

Online Appendix of “Learning-through-Survey in Inflation Expectations”

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1 Figures

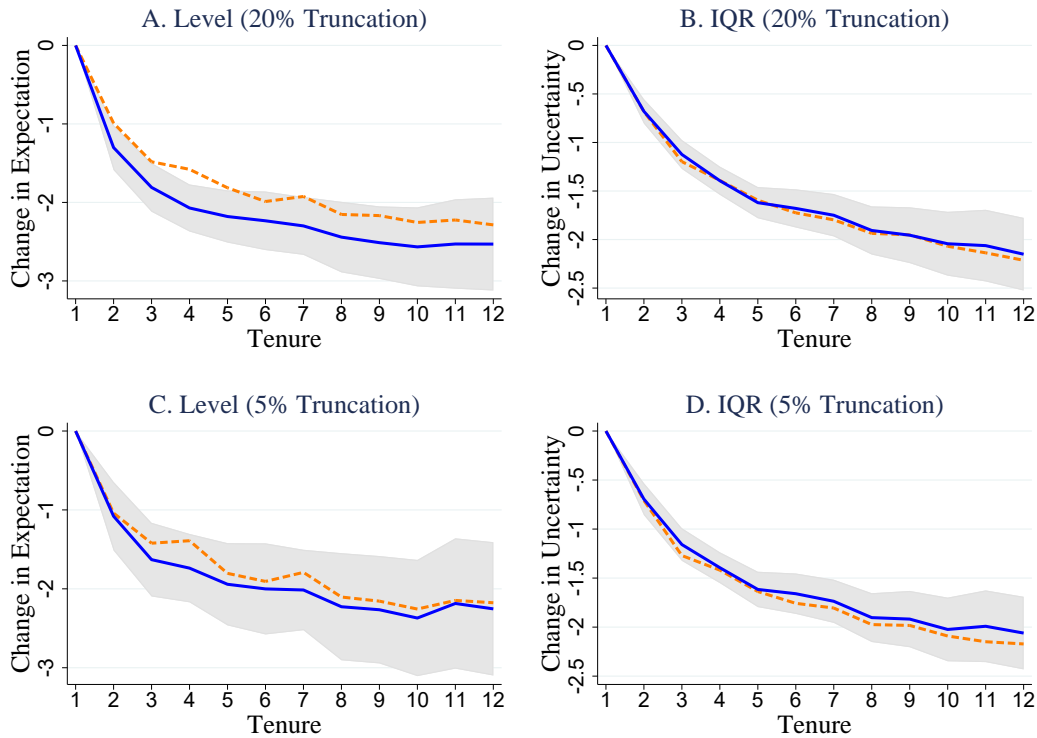


Figure A1: Average Survey Effects on Inflation Expectations in the SCE by Different Thresholds

Note: Panels A and B reproduce the results of Figure 1 for higher thresholds (trimming top and bottom 10%). Panels C and D reproduce the results of Figure 1 for lower thresholds (trimming top and bottom 2.5%). The y-axis shows the change in responses of survey participants compared to their initial responses, which is estimated from the regression (1). The y-axis is measured in percentage points. For Panel A and C, the dependent variable of the regression is the point inflation rate forecast, and for Panel B and D, the dependent variable is the IQR of consumers’ inflation expectations. The solid blue (dashed orange) lines correspond to one-year (three-year) ahead inflation forecasts. The gray area shows a 95% confidence interval for the solid blue line with Driscoll-Kraay standard errors of lag one. Tenure is shown on the x-axis and corresponds to the total number of survey experiences of each respondent (including the current survey wave). Data is from the FRBNY Survey of Consumer Expectation, June 2013 to October 2020.

2 Tables

Table A1: Average Survey Effects on Various Expectations in the SCE

| Dependents: | (1) $\pi_{t,t+12}^{e,point}$ | (2) $\pi_{t+24,t+36}^{e,point}$ | (3) $\pi_{t,t+12}^{e,density}$ | (4) $\pi_{t+24,t+36}^{e,density}$ | (5) $\pi_{t,t+12}^{e,IQR}$ | (6) $\pi_{t+24,t+36}^{e,IQR}$ | (7) $\pi_{t,t+12}^{e,point}$ 2015 |
|----------------|---------------------------------|------------------------------------|-----------------------------------|--------------------------------------|-------------------------------|----------------------------------|--------------------------------------|
| Tenure 2 | -1.24 (0.18) | -1.01 (0.17) | -0.50 (0.09) | -0.27 (0.12) | -0.70 (0.07) | -0.71 (0.06) | -1.76 (0.39) |
| Tenure 3 | -1.78 (0.20) | -1.50 (0.21) | -0.60 (0.09) | -0.46 (0.11) | -1.15 (0.08) | -1.23 (0.06) | -2.37 (0.21) |
| Tenure 4 | -2.00 (0.19) | -1.56 (0.18) | -0.54 (0.10) | -0.38 (0.10) | -1.38 (0.07) | -1.39 (0.06) | -2.67 (0.23) |
| Tenure 5 | -2.16 (0.21) | -1.86 (0.22) | -0.61 (0.10) | -0.40 (0.11) | -1.58 (0.09) | -1.58 (0.07) | -2.81 (0.41) |
| Tenure 6 | -2.24 (0.24) | -2.05 (0.23) | -0.51 (0.13) | -0.34 (0.14) | -1.64 (0.10) | -1.69 (0.08) | -3.37 (0.33) |
| Tenure 7 | -2.29 (0.21) | -1.97 (0.25) | -0.48 (0.12) | -0.31 (0.13) | -1.71 (0.11) | -1.75 (0.09) | -3.46 (0.32) |
| Tenure 8 | -2.46 (0.27) | -2.26 (0.28) | -0.57 (0.14) | -0.37 (0.15) | -1.86 (0.13) | -1.91 (0.10) | -3.40 (0.56) |
| Tenure 9 | -2.49 (0.28) | -2.30 (0.31) | -0.56 (0.16) | -0.37 (0.16) | -1.89 (0.14) | -1.92 (0.12) | -3.64 (0.55) |
| Tenure 10 | -2.60 (0.30) | -2.35 (0.34) | -0.71 (0.17) | -0.48 (0.17) | -2.00 (0.16) | -2.04 (0.13) | -3.80 (0.66) |
| Tenure 11 | -2.48 (0.34) | -2.32 (0.37) | -0.58 (0.19) | -0.39 (0.18) | -1.98 (0.18) | -2.10 (0.14) | -3.72 (0.59) |
| Tenure 12 | -2.55 (0.34) | -2.38 (0.42) | -0.58 (0.20) | -0.40 (0.21) | -2.04 (0.19) | -2.14 (0.15) | -3.57 (0.69) |
| Observations | 55879 | 55924 | 55070 | 55125 | 55070 | 55125 | 8120 |
| R ² | 0.01 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 |

Note: Driscoll-Kraay standard errors of lag one are in parentheses. Dependent variables of regressions are represented under the corresponding column numbers. For example, for column (1), the dependent variable, $\pi_{t,t+12}^{e,point}$, is one-year-ahead point inflation forecast. $\pi_{t+24,t+36}^{e,point}$ is three-year-ahead point inflation forecast. $\pi_{t,t+12}^{e,density}$, is one-year-ahead density mean inflation forecast. $\pi_{t+24,t+36}^{e,density}$ is three-year-ahead density mean inflation forecast. $\pi_{t,t+12}^{e,IQR}$ is IQR of one-year-ahead point inflation forecast which is estimated at individual-level using probabilistic forecasts of each respondent. $\pi_{t+24,t+36}^{e,IQR}$ is IQR of three-year-ahead point inflation forecast which is estimated at individual-level using probabilistic forecasts of each respondent. All units are in percentage points. We run a linear panel regression with individual and quarterly fixed effects, $y_{its} = \sum_{s=2}^{12} \beta_s \tau_s + \alpha_i + \gamma_t + \varepsilon_{it}$, where τ_s is a tenure dummy variable for s number of total survey experience. We restrict samples to consist of respondents who eventually participate in the survey for twelve waves (non-attriters). We winsorize the top and bottom 5% of each dependent variable for each tenure group and period. Data is from the FRBNY Survey of Consumer Expectations, June 2013 to October 2020. In column (7), sample is restricted to 2015.

Table A2: Average Survey Effects on Updating of Expectations and Absolute Forecast Errors in the SCE

| | (1) | (2) | (3) | (4) |
|----------------|--------------------------|-----------------------------|-----------------------------------|---|
| Dependents: | $Update(\pi_{t,t+12}^e)$ | $Update(\pi_{t+24,t+36}^e)$ | $ \pi_{t,t+12}^e - \pi_{t,t+12} $ | $ \pi_{t+24,t+36}^e - \pi_{t+24,t+36} $ |
| Tenure 2 | | | -2.02 (0.16) | -1.46 (0.14) |
| Tenure 3 | -5.06 (0.98) | -3.11 (0.82) | -2.92 (0.16) | -2.20 (0.16) |
| Tenure 4 | -7.31 (1.15) | -6.79 (0.90) | -3.34 (0.18) | -2.51 (0.18) |
| Tenure 5 | -9.20 (1.31) | -8.75 (1.12) | -3.56 (0.21) | -2.86 (0.19) |
| Tenure 6 | -12.50 (1.48) | -9.97 (1.27) | -3.69 (0.23) | -3.12 (0.22) |
| Tenure 7 | -13.93 (1.80) | -11.82 (1.29) | -3.81 (0.25) | -3.16 (0.26) |
| Tenure 8 | -14.65 (1.93) | -11.85 (1.47) | -4.10 (0.31) | -3.43 (0.28) |
| Tenure 9 | -16.68 (2.43) | -12.58 (1.74) | -4.17 (0.33) | -3.41 (0.31) |
| Tenure 10 | -16.59 (2.52) | -11.50 (1.98) | -4.24 (0.35) | -3.59 (0.34) |
| Tenure 11 | -17.65 (2.85) | -11.72 (2.34) | -4.18 (0.41) | -3.56 (0.39) |
| Tenure 12 | -18.08 (3.31) | -12.74 (2.42) | -4.29 (0.44) | -3.60 (0.43) |
| Observations | 51162 | 51210 | 55812 | 41660 |
| R ² | 0.00 | 0.00 | 0.03 | 0.02 |

Note: Driscoll-Kraay standard errors of lag one are in parentheses. Dependent variables of regressions are represented under the corresponding column numbers. For example, for column (1), the dependent variable, $Update(\pi_{t,t+12}^e)$, is an indicator variable for an update of one-year-ahead point inflation forecast. For example, if $\pi_{t,t+12}^e \neq \pi_{t-1,t+11}^e$ then $Update(\pi_{t,t+12}^e) = 100$ (percentage points unit) but otherwise $Update(\pi_{t,t+12}^e)$ is zero. A similar rule applies to $Update(\pi_{t+24,t+36}^e)$. $Update(\pi_{t+24,t+36}^e)$ is an indicator variable for an update of three-year-ahead point inflation forecast. $|\pi_{t,t+12}^e - \pi_{t,t+12}|$ measures absolute forecast error of one-year-ahead point inflation forecast. $\pi_{t,t+12}$ corresponds to realized seasonally-adjusted CPI inflation rates from period t to period $t + 12$ (all urban consumer items). A similar rule applies to three-year-ahead point inflation forecast. $|\pi_{t+24,t+36}^e - \pi_{t+24,t+36}|$ measures absolute forecast error of three-year-ahead point inflation forecast. All units are in percentage points. We run a linear panel regression with individual and quarterly fixed effects, $y_{its} = \sum_{s=2}^{12} \beta_s \tau_s + \alpha_i + \gamma_t + \varepsilon_{it}$, where τ_s is a tenure dummy variable. We restrict samples to consist of respondents who eventually participate in the survey for twelve waves (non-attriters). For column (3) and (4), we winsorize the top and bottom 5% of point inflation forecasts for each tenure group and period. Data is from the FRBNY Survey of Consumer Expectations and Federal Reserve Economic Data, June 2013 to October 2020.

Table A3: Tenure Effects on Other Expectations Variables

| Dependents: | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|--------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------|-----------------|-----------------|
| | Unemp | Gas | Food | Med | College | Rent | Gold | Home ^{iqr} | Inc | Earn |
| Tenure 2 | -3.28 (0.39) | | | | | | | | -0.55 (0.20) | -0.35 (0.13) |
| Tenure 3 | -5.72 (0.54) | -0.34 (0.19) | -0.25 (0.07) | -0.56 (0.20) | -0.51 (0.14) | -0.50 (0.10) | -0.30 (0.18) | -0.41 (0.07) | -0.48 (0.21) | -0.36 (0.15) |
| Tenure 4 | -7.66 (0.72) | -0.68 (0.29) | -0.54 (0.09) | -1.23 (0.21) | -1.09 (0.16) | -0.92 (0.09) | -0.38 (0.19) | -0.63 (0.06) | -0.77 (0.22) | -0.59 (0.16) |
| Tenure 5 | -9.12 (0.89) | -1.10 (0.34) | -0.76 (0.11) | -1.74 (0.24) | -1.77 (0.18) | -1.26 (0.12) | -0.49 (0.18) | -0.84 (0.06) | -1.05 (0.28) | -0.79 (0.19) |
| Tenure 6 | -9.65 (1.03) | -1.21 (0.44) | -0.78 (0.12) | -1.90 (0.28) | -1.80 (0.20) | -1.54 (0.13) | -0.49 (0.23) | -0.91 (0.07) | -1.22 (0.30) | -0.81 (0.20) |
| Tenure 7 | -9.93 (1.11) | -1.40 (0.48) | -0.82 (0.14) | -2.06 (0.31) | -2.17 (0.21) | -1.69 (0.15) | -0.60 (0.24) | -1.01 (0.08) | -1.29 (0.32) | -0.94 (0.22) |
| Tenure 8 | -11.18 (1.44) | -1.42 (0.63) | -0.91 (0.16) | -2.25 (0.31) | -2.45 (0.24) | -1.84 (0.18) | -0.70 (0.26) | -1.10 (0.09) | -1.31 (0.37) | -0.92 (0.23) |
| Tenure 9 | -11.46 (1.64) | -1.66 (0.71) | -1.00 (0.19) | -2.55 (0.37) | -2.56 (0.25) | -2.03 (0.19) | -0.85 (0.30) | -1.13 (0.10) | -1.29 (0.41) | -0.91 (0.26) |
| Tenure 10 | -12.10 (1.84) | -1.99 (0.80) | -1.11 (0.21) | -2.79 (0.43) | -2.78 (0.31) | -2.21 (0.22) | -0.88 (0.33) | -1.19 (0.10) | -1.24 (0.47) | -0.87 (0.27) |
| Tenure 11 | -12.32 (2.03) | -1.96 (0.89) | -1.16 (0.24) | -2.68 (0.46) | -2.64 (0.32) | -2.23 (0.26) | -0.91 (0.37) | -1.27 (0.11) | -1.23 (0.51) | -0.89 (0.32) |
| Tenure 12 | -12.81 (2.37) | -2.10 (1.01) | -1.12 (0.25) | -2.73 (0.49) | -2.79 (0.35) | -2.37 (0.27) | -0.86 (0.43) | -1.32 (0.12) | -1.39 (0.57) | -0.78 (0.35) |
| Observations | 45522 | 51353 | 51403 | 51398 | 51366 | 51395 | 51330 | 50926 | 55968 | 34883 |
| R^2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |

Note: Driscoll-Kraay standard errors of lag one are in parentheses. For column (1), the dependent variable is the percent chance that unemployment will be higher in 12 months, and sample is limited to months when realized unemployment is lower in 12 months (so smaller responses are more accurate). For columns (2) to (7), the dependent variable is the expected percent change in prices in the next 12 months for the indicated category. In column (8), the dependent variable is the interquartile range of the respondent's density forecast for national home prices. In columns (9) and (10), the dependent variable is the point forecast for household income or personal earnings growth in the next 12 months. The dependent variables in (2) through (8) are only asked of respondents with tenure 2 or greater. We run a linear panel regression with individual and quarterly fixed effects, $y_{its} = \sum_{s=2}^{12} \beta_s \tau_s + \alpha_i + \gamma_t + \varepsilon_{it}$, where τ_s is a tenure dummy variable. We restrict samples to consist of respondents who eventually participate in the survey for twelve waves (non-attriters). We winsorize the top and bottom 5% of each dependent variable for each tenure group and period. Data is from the FRBNY Survey of Consumer Expectations, June 2013 to October 2020.

Table A4: Panel Regression Estimation of Responses to Gas Prices by Survey Tenure

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-------------------------------------|----------------|----------------|----------------|----------------|-----------------|----------------|
| Tenure $1 \times \log(\text{Gas})$ | 2.75 (0.57) | 1.68 (0.49) | 4.85 (1.13) | 1.33 (0.42) | 1.25 (0.18) | 1.66 (0.17) |
| Tenure $2 \times \log(\text{Gas})$ | 2.33 (0.43) | 1.26 (0.38) | 3.20 (0.65) | 0.84 (0.43) | 0.78 (0.31) | 1.27 (0.37) |
| Tenure $3 \times \log(\text{Gas})$ | 2.34 (0.53) | 1.03 (0.44) | 2.95 (1.00) | 0.75 (0.42) | 0.46 (0.24) | 1.30 (0.18) |
| Tenure $4 \times \log(\text{Gas})$ | 2.21 (0.58) | 1.07 (0.50) | 2.50 (1.07) | 0.82 (0.41) | 0.71 (0.30) | 1.18 (0.22) |
| Tenure $5 \times \log(\text{Gas})$ | 2.01 (0.52) | 0.89 (0.48) | 2.29 (0.94) | 0.77 (0.41) | 0.47 (0.31) | 1.00 (0.38) |
| Tenure $6 \times \log(\text{Gas})$ | 2.38 (0.52) | 1.11 (0.53) | 2.18 (1.14) | 0.90 (0.42) | 0.55 (0.27) | 1.40 (0.30) |
| Tenure $7 \times \log(\text{Gas})$ | 2.34 (0.55) | 0.99 (0.56) | 2.41 (1.22) | 0.94 (0.42) | 0.40 (0.27) | 1.39 (0.31) |
| Tenure $8 \times \log(\text{Gas})$ | 2.07 (0.60) | 0.63 (0.58) | 1.73 (1.12) | 0.86 (0.41) | 0.15 (0.38) | 1.14 (0.35) |
| Tenure $9 \times \log(\text{Gas})$ | 1.93 (0.70) | 0.42 (0.69) | 1.52 (1.36) | 0.87 (0.41) | 0.10 (0.52) | 1.03 (0.50) |
| Tenure $10 \times \log(\text{Gas})$ | 1.88 (0.68) | 0.30 (0.66) | 1.70 (1.40) | 0.75 (0.41) | 0.02 (0.43) | 1.02 (0.43) |
| Tenure $11 \times \log(\text{Gas})$ | 1.95 (0.77) | 0.29 (0.66) | 1.44 (1.46) | 0.90 (0.42) | -0.07 (0.45) | 1.12 (0.43) |
| Tenure $12 \times \log(\text{Gas})$ | 1.84 (0.80) | 0.32 (0.72) | 1.40 (1.55) | 0.91 (0.42) | -0.17 (0.58) | 1.04 (0.58) |
| Expectation Type | Mean | Mean | Point | Mean | Mean | Mean |
| 10% Winsorization | N | Y | Y | N | N | N |
| Full Survey Participation | Y | Y | Y | Y | N | Y |
| Individual FE | Y | Y | Y | Y | Y | Y |
| Quarterly Time FE | Y | Y | Y | Y | Y | N |
| Sample Period | 14m7-15m2 | 14m7-15m2 | 14m7-15m2 | 13m6-19m12 | 14m7-15m2 | 14m7-15m2 |
| Observations | 5360 | 5360 | 5454 | 54694 | 9859 | 5360 |
| F Statistic | 33.8 | 57.0 | 3.5 | 5.9 | 60.9 | 36.5 |

Note: Driscoll-Kraay standard errors of lag one are in parentheses. Tenure corresponds to the the total number of of survey experiences of each respondent (including the current survey wave). The independent variables are interaction terms between monthly average U.S. Regular Conventional Gas price per Gallon in \$US and tenure dummy variables (τ_s). The dependent variable is the one-year-ahead density mean inflation expectation (in percentage points) estimated by the NY Fed, except for model (3) which uses point inflation expectations. For model (2) and (3), we winsorize the top and bottom 5% of dependent variable for each tenure group and period. Except for model (5), we restrict samples to consist of respondents who eventually participate in the survey for twelve waves (non-attriters). Data is from the FRBNY Survey of Consumer Expectations and Federal Reserve Economic Data.

Table A5: Panel Regression Estimation of the EIS and Excess Sensitivity by Survey Tenure

| | (1) | | (2) | | (3) | |
|-----------------|----------------|----------------|------------------|------------------|----------------|----------------|
| | $\hat{\sigma}$ | $\hat{\gamma}$ | $\hat{\sigma}$ | $\hat{\gamma}$ | $\hat{\sigma}$ | $\hat{\gamma}$ |
| Pooled | 0.70 (0.02) | 0.24 (0.01) | | | | |
| Tenure1 | | | 0.62 (0.03) | 0.22 (0.02) | 0.36 (0.07) | 0.27 (0.02) |
| Tenure2 | | | 0.66 (0.03) | 0.24 (0.02) | 0.38 (0.06) | 0.29 (0.02) |
| Tenure3 | | | 0.68 (0.03) | 0.24 (0.02) | 0.47 (0.05) | 0.28 (0.02) |
| Tenure4 | | | 0.70 (0.03) | 0.25 (0.02) | 0.48 (0.05) | 0.30 (0.02) |
| Tenure5 | | | 0.70 (0.03) | 0.24 (0.0175) | 0.49 (0.05) | 0.28 (0.02) |
| Tenure6 | | | 0.75 (0.03) | 0.21 (0.02) | 0.53 (0.06) | 0.26 (0.02) |
| Tenure7 | | | 0.74 (0.03) | 0.24 (0.02) | 0.55 (0.05) | 0.29 (0.02) |
| Tenure8 | | | 0.74 (0.03) | 0.24 (0.02) | 0.54 (0.05) | 0.28 (0.02) |
| Tenure9 | | | 0.76 (0.03) | 0.24 (0.02) | 0.62 (0.05) | 0.28 (0.03) |
| Tenure10 | | | 0.78 (0.0290) | 0.22 (0.02) | 0.61 (0.06) | 0.26 (0.02) |
| Tenure11 | | | 0.70 (0.03) | 0.26 (0.02) | 0.53 (0.06) | 0.30 (0.02) |
| Tenure12 | | | 0.71 (0.03) | 0.24 (0.02) | 0.55 (0.05) | 0.28 (0.03) |
| Regression Type | OLS | | OLS | | IV | |
| Observations | 54970 | | 54970 | | 54850 | |

Note: Driscoll-Kraay standard errors of lag one are in parentheses. We run a linear panel regression of Crump et al. (2015), allowing regression coefficients to vary by survey experience of respondents: $ExpCG_{t,t+12}^i = -\sum_{s=1}^{12} \tau_s \sigma_s ExpInf_{t,t+12}^i + \sum_{s=1}^{12} \tau_s \gamma_s ExpIG_{t,t+12}^i + \alpha_i + \beta_t + \varepsilon_{i,t}$. The dependent variable is expected real consumption growth over the next twelve months of households, $ExpCG_{t,t+12}^i$. Independent variables are density-implied mean inflation rates, $ExpInf_{t,t+12}^i$, and expected real household income growth, $ExpIG_{t,t+12}^i$. α_i and β_t are individual and quarterly time fixed effects. τ_s is a dummy variable for respondents whose tenure of s . Tenure corresponds to the total number of survey experiences of each respondent (including the current survey wave). For the case of IV, the point inflation expectation is used as an instrument of density-implied mean inflation expectation. All units of variables are in percentage points. We winsorize the top and bottom 5% of each dependent variable for each tenure group and period. We restrict samples to consist of respondents who eventually participate in the survey for twelve waves (non-attriters). Data is from the FRBNY Survey of Consumer Expectations, June 2013 to October 2020.

Table A6: Summary Statistics of SCE One-year-ahead Inflation Point Forecasts

| Tenure | Mean | Std. | N |
|--------|------|------|---------|
| 1 | 7.0 | 12.5 | 15,050 |
| 2 | 5.5 | 8.7 | 12,585 |
| 3 | 5.1 | 7.4 | 11,702 |
| 4 | 4.8 | 6.4 | 11,092 |
| 5 | 4.7 | 6.0 | 10,509 |
| 6 | 4.5 | 5.6 | 10,035 |
| 7 | 4.5 | 5.5 | 9,588 |
| 8 | 4.3 | 5.0 | 8,858 |
| 9 | 4.3 | 5.0 | 8,177 |
| 10 | 4.2 | 5.0 | 7,411 |
| 11 | 4.2 | 5.2 | 6,385 |
| 12 | 4.1 | 5.0 | 4,717 |
| Total | 5.0 | 7.4 | 116,109 |

Note: Tenure refers to the total number of survey experiences including the current survey experience. The one-year-ahead point inflation expectations are used. Std. denotes the standard deviation. By each tenure group and period, the top and bottom 5% of observations are winsorized. Sampling weights are unused, and the maximum tenure is not restricted in the calculation of the summary statistics. The data is from the FRBNY Survey of Consumer Expectation, June 2013 to October 2020.

Table A7: Summary Statistics of One-year-ahead Density-implied Mean Inflation Expectations of the SCE

| Tenure | Mean | Std. | N |
|--------|------|------|---------|
| 1 | 5.5 | 4.8 | 14,258 |
| 2 | 4.5 | 4.3 | 12,231 |
| 3 | 4.0 | 3.9 | 11,512 |
| 4 | 3.7 | 3.6 | 10,927 |
| 5 | 3.6 | 3.4 | 10,379 |
| 6 | 3.5 | 3.4 | 9,943 |
| 7 | 3.4 | 3.3 | 9,512 |
| 8 | 3.3 | 3.2 | 8,789 |
| 9 | 3.3 | 3.3 | 8,113 |
| 10 | 3.2 | 3.2 | 7,342 |
| 11 | 3.2 | 3.2 | 6,338 |
| 12 | 3.1 | 3.1 | 4,681 |
| Total | 3.8 | 3.8 | 114,025 |

Note: Tenure refers to the total number of survey experiences including the current survey experience. The one-year-ahead density-implied mean inflation expectations are used. Std. denotes the standard deviation. By each tenure group and period, the top and bottom 5% of observations are winsorized. Sampling weights are unused, and the maximum tenure is not restricted in the calculation of the summary statistics. The data is from the FRBNY Survey of Consumer Expectations, June 2013 to October 2020.

Table A8: Summary Statistics of One-year-ahead Inflation Expectations of the MSC

| Tenure | Mean | Std. | N |
|--------|------|------|---------|
| 1 | 4.7 | 4.9 | 170,066 |
| 2 | 3.5 | 3.5 | 101,705 |
| Total | 4.3 | 4.5 | 271,771 |

Note: Tenure refers to the total number of survey experiences, including the current experience. The one-year-ahead point inflation expectations are used. Std. denotes the standard deviation. By each tenure group and period, the top and bottom 5% of observations are winsorized. Sampling weights are unused, and the maximum tenure is not restricted in the calculation of the summary statistics. The data is from the Michigan Survey of Consumers, July 1980 to October 2021.

Table A9: Tests for Significant Differences between the Coefficients across Survey Tenure in Table A5

| | $\hat{\sigma}$ | $\hat{\gamma}$ | $\hat{\sigma}$ | $\hat{\gamma}$ |
|-----------------|----------------|----------------|----------------|----------------|
| F-statistic | 2.62 | 0.93 | 3.49 | 0.91 |
| P-value | 0.0061 | 0.5204 | 0.0004 | 0.5303 |
| Regression Type | OLS | OLS | IV | IV |
| Observations | 54970 | 54970 | 54850 | 54850 |

Note: We have conducted F-tests for $H_0: \hat{\sigma} = \hat{\sigma}_s \forall s$ and $H_0: \hat{\gamma} = \hat{\gamma}_s \forall s$ for both OLS and IV cases in Column (2) and (3) of Table A5. Driscoll-Kraay standard errors of lag one are used. More detailed regression setups are described in Table A5. For $\hat{\sigma}$, we could reject the null hypothesis at 1% significance level that the coefficients across the tenure groups are equal. On the contrary, we could not reject the null for the case of $\hat{\gamma}$.

3 Questionnaire

3.1 SCE questions related to inflation, unemployment, and other price changes

- Q2

- And looking ahead, do you think you (and any family living with you) will be financially better or worse off **12 months from now** than you are these days?

Instruction H1

- Much worse off
- Somewhat worse off
- About the same
- Somewhat better off
- Much better off

If not response: error E1

- Q8v2

- The next few questions are about inflation. **Over the next 12 months**, do you think that there will be inflation or deflation? (Note: deflation is the opposite of inflation)

Instruction H8

- Inflation
- Deflation

- Q8v2part2

- What do you expect the rate of [inflation/deflation as in Q8v2] to be **over the next 12 months**? Please give your best guess.

Instruction H9

Over the next 12 months, I expect the rate of [inflation/deflation] to be _____ %

- Q9

- Now we would like you to think about the different things that may happen to inflation over the next 12 months. We realize that this question may take a little more effort.

In your view, what would you say is the percent chance that, **over the next 12 months...**

Instruction H4

the rate of inflation will be 12% or higher: _____ percent chance

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

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

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

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

the rate of deflation (opposite of inflation) will be between 0% and 2%: _____ percent chance

the rate of deflation (opposite of inflation) will be between 2% and 4%: _____ percent chance

the rate of deflation (opposite of inflation) will be between 4% and 8%: _____ percent chance

the rate of deflation (opposite of inflation) will be between 8% and 12%: _____ percent chance

the rate of deflation (opposite of inflation) will be 12% or higher: _____ percent chance

TOTAL 100

If sum not equal to 100: "Your total adds up to XX" followed by an error message

- C2

And in your view, what would you say is the percent chance that, over the next 12 months, the average home price nationwide will...

Instruction H4

increase by 12% or more: _____ percent chance

increase by 8% to 12%: _____ percent chance

increase by 4% to 8%: _____ percent chance

increase by 2% to 4%: _____ percent chance

increase by 0% to 2%: _____ percent chance

decrease by 0% to 2%: _____ percent chance

decrease by 2% to 4%: _____ percent chance

decrease by 4% to 8%: _____ percent chance

decrease by 8% to 12%: _____ percent chance

decrease by 12% or more: _____ percent chance

TOTAL 100

If sum not equal to 100: "Your total adds up to XX" followed by an error message

- Q4new

- What do you think is the percent chance that 12 months from now the unemployment rate in the U.S. will be higher than it is now?

Instruction H2

- C4info

- Twelve months from now, what do you think will have happened to the price of the following items? *Instruction H11* I expect...

The price of a gallon of gas to have increased by _____ percent or decreased by _____ percent

The price of food to have increased by _____ percent or decreased by _____ percent

The price of medical care to have increased by _____ percent or decreased by _____ percent

The price of a college education to have increased by _____ percent or decreased by _____ percent

The cost of renting a typical house/apartment to have increased by _____ percent or decreased by _____ percent

The price of gold to have increased by _____ percent or decreased by _____ percent

3.2 Questions related to Future Income/Earning in SCE

- Q23v2

- Please think ahead to **12 months from now**. Suppose that you are working in the exact same job at the same place you currently work, and working the exact same number of hours. What do you expect to have happened to your earnings on this job, before taxes and deductions?

Instruction H8

Twelve months from now, I expect my earnings to have

Increase by 0% or more

Decrease by 0% or more

• **Q23v2part2**

- By about what percent do you expect your earnings to have [increased/decreased as in Q23v2]? Please give your best guess.

Instruction H9

Twelve months from now, I expect my earnings to have [increased/decreased] by _____ %

• **Q24**

- Suppose again that, 12 months from now, you are working in the exact same job at the same place you currently work, and working the exact same number of hours. In your view, what would you say is the percent that 12 months from now...

Instruction H4

Your earnings on this job, before taxes and deductions, will have...

increase by 12% or more: _____ percent chance

increase by 8% to 12%: _____ percent chance

increase by 4% to 8%: _____ percent chance

increase by 2% to 4%: _____ percent chance

increase by 0% to 2%: _____ percent chance

decreased by 0% to 2%: _____ percent chance

decreased by 2% to 4%: _____ percent chance

decreased by 4% to 8%: _____ percent chance

decreased by 8% to 12%: _____ percent chance

decreased by 12% or more: _____ percent chance

TOTAL 100

If sum not equal to 100: "Your total adds up to XX" followed by an error message

• **Q25v2**

- Next we would like to ask you about your overall household income going forward. By household we mean everyone who usually lives in your primary residence (including yourself), excluding roommates and renters.

Over the next 12 months, what do you expect will happened to the total income of all members of your household (including you), from all sources before taxes and deductions?

Instruction H8

Over the next 12months, I expect my total household income to...

increase by 0% or more

decrease by 0% or more

• **Q25v2part2**

- By about what percent do you expect your total household income to [increased/decreased as in Q25v2]? Please give your best guess.

Instruction H9

Over the next 12 months, I expect my total household income to [increased/decreased] by _____ %

3.3 Questions related to Inflation in MSC

- **A12**

- During the next 12 months, do you think that prices in general will go up, or go down, or stay where they are now?

1.GO UP 2.STAY THE SAME 5.GO DOWN 8.DON'T KNOW

(If answer 2 is chosen then go to A12a. For 1, go to A12b. For 5, go to A12c.)

- **A12a**

- Do you mean that prices will go up at the same rate as now, or that prices in general will not go up during the next 12 months?

2.GO UP 3.WILL NOT GO UP

- **A12b**

- By about what percent do you expect future prices to go (up/down) on the average, during the next 12 months?

_____ PERCENT

- DON'T KNOW (Go to A12c if this is chosen)

- **A12c**

(AFTER A DON'T KNOW RESPONSE IS PROVIDED, IF R SAYS, "I DON'T KNOW" USE THE FOLLOWING PROBE:)

(USE PROBE BELOW IF ANSWER IS GREATER THAN 5%)

- How many cents on the dollar do you expect prices to go (up/down) on the average, during the next 12 months?

_____ CENTS ON DOLLAR

- DON'T KNOW

- IF R GIVES AN ANSWER THAT IS GREATER THAN 5%, PLEASE PROBE WITH:

"Let me make sure I have that correct. You said that you expect prices to go (up/down) during the next 12 months by (X) percent. Is that correct?"