiences and expectations regarding housing.

Inflation
- Inflation expectations
  - 10%
  - 8%
  - 6%
  - 4%
  - 2%
  - 0%

Labor Market
- One-year ahead earnings growth expectations
  - 6%
  - 5%
  - 4%
  - 3%
  - 2%
  - 1%
  - 0%

Household Finance
- One-year ahead household income growth expectations
  - 8%
  - 6%
  - 4%
  - 2%
  - 0%
  - -2%

http://www.newyorkfed.org/microeconomics/sce/
Summarizing Density Forecasts

Median across respondents: $(\mu_A, IQR_A)$
Expected Three-Year Ahead Inflation Rate

Source: Survey of Consumer Expectations
Expected Three-Year Ahead Inflation Rates, by Education

Expected 3-Year Ahead Inflation Rates, by Education

High School or Less
Some College
BA or Higher

Source: Survey of Consumer Expectations
Three-Year Ahead Inflation Uncertainty, by Education

Source: Survey of Consumer Expectations
Three-Year Inflation Expectations Cumulative Probability

Three-Year Inflation Expectations

<table>
<thead>
<tr>
<th>Three-Year Inflation Expectations</th>
<th>Median September 2015</th>
<th>Median January 2016</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat Respondents (Sept 2015 and Jan 2016)</td>
<td>2.98</td>
<td>2.45</td>
<td>-0.53</td>
</tr>
</tbody>
</table>
Point and Density Forecasts for the Policy Rate

Year-End 2017 Target Federal Funds Rate/Range (December '15 Survey)

Year-End 2017 Target Federal Funds Rate/Range (January '16 Survey)

Year-End 2017 Target Fed Funds Rate/Range (March '16 Survey)

Year-End 2018 Target Federal Funds Rate/Range (December '15 Survey)

Year-End 2018 Target Federal Funds Rate/Range (January '16 Survey)

Year-End 2018 Target Fed Funds Rate/Range (March '16 Survey)

Source: Desk Surveys
Probability Distribution for Change in Year-end 2014 SOMA Portfolio relative to June 2013 Level

Change in SOMA Portfolio Size ($ billions) by YE 2014 Conditional on < 7.3% Unemployment at YE 2013

Source: Survey of Primary Dealers

Change in SOMA Portfolio Size ($ billions) at YE 2014 Conditional on 7.3-7.5% Unemployment at YE 2013

Source: Survey of Primary Dealers

Change in SOMA Portfolio Size ($ billions) at YE 2014 Conditional on > 7.5% Unemployment at YE 2013

Source: Survey of Primary Dealers
Market-Implied Rates, Modal Paths, Risk Premia and PDF-Implied Mean Rates

Market-Implied Federal Funds Rates

Source: Bloomberg

Modal Path Estimates of Federal Funds Rates

Source: Bloomberg, Desk Calculations

Model Estimates of Federal Funds Risk Premia

Source: Bloomberg, Desk Calculations

Survey PDF-Implied Mean Federal Funds Rates

Source: Desk Surveys
Federal Funds Rate Survey Probability Distributions versus Tilted Distributions

Year-End 2018 FF PDF (December Survey)

Year-End 2018 FF PDF (January Survey)

Survey Distribution (avg)  Tilted Distribution  PDF-Implied Mean  Market-Implied Rate
KLIC Distributions Across Survey Respondents

**Distance from Original Survey by Respondent**

**(Year-End 2018)**

- **January Survey**
- **December Survey**

Source: Desk Surveys

**Distance from Original Survey by Respondent**

**(Year-End 2018)**

- **March Survey**
- **December Survey**

Source: Desk Surveys
Distribution of Probability of Returning to ZLB Across Survey Respondents

Probability of Returning to ZLB Dispersion Among Respondents

Source: Desk Surveys
Individual Density Forecasts for Year-end 2017 Federal Funds Rate for March 2016 Survey Respondents

2017 Respondents Unconditional Probabilities

Modal Path Estimates for Year-end 2017 (March Survey)

Source: Desk Surveys