

The Advantages of Probabilistic Survey Questions

IT Forum and RCEA Bayesian Workshop Keynote Address

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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.

Elicitation of Probabilistic Beliefs

In your view, what would you say is the percent chance that, **over the 12-month period between May 2018 to May 2019, ...**

the rate of inflation will be 12% or higher _____

the rate of inflation will be between 8% and 12% _____

the rate of inflation will be between 4% and 8% _____

the rate of inflation will be between 2% and 4% _____

the rate of inflation will be between 0% and 2% _____

the rate of deflation will be between 0% and 2% _____

the rate of deflation will be between 2% and 4% _____

the rate of deflation will be between 4% and 8% _____

the rate of deflation will be between 8% and 12% _____

the rate of deflation will be 12% or more _____

% Total _____

Monthly Survey Public Release

Survey of Consumer Expectations - July 2015

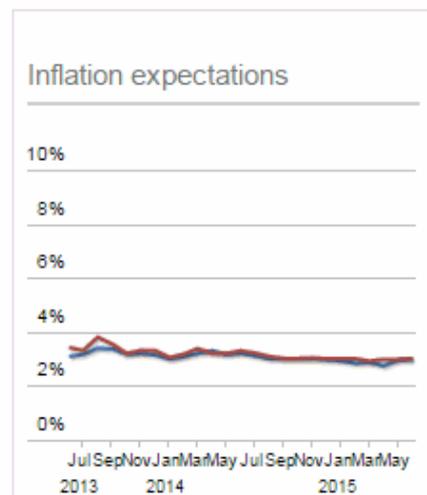
The New York Fed's *Survey of Consumer Expectations (SCE)* provides timely and comprehensive information about consumer expectations through three broad categories: inflation, labor market and household finance. The SCE contains monthly insight about how consumers expect overall inflation and prices 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...](#)

Main Survey Results

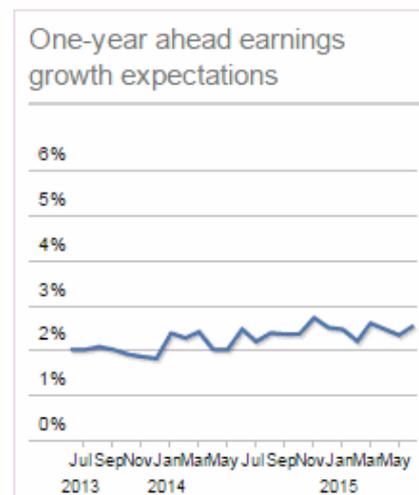
- + Inflation
- + Labor Market
- + Household Finance

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.

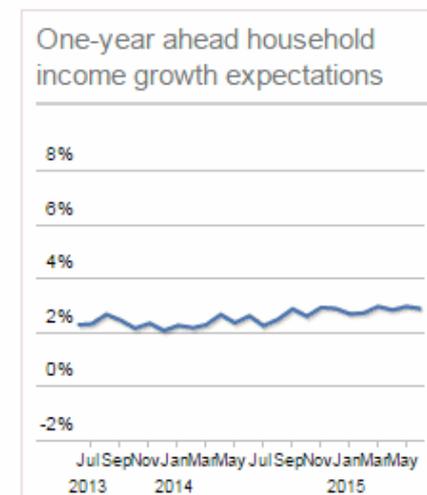
Inflation



Labor Market



Household Finance

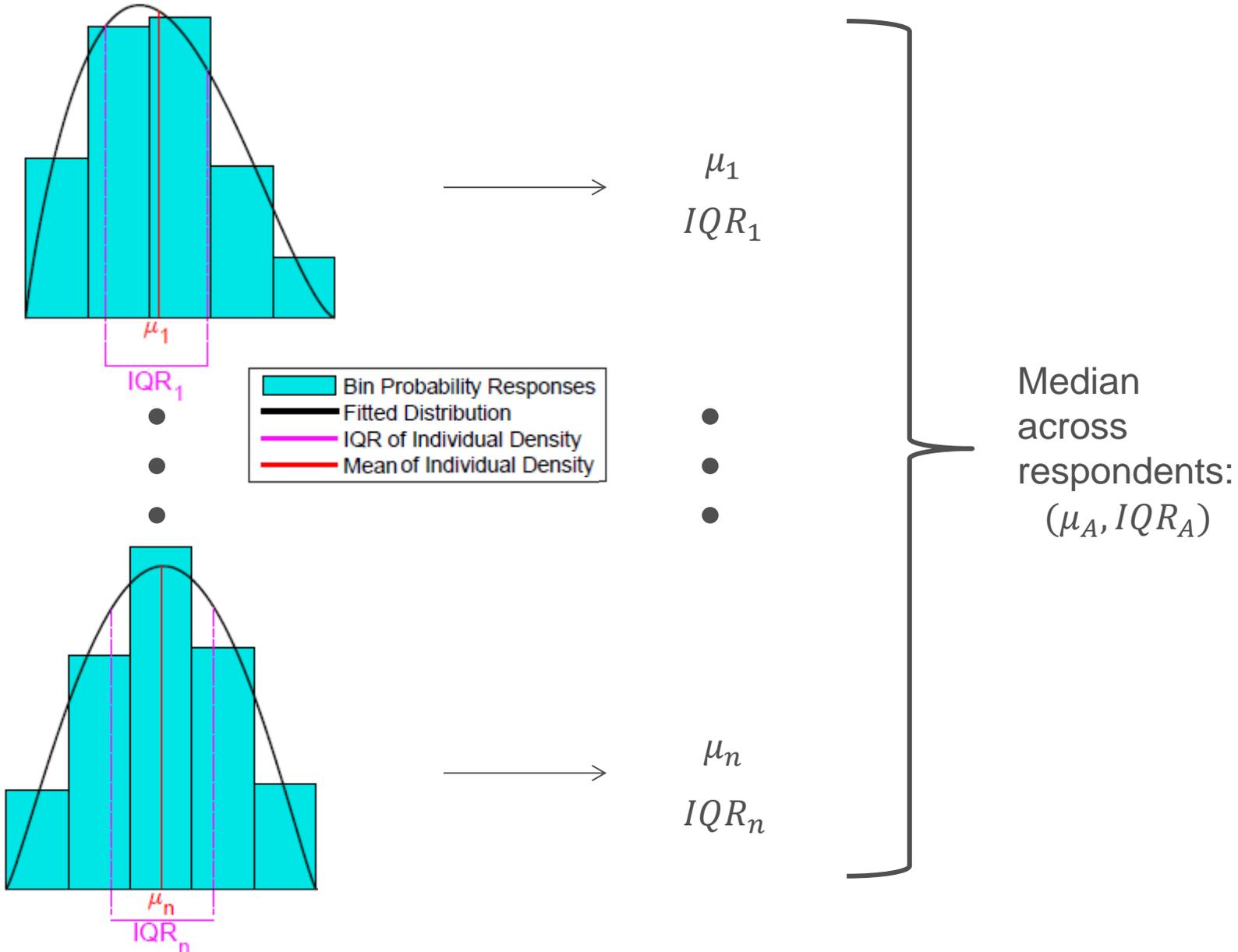


(2015)

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

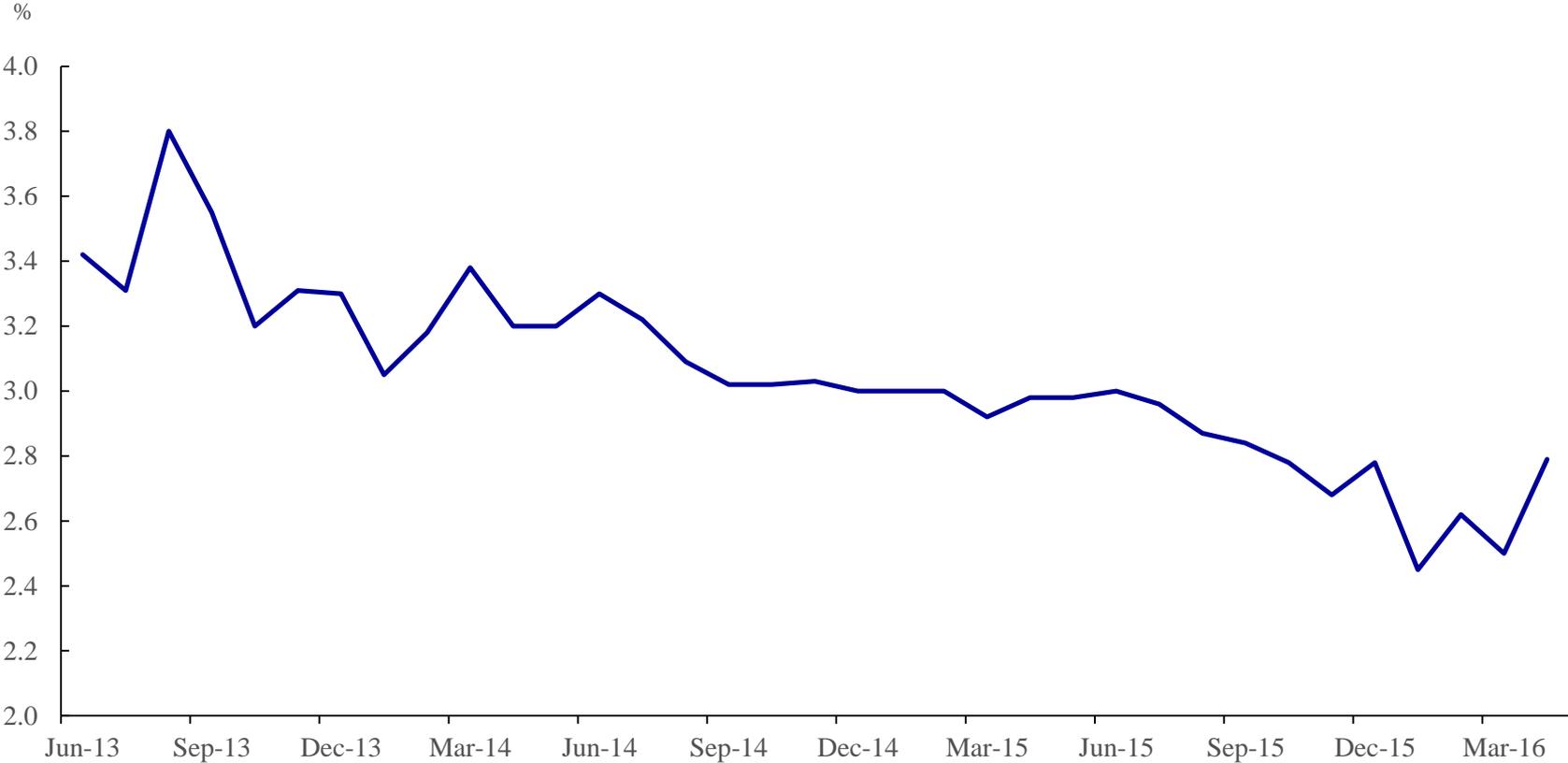
[View Survey PDF](#)

Summarizing Density Forecasts



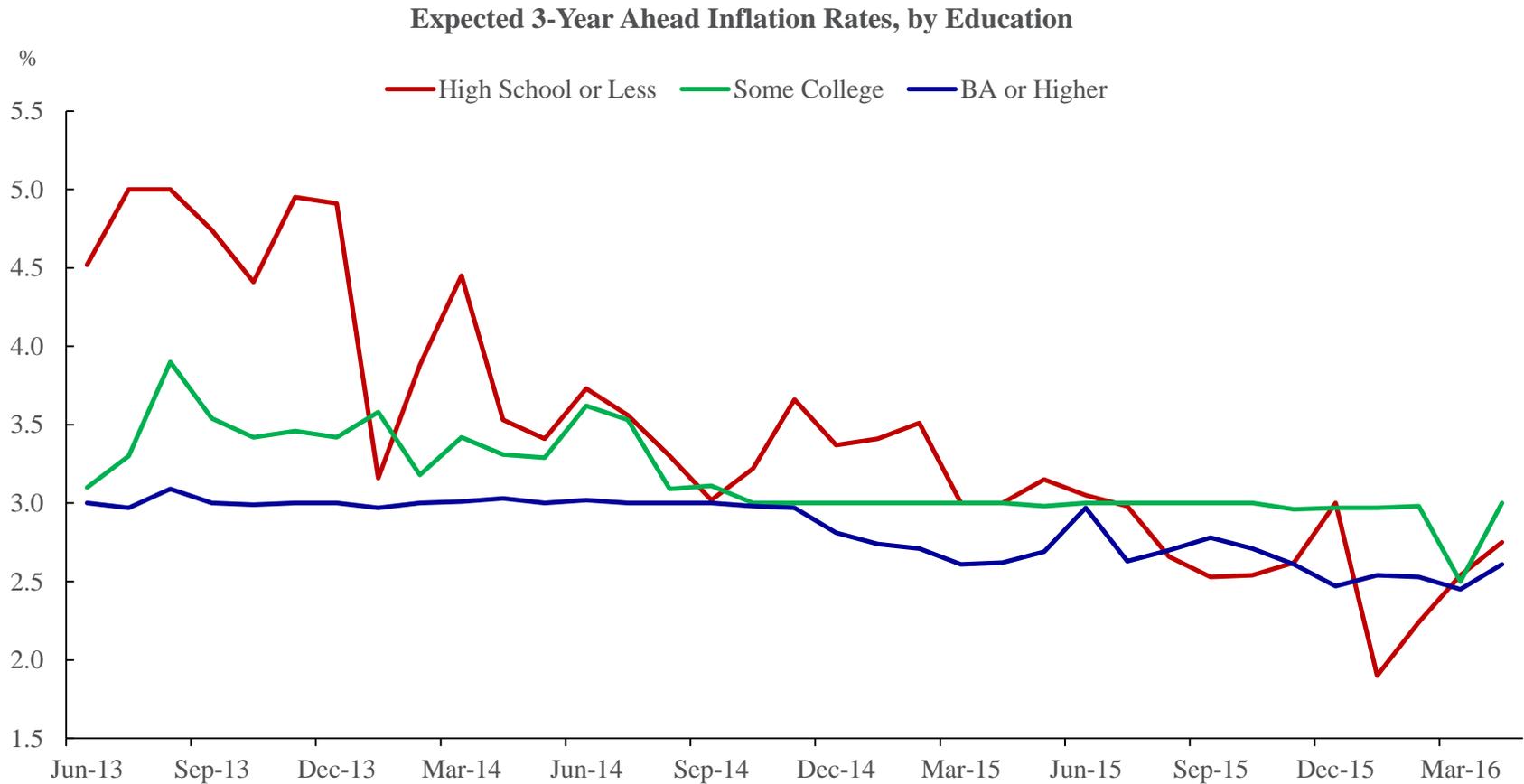
Expected Three-Year Ahead Inflation Rate

Expected Three-Year Ahead Inflation Rate



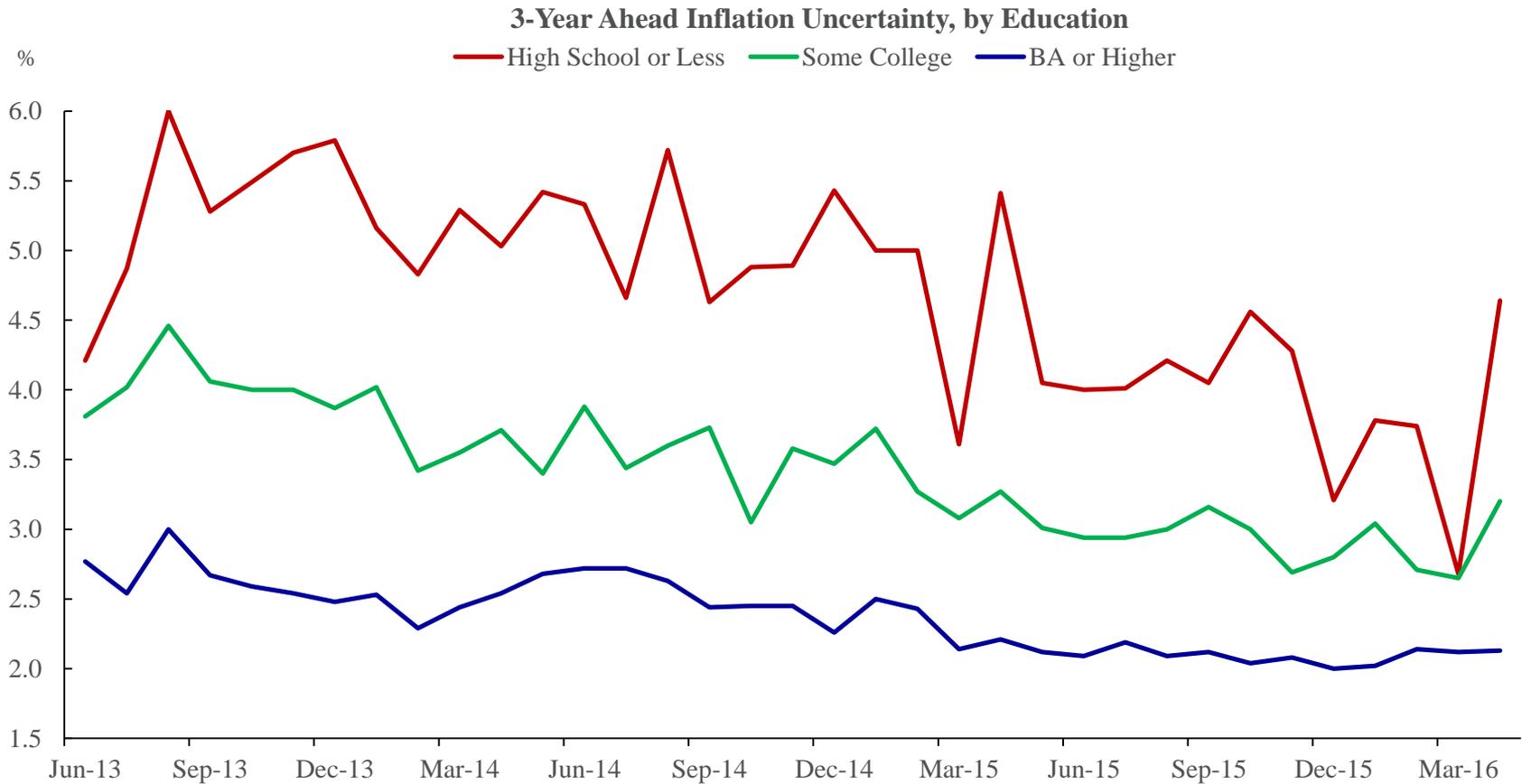
Source: Survey of Consumer Expectations

Expected Three-Year Ahead Inflation Rates, by Education



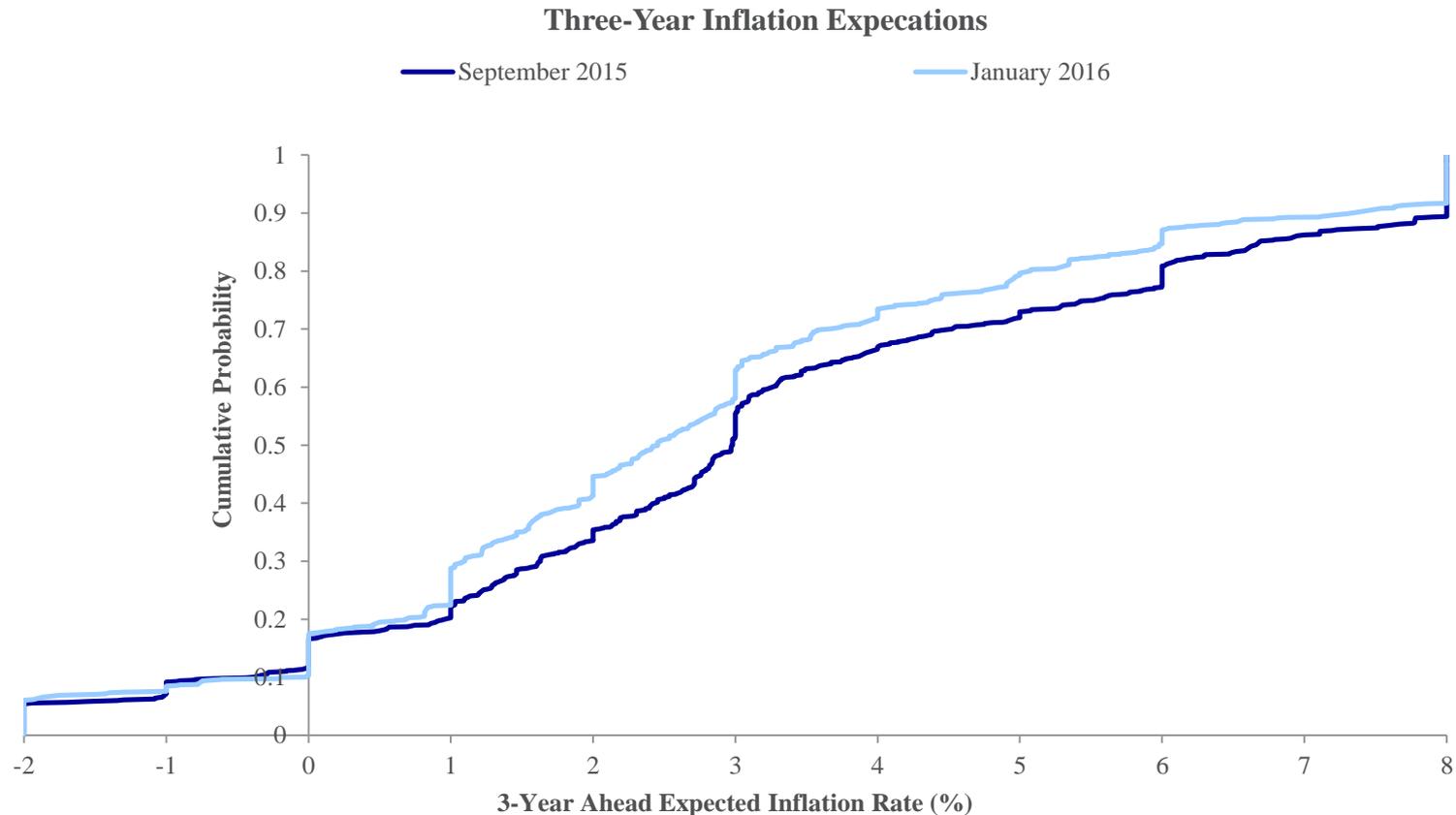
Source: Survey of Consumer Expectations

Three-Year Ahead Inflation Uncertainty, by Education



Source: Survey of Consumer Expectations

Three-Year Inflation Expectations Cumulative Probability



Three-Year Inflation Expectations

Median
September
2015

Median
January
2016

Difference

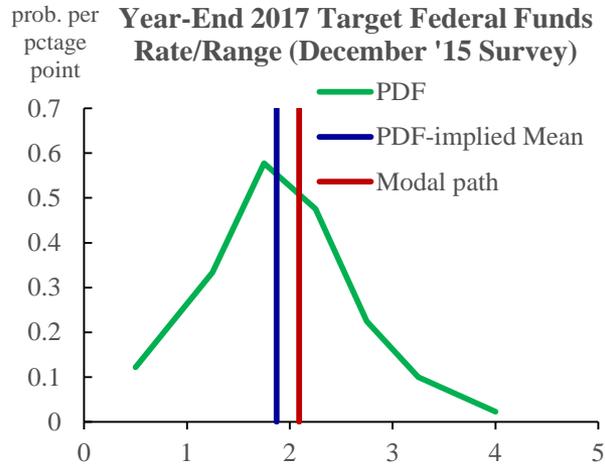
Repeat Respondents
(Sept 2015 and Jan 2016)

2.98

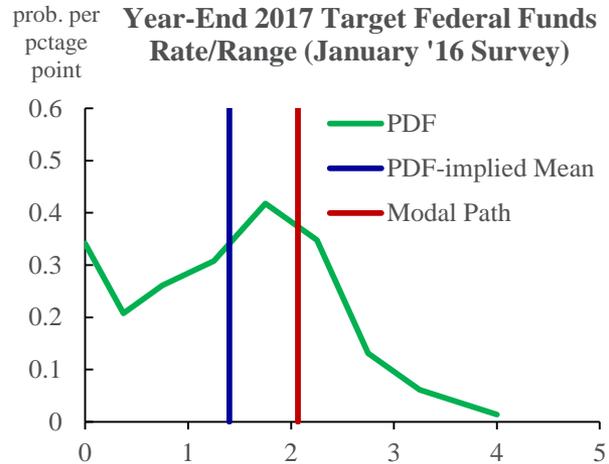
2.45

-0.53

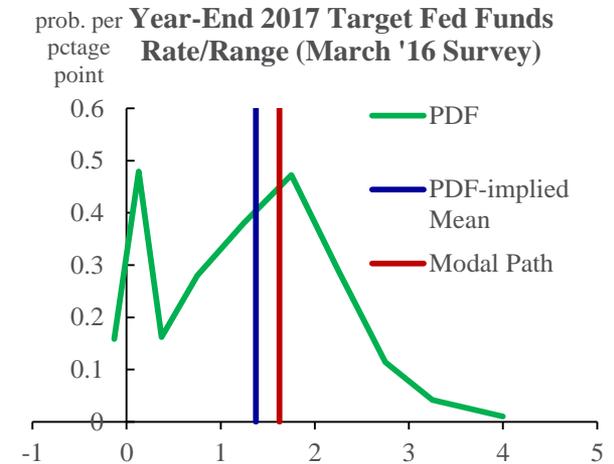
Point and Density Forecasts for the Policy Rate



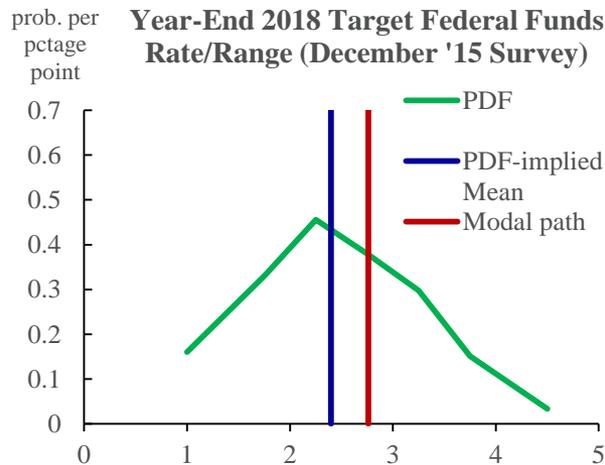
Source: Desk Surveys



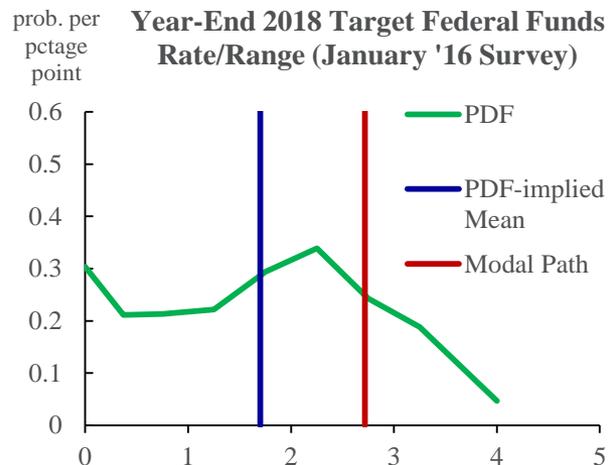
Source: Desk Surveys



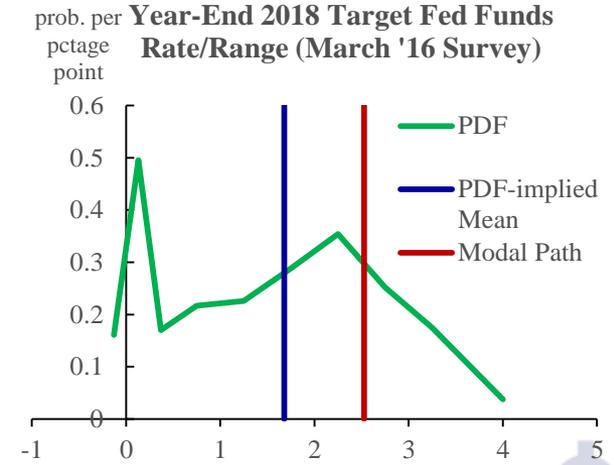
Source: Desk Surveys



Source: Desk Surveys

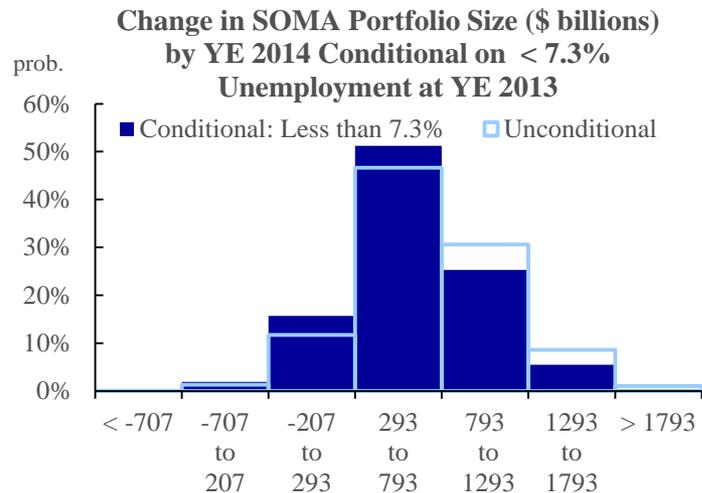


Source: Desk Surveys

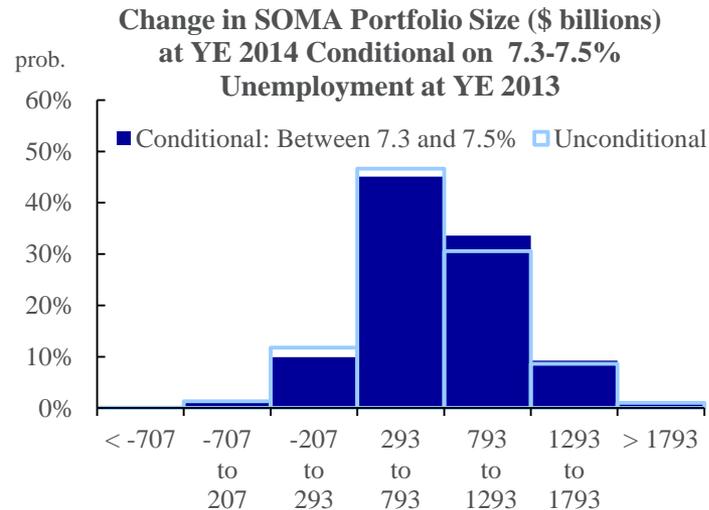


Source: Desk Surveys

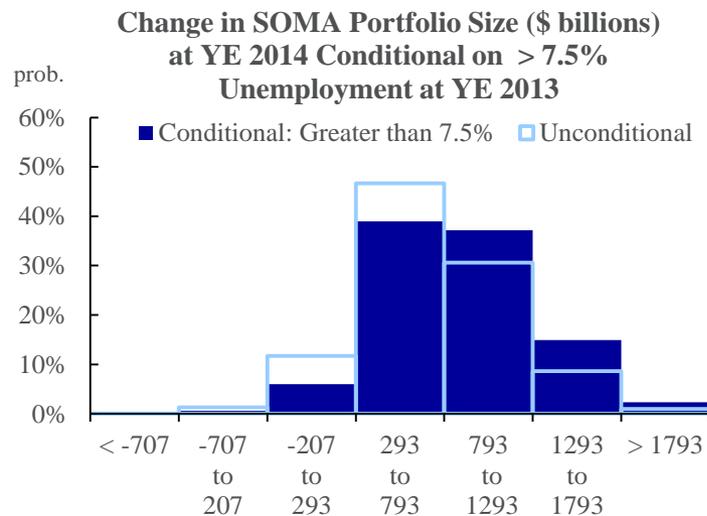
Probability Distribution for Change in Year-end 2014 SOMA Portfolio relative to June 2013 Level



Source: Survey of Primary Dealers

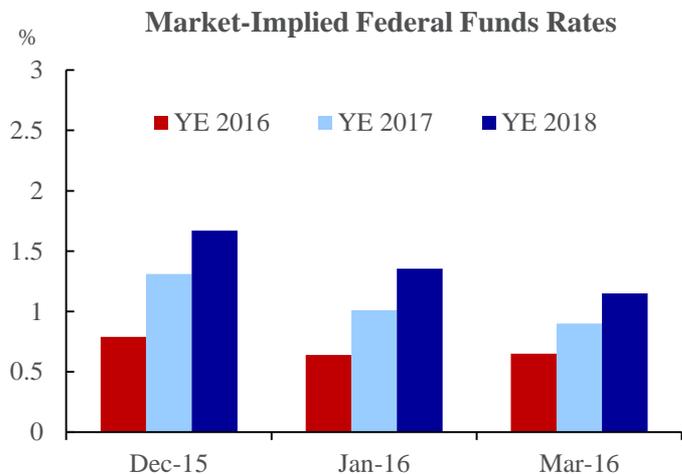


Source: Survey of Primary Dealers

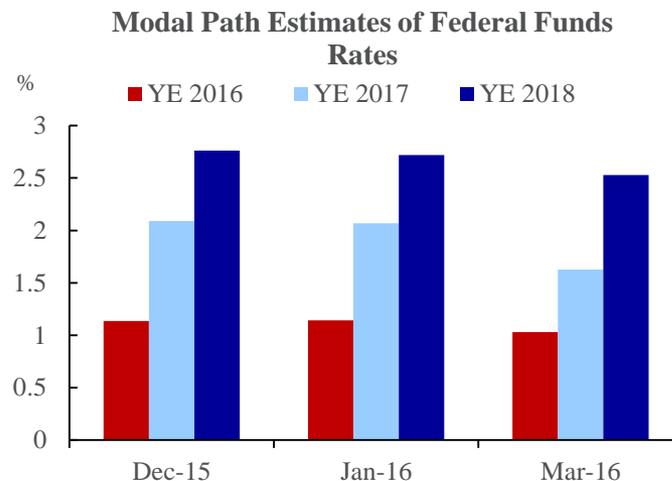


Source: Survey of Primary Dealers

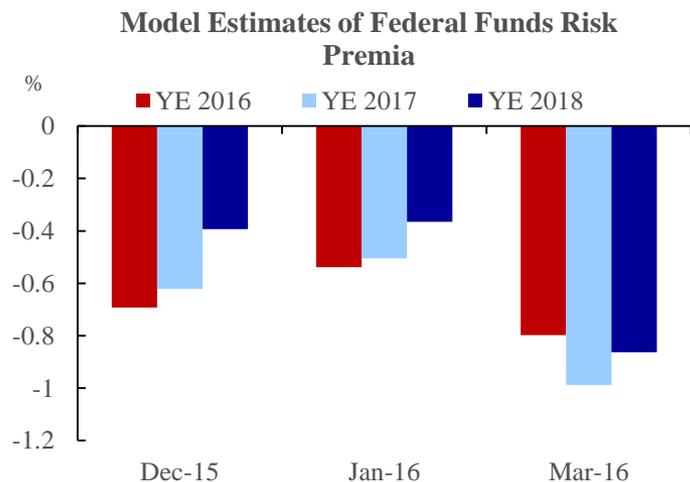
Market-Implied Rates, Modal Paths, Risk Premia and PDF-Implied Mean Rates



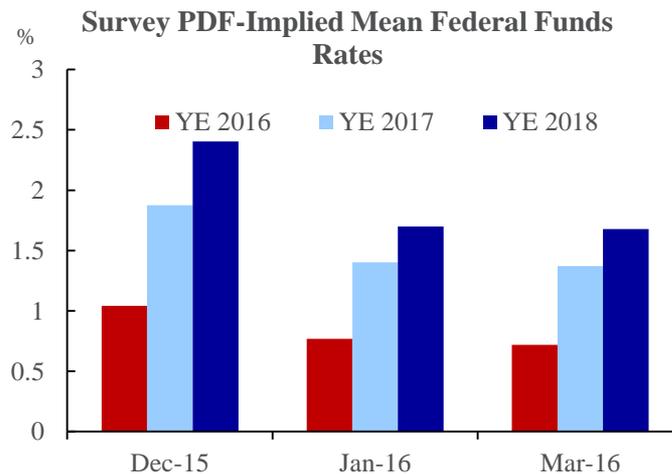
Source: Bloomberg



Source: Bloomberg, Desk Calculations

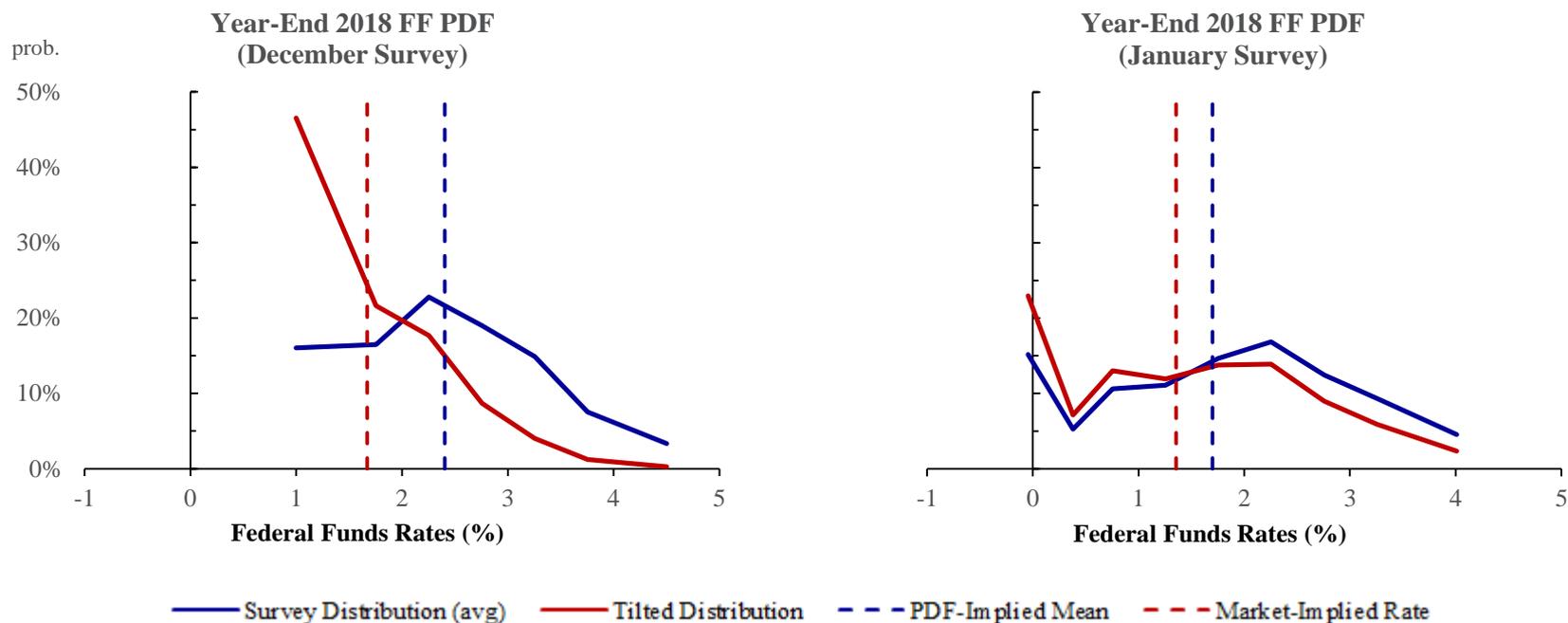


Source: Bloomberg, Desk Calculations



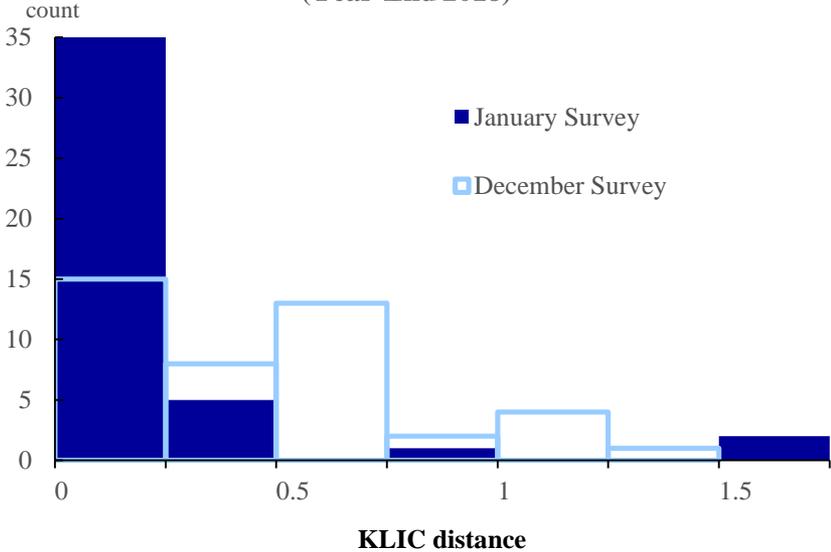
Source: Desk Surveys

Federal Funds Rate Survey Probability Distributions versus Tilted Distributions



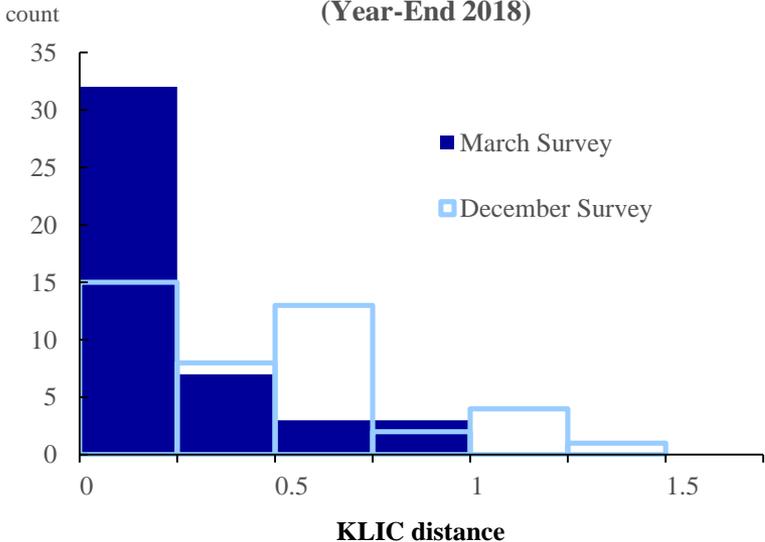
KLIC Distributions Across Survey Respondents

Distance from Original Survey by Respondent (Year-End 2018)



Source: Desk Surveys

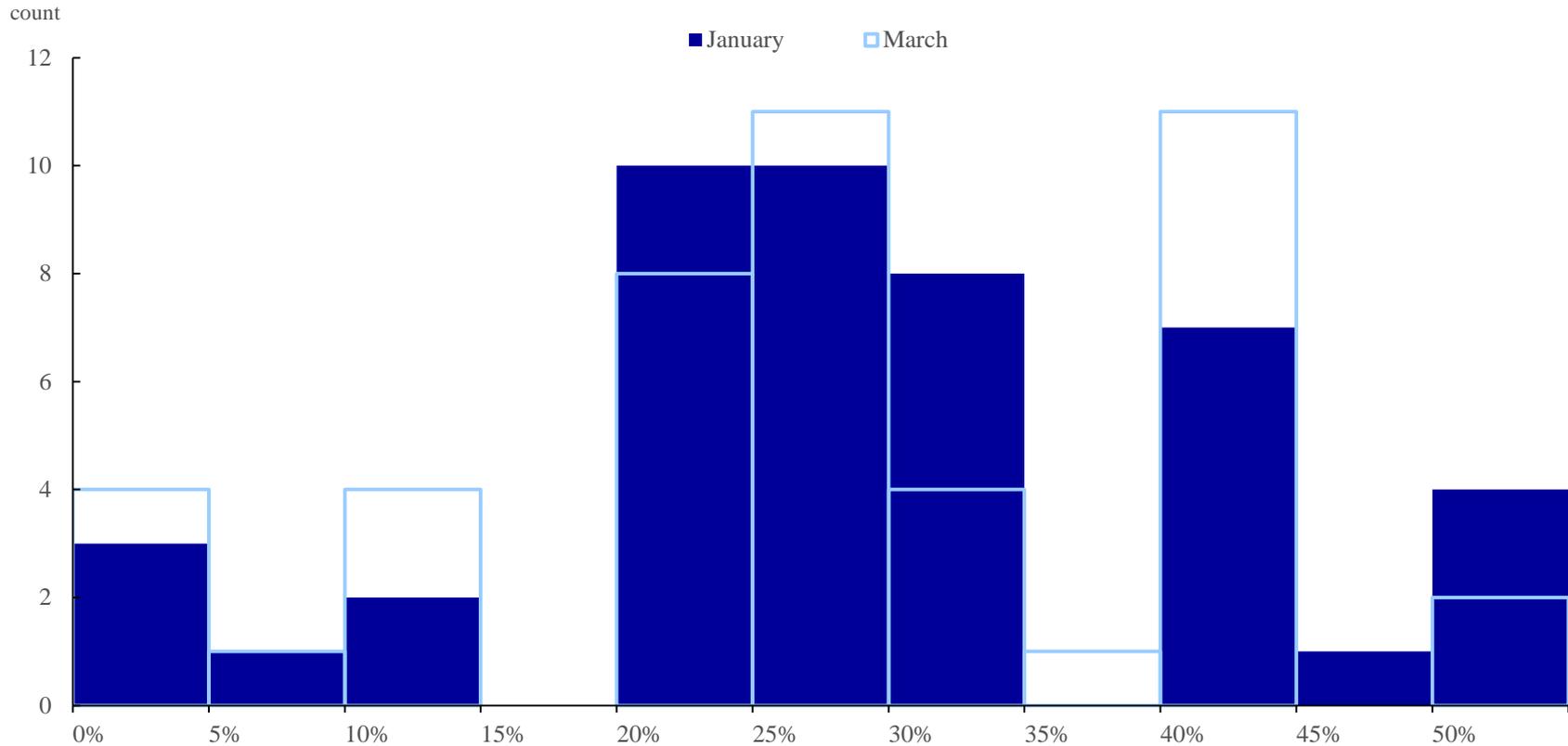
Distance from Original Survey by Respondent (Year-End 2018)



Source: Desk Surveys

Distribution of Probability of Returning to ZLB Across Survey Respondents

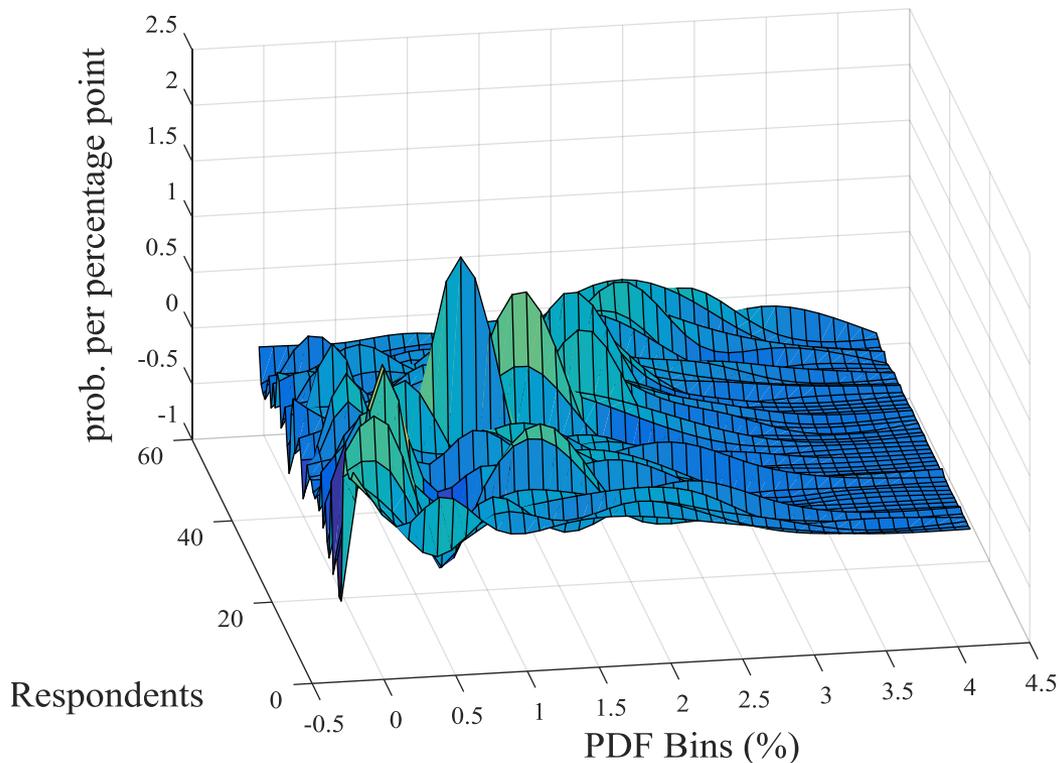
Probability of Returning to ZLB Dispersion Among Respondents



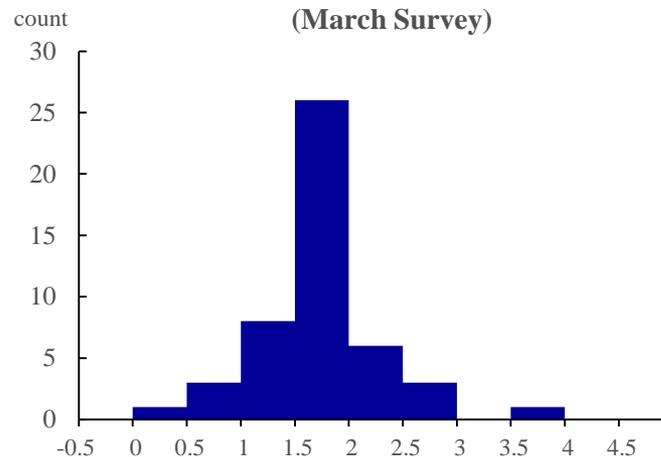
Source: Desk Surveys

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