Are Stated Expectations Actual Beliefs?
New Evidence for the Beliefs Channel of Investment Demand

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The views expressed do not necessarily reflect those of the Federal Reserve Bank of New York or the FR System.

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- Explosion of empirical research on beliefs in behavioral macrofinance, corp fin, real estate
- But do **stated** beliefs reflect **actual** beliefs used in investment decisions?

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Maybe Yes...

- Stated expectations $\Rightarrow$ Investment
- Armantier et al. (2015) Armona et al. (2018) Giglio et al. (2020) ...
- Large structural lit combines stated expectations and actions
- Beliefs code individual-specific private info (Hendren 2013, 2017)

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Maybe No...

- Rounding (Dominitz & Manski 1997)
- Level- vs. change-framing effects
- Cognitive psych lit on numerical representation
- Beliefs vs. preferences (Cochrane 2011)

** Weak empirical correlation between investment and beliefs

Mapping from expectations $\mapsto$ choices not foregone conclusion

"There has, nevertheless, been awareness that the willingness and ability of respondents to report probabilistic expectations does not imply that persons regularly think probabilistically and use subjective probability distributions to make decisions. It has long been known that survey respondents are willing and able to respond to questions seeking point predictions of uncertain events or verbal assessments of likelihood. Yet **persons need not use point predictions or verbal assessments of likelihood to make decisions**."

-Manski (2018, *NBER Macroeconomics Annual*)

Where we come in

- Measure local house price forecasts (mean and distributions) using NY Fed Survey of Consumer Expectations
- Measure other individual-level belief factors, including beliefs about fundamentals and perceived past returns to local housing
- Measure other demand factors (risk aversion, income, wealth, etc.)
- Offer respondents a derivative: split (ϕ) between a 2% savings account and whatever their zip code housing index returns this year + random chance at proceeds
- Abstracts away from demand factors, transactions costs

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Punchlines

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4. Robust to accounting for risk aversion, demand correlates, measurement error, multicollinearity, misspecification.
5. Direct qualitative and quantitative evidence for cognitive uncertainty as a mechanism

Theory has no independent role for $\hat{r}_t$

Simplest asset allocation model Merton (1969):
single risky asset with normally distributed return, share ϕ

$$\phi = \frac{\hat{E}_t[r_{t+1}] - R_f}{\alpha \hat{\sigma}_t^2}$$

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- Contrast: we show $\hat{r}_t$ important predictor of ϕ even conditional on these factors.
- Empirics support interpreting $\hat{r}_t$ as another component of beliefs channel.

Usual approach to beliefs channel

$$\phi = \frac{\hat{E}_t[r_{t+1}] - R_f}{\alpha \hat{\sigma}_t^2}$$

Because $\hat{E}_t[r_{t+1}]$ and $\hat{\sigma}_t$ are treated as sufficient statistics for past info, typical expectation paper features "divide-and-conquer" approach:

- Stage 1. Expectation Formation:

$$\hat{r}_t, X, Z ... \Rightarrow \hat{E}_t[r_{t+1}]$$

- Stage 2. Expectations Affecting Demand:

$$\hat{E}_t[r_{t+1}] \text{ } \textbf{(without } \hat{r}_t, ...) \Rightarrow \text{demand } (\phi)$$

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→ Contrast: we show $\hat{r}_t$ not fully incorporated into $\hat{E}_t[r_{t+1}]$; still matters in Stage 2.

Explanation? Cognitive Uncertainty

Enke and Graeber (2020)

- People respond to cognitive noise ("cognitive uncertainty") and shrink their beliefs towards "mental defaults"
- Stress response triggered by [complex or ambiguous or risky] situations to revert to default

→ weights on belief factors could be different across domains depending on relative perception of forecasting vs. investing

- We extend model to allow level of subjective uncertainty to change in stating beliefs vs. using beliefs
- Example: shrinking investment allocation towards 50:50 split between risky and risk-free

→ Our context: last year's returns are a mental default on which investors base investments

Cognitive Uncertainty in our context: $\hat{r}_t$ serves as a mental anchor

- When asked about home price forecast, the investor uses all available information

$$\hat{E}[r_{t+1}] = \beta_r \hat{r}_t + \beta_{GDP} \hat{E}[GDP] + \beta_{rent} \hat{E}[\text{rent growth}] + \cdots = 11\%$$

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- Key: $\hat{r}_t$ feels relatively salient and certain and the investor doesn't discount it.

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What do I know about GDP? Why 11% and not 8% or 15%?
After all, I'm pretty sure last year's returns were 5%...

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$\Rightarrow$ Discounts other signals, shrinks her 11% forecast towards 5%, and bases decisions on 7%

Bayesian logic

Data and Descriptive Evidence

Survey Questions: Perception and Expectation of Home Prices

Housing module of the NY Fed Survey of Consumer Expectations: 2015-2021

- **Perceived** home price growth in local zip code over **past** 12 months
- **Expected** home price growth in local zip code over **next** 12 months
- Demographic variables: age, education, income, liquid savings, married, homeownership, race, gender, numeracy, census region, urban or rural
- Risk tolerance measure
- Expectations about demand fundamentals

Investment Experiment

▸ more

Consider a situation where you have to decide how to invest $1,000 for one year. You can choose between two possible investments.

The first is a fund that invests in your local housing market, and pays an annual return equal to the growth in home prices in your area. The second is a savings account that pays **2%** of interest per year.

What proportion of the $1,000 would you invest in:

*(Please note: The numbers need to add up to **100**.)*

The housing market fund		%
The savings account		%
TOTAL	0	

Other Survey Measures of Investment

- Probability of buying an **investment** property within the next 3 years.
- Probability of moving within the next 3 years
  $\hookrightarrow$ If Pr(moving) $\geq$ 5% we ask Pr(**owning** conditional on moving)
- View housing as a good investment (1-5 scale)

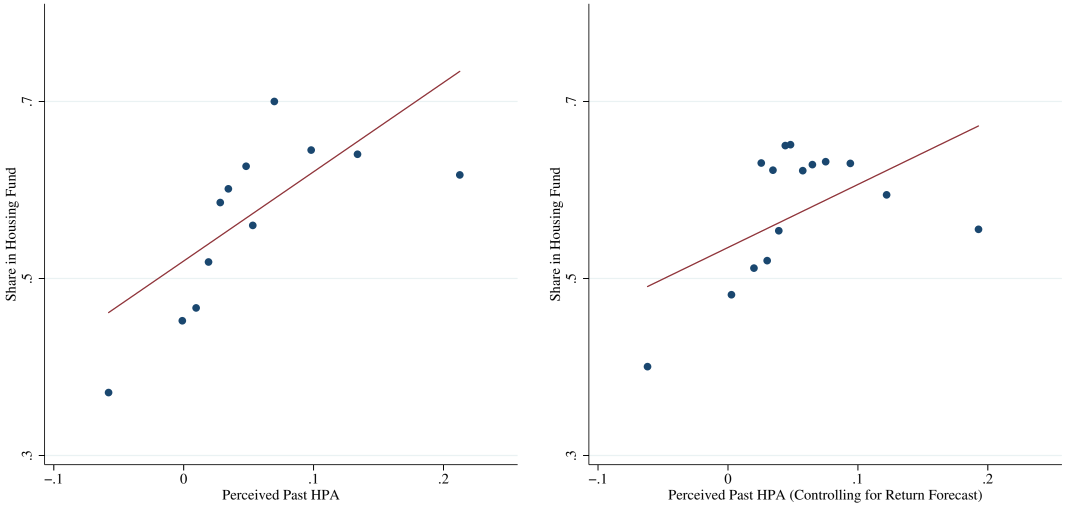
$\rightarrow$ Theoretical prediction: ceteris paribus, higher beliefs $\Rightarrow \uparrow$ Pr(invest)

Beliefs Incorporate Past Returns

Dependent Variable: 1-year HP Expectation				
	(1)	(2)	(3)	(4)
Perceived Past Returns	0.29***	0.28***	0.25***	0.24***
	(0.013)	(0.014)	(0.013)	(0.014)
Forecasted Rent Growth			0.15***	0.15***
			(0.011)	(0.011)
Forecasted Inflation			0.070***	0.065***
			(0.017)	(0.017)
Individual Controls		X		X
Fundamentals			X	X
Observations	6,993	6,993	6,993	6,993
R-Squared	0.139	0.163	0.202	0.222

Notes: Other fundamentals controls include respondent expectations mortgage rate changes, future economic conditions, and future credit availability.

Past returns predict investment even conditional on stated forecasts



Regression Evidence

Demographics as Omitted Demand Factors

$$Y_{it+1} = \alpha + \beta_1 \hat{r}_{it} + \beta_2 \hat{E}_t[r_{it+1}] + X_i' \phi + \varepsilon_{it+1}$$

- Y_{it+1} is an investment outcome of interest.
- $\hat{r}_{it}$ is respondent i's perception of home price growth over the last 12 months.
- $\hat{E}_t[r_{it+1}]$ is respondent i's expected home-price growth over the next 12 months.
- X_i is a rich set of demographic controls (age, education, income, liquid savings, married, homeownership, race, gender, numeracy, census region, urban or rural)

Effects of Forecasted and Past Returns on Investment

	Dependent Variable: Share in a Housing Fund (2015 Experiment)					
	(1)	(2)	(3)	(4)	(5)	(6)
$\hat{E}_t[r_{it+1}]$	1.30***		0.88***	1.23***		0.93***
	(0.13)		(0.15)	(0.13)		(0.14)
$\hat{r}_{it}$		1.01***	0.71***		0.85***	0.54***
		(0.10)	(0.11)		(0.10)	(0.11)
Demographics				X	X	X
Observations	2,963	2,963	2,963	2,963	2,963	2,963
R-Squared	0.033	0.035	0.047	0.129	0.123	0.136

What's to say $\hat{r}_t$ effect is about beliefs? Alternative explanations

$$\phi = \frac{\hat{E}_t[r_{t+1}] - R_f}{\alpha \hat{\sigma}_t^2}$$

1. r_t correlated with *distribution* of expected returns ($\hat{\sigma}_t^2$) Details
2. r_t correlated with risk aversion (α) Details
3. r_t correlated with omitted demand factors
4. Multicollinearity between $\hat{E}_t[r_{t+1}]$ and $\hat{r}_t$ Details
5. Measurement error in survey stated expectations $\hat{E}_t[r_{t+1}]$

3. Does r_t reflect beliefs or demand shocks?

- Our interpretation of r_t as a *belief* factor only holds if r_t isn't also correlated with non-belief *demand* factors
- Otherwise, coefficient on r_t may not be telling us about the beliefs channel

- Plausible that past returns affect demand: wealth, risk aversion, spatial sorting, affordability, credit constraints...

- Key point: for the derivative investment we offer, none of these correlations should matter
- Supporting evidence: results hold across real estate investment outcomes Results
- Supporting evidence: not explained by controlling for housing wealth, leverage, etc. Results

5. Address Potential Measurement Error in $\hat{E}_t[r_{t+1}]$

- Popular explanation for weak relationship between surveyed expectations and outcomes: measurement error
- If stated beliefs on surveys are simply noisy, then could load onto a belief factor
- Address several ways:
  1. Direct survey measures of belief factors
  2. Cognitive uncertainty evidence provides positive alternative
  3. Instrument for $E_t[r_{t+1}]$ with other belief factors Details
  4. Instrument for $E_t[r_{t+1}]$ with higher-order moments following Lewbel (1997)

Direct Evidence for Cognitive Uncertainty

Direct Evidence for Cognitive Uncertainty

1. Response to question about investment decision factors
2. Shrunk factors ▸ Details
3. Demographics of relying on the past ▸ Details
4. Cognitive uncertainty measure predicts reliance on past
5. Free-text responses

#1. All you had to do was ask

- Reran the $1,000 investment experiment in 2020-2021 + ask whether rely more on survey-stated return forecasts or memory of past returns.

- 44% of respondents report relying more on $\hat{r}_t$ than their stated $\hat{E}_t[r_{t+1}]$
- Theoretically, *everyone* should use $\hat{E}_t[r_{t+1}]$ weakly more than $\hat{r}_t$ if stated beliefs measure what we think they do.

- Answers predictive of factor loadings in investment decision regressions
- Evidence against simple measurement error story

Introspection question

Which factor do you rely on more when making this investment decision?

- (selected) Your forecast of home price growth in your local housing market over the *next* 12 months (You reported earlier that you expect 7% growth)
- The realized growth in home prices in your local housing market over the *past* 12 months (You reported earlier 9.6%)

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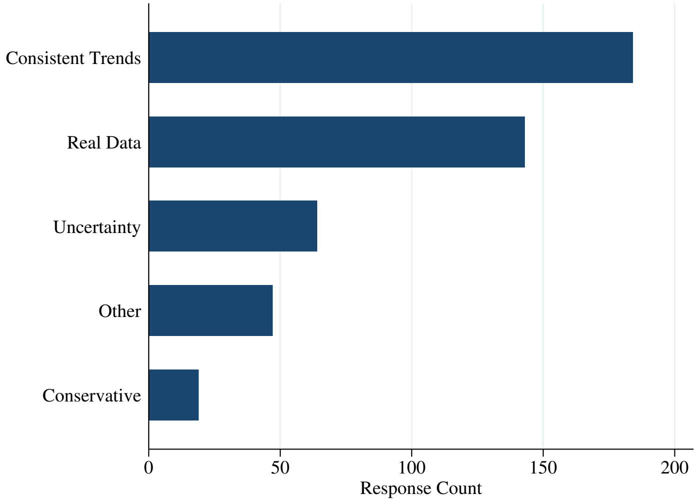
17%

#4. Subjective Uncertainty Predicts Decision Factors

	(1)	(2)	(3)
Forecasted Returns	1.28***	0.77**	0.20
	(0.24)	(0.33)	(0.35)
Perceived Past Returns	0.53***	0.82***	0.79***
	(0.17)	(0.24)	(0.24)
Forecasted Returns × (Conf Forecast - Past)	0.12	0.016	0.063
	(0.24)	(0.21)	(0.21)
Perceived Past Returns × (Conf Forecast - Past)	-0.56***	-0.46***	-0.47***
	(0.17)	(0.17)	(0.16)
Confidence in Forecast Returns	3.39*	5.08***	4.23**
- Confidence in Past Returns	(1.86)	(1.95)	(1.91)
Risk Tolerance (1-7)	6.58***	5.11***	5.03***
	(0.72)	(0.78)	(0.77)
Individual Controls		X	X
Distribution of Forecasted Return			X
Observations	925	925	925
R-squared	0.161	0.233	0.257

#5. Open-ended Answers to Decision-making Factors



Reasons for relying more on past returns sound like CU

Uncertainty

- "The future is always uncertain and many factors can change the outcome, the past performance is a certainty that has happened."
- "I rely on it more because it is what is documented in writing. My forecasting is only a best guess."
- "I feel like I have more reliable information to go on."

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Real Data

- "Better indicator b/c based on facts not projections"
- "Of the two options the past home growth statement is the only accurate option. Last year home prices increased. I don't expect home prices to increase in the future as the survey states."
- "I rely more on past home price growth because it has happened already, but the forecast is uncertain."

Conclusion

- Do stated beliefs elicited by expectation surveys reflect the beliefs used in investment decisions? Only partially...
- We document systematic gap between forecasted price growth and actual beliefs
- Perceived past returns robustly improve action prediction, strengthen beliefs channel
- Beliefs matter! But would underappreciate if using stated beliefs as sufficient statistic
- Evidence consistent with form of cognitive uncertainty:
  setting induces investors to rely on signals they are more certain about

Bayesian Updating Under Cognitive Uncertainty

- Respondents are asked to forecast $r_{t+1} \sim \mathcal{N}(\mu_d, \sigma^2)$ with two signals (subjective past return and another signal)

$$\begin{aligned} r_t &= r_{t+1} + \varepsilon_p \\ s &= r_{t+1} + \varepsilon_s, \end{aligned}$$

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- Respondent perceives $\varepsilon_p \sim \mathcal{N}(0, \sigma_p^2)$
- When asked to forecast return, respondent perceives $\varepsilon_s \sim \mathcal{N}(0, \sigma_{s,e}^2)$.
- For investment, respondent perceives $\varepsilon_s \sim \mathcal{N}(0, \sigma_{s,i}^2)$, $\sigma_{s,i} > \sigma_{s,e}$.

Model Solution

Stated forecast and decision-relevant forecast

$$
\begin{aligned}
r_e &= E[r_{t+1}|r_t, s, (r_d, \sigma, \sigma_p, \sigma_{s,e})] &= c_e + \beta_{1,e} r_t + \beta_{2,e} s \\
r_i &= E[r_{t+1}|r_t, s, (r_d, \sigma, \sigma_p, \sigma_{s,d})] &= c_i + \beta_{1,i} r_t + \beta_{2,i} s,
\end{aligned}
$$

where by Bayesian updating

$$
\begin{aligned}
\beta_{1,e} &= \frac{\sigma_{s,e}^2(\mu_d^2 + \sigma^2)}{(\sigma_{s,e}^2 + \sigma_p^2)(\mu_d^2 + \sigma^2) + \sigma_p^2 \sigma_{s,e}^2} \\
\beta_{2,e} &= \frac{\sigma_p^2(\mu_d^2 + \sigma^2)}{(\sigma_{s,e}^2 + \sigma_p^2)(\mu_d^2 + \sigma^2) + \sigma_p^2 \sigma_{s,e}^2} \\
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\end{aligned}
$$

- By $\sigma_{s,i} > \sigma_{s,e}$,

$$
\begin{aligned}
\beta_{1,e} &< \beta_{1,i} \\
\beta_{2,e} &> \beta_{2,i}
\end{aligned}
$$

- Investor overweights r_t in investment decision relative to in forecasting r_{t+1}.

Implications for Investment Decision

- If respondents are less certain about some belief factors for the investment decision $\Rightarrow$ rely more on factors they're relatively certain about
- Usual model: r_t simply a factor in r_{t+1} s.t. conditional on r_{t+1}, no scope for r_t
- If $r_{e,t+1} \neq r_{a,t+1} \Rightarrow$ decision weights will change across domains
- Consistent with free-response answers

back

Can we trust this hypothetical investment measure?

- Without real stakes, how externally valid is this measure?
- Give respondents small chance at receiving gross return of their own constructed derivative (Armona Fuster Zafar 2018)
- Results robust to using only the incentivized subsample
- See also "proper scoring rules" literature (Shuford Albert Massengill 1966, Savage 1971, Armantier et al. 2015)

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1. More than just mean expected returns should matter...

Alternative story #1:

- $\hat{r}_t \Rightarrow$ Downside risk $\Rightarrow$ Behavior.
- Importance of $\hat{r}_t$ could be driven by investors' consideration of downside risk. cf. Adelino et al. (2018) and Adam et al. (2021)
- Inspired by Engelberg Manski Williams (2009), SCE collects beliefs about distribution:
  - $\Pr(HPA > 10\%)$
  - $\Pr(0\% < HPA \leq 10\%)$
  - $\Pr(-5\% < HPA \leq 0\%)$
  - $\Pr(HPA \leq -5\%)$

$\rightarrow$ Control for bin probabilities and cubic in bin probabilities to flexibly capture effect of distribution of expected returns and approx. mapping from physical risk to risk neutral

Robustness to Controlling for the Forecasted Distribution of Returns

back

Dependent Variable: Share in a Housing Fund	(1)	(2)	(3)
$\hat{E}_t[r_{i,t+1}]$	0.59***	0.54***	0.55***
	(0.15)	(0.15)	(0.15)
$\hat{r}_{i,t}$	0.49***	0.48***	0.49***
	(0.11)	(0.11)	(0.11)
Pr(HP Decreases)	-0.14***		
	(0.029)		
HPA Bin Probabilities		X	
Probabilities Cubic			X
Demographics	X	X	X
Observations	2,963	2,963	2,963
R-Squared	0.150	0.154	0.155

2. Results Robust to Controlling for Risk Tolerance ▸ back

Dependent Variable: Share in a Housing Fund (2015 Experiment)			
	(1)	(3)	(4)
Risk Tolerance (1-10)	3.70***	2.74***	
	(0.28)	(0.29)	
$\hat{E}_t[r_{i,t+1}]$		0.54***	0.54***
		(0.15)	(0.15)
$\hat{r}_{i,t}$		0.48***	0.46***
		(0.11)	(0.11)
Risk Tolerance Score × Year Fixed Effects			X
Probability Cubic		X	X
Demographics		X	X
Observations	2,963	2,963	2,963
R-Squared	0.059	0.167	0.178

Ruling Out Simple Measurement Error Story

Might measurement error in r_{it+1} lead to a spurious estimate of β_2?

$$Y_{it+1} = \beta_1 r_{it+1} + \beta_2 r_{it} + \varepsilon_{it+1}$$

- Imagine expected returns are measured with error

$$r_{it+1} = r^*_{it+1} + \eta_{it+1}$$

- Then even if past returns have no independent effect on investment ($\beta_2 = 0$) but are a belief factor

$$r^*_{it+1} = \pi r_{it} + v_{it+1}$$

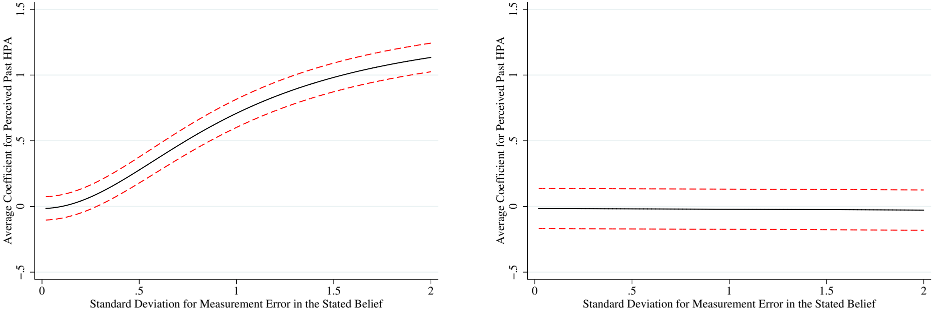
  they will have a positive estimated coefficient

Simulation Evidence on Instrumenting

Solution: instrument stated beliefs with another belief factor, e.g., forecasted rent growth $Rent_{it+1}$

$$\begin{aligned} Y_{it+1} &= \beta_1 r_{it+1} + \beta_2 r_{it} + \varepsilon_{it+1} \\ r_{it+1} &= \pi_1 r_{it} + \pi_2 Rent_{it+1} + v_{it+1} \end{aligned}$$

$\hat{\beta}_2$ without instrumenting $\qquad$ $\hat{\beta}_2$ with instrumenting



Results Robust to Instrumenting for Stated Beliefs

Dependent Variable: Housing Fund Share (on a 0-100 scale)			
	(1) OLS	(2) 2SLS	(3) 2SLS
Forecasted Returns	0.87***	0.23	-0.94**
	(0.14)	(0.65)	(0.43)
Perceived Past Returns	0.55***	0.73***	1.07***
	(0.11)	(0.23)	(0.17)
Individual Controls	X	X	X
Instruments		E(Rent) E(Inflation)	Lewbel
First Stage F-stat		70.86	505.6
Observations	2,963	2,963	2,963

back

Individual Characteristics Summary Statistics

	Response Count	Mean	Std. Dev.
Age (years)	7,065	51.22	19.04
Male Indicator	7,064	0.53	0.50
Minority Indicator	7,056	0.16	0.37
Married Indicator	7,066	0.65	0.48
Homeowner Indicator	7,025	0.76	0.43
College Graduate Indicator	7,064	0.57	0.50
$\mathbb{1}$(Household Income $\geq$ \$100K)	6,998	0.29	0.45
$\mathbb{1}$(Liquid Savings $\geq$ \$75K)	6,630	0.39	0.49
Numeracy Score (0-5)	7,065	4.05	1.05
Risk Tolerance (1-10)	7,066	4.45	2.24

$\rightarrow$ Results robust to using nationally representative survey weights

Perceived Past HPA Improves Action Prediction for Other Outcomes

	Pr(Buy investment prop. next year)		Pr(Buy home)		Viewing Housing Good Investment	
	(1)	(2)	(3)	(4)	(5)	(6)
$\hat{E}_t[r_{i,t+1}]$	0.077	0.13*	-0.48***	-0.22**	0.18***	0.089*
	(0.048)	(0.061)	(0.081)	(0.074)	(0.039)	(0.039)
$\hat{r}_{i,t}$	0.11**	0.064*	0.18	0.039	0.19***	0.13***
	(0.040)	(0.028)	(0.15)	(0.074)	(0.015)	(0.016)
Pr(HP Decreases)		0.0056		-0.034		-0.032***
		(0.0093)		(0.021)		(0.0051)
Demographics		X		X		X
Distribution of HP		X		X		X
Observations	6,977	6,977	4,946	4,946	6,991	6,991
R-Squared	0.002	0.083	0.004	0.259	0.031	0.085

back

Results Robust to Controls for Wealth, Home Equity, Leverage

back

	(1)	(2)	(3)
Forecasted Returns	0.65***	0.63***	0.59***
	(0.20)	(0.19)	(0.19)
Perceived Past Returns	0.68***	0.74***	0.56***
	(0.14)	(0.14)	(0.16)
Perceived Past Returns	-0.022*		
$\times$ (Home Value/Equity)	(0.012)		
Perceived Past Returns		-3.77**	
$\times$ (Home Value/Net Assets)		(1.58)	
Perceived Past Returns			0.019
$\times$ (Home Value/Income)			(0.014)
Probabilities	X	X	X
Individual Controls	X	X	X
Risk Aversion FEs	X	X	X
Observations	2,141	2,142	2,196
R-squared	0.194	0.194	0.195

4. Address Forecasted and Past HPA Multicollinearity

- Given importance of extrapolative beliefs, expected and past HPA highly correlated.

⇒ Challenging to separately interpret coefficients for expected and past home price growth.

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- Given importance of extrapolative beliefs, expected and past HPA highly correlated.

$\Rightarrow$ Challenging to separately interpret coefficients for expected and past home price growth.

- Should bias away from individual significance. Emphasize significance of r_t
- Further address nonlinearities by being more nonparametric in controls for forecasted HPA
- Within fine bins of $\hat{E}_t[r_{t+1}]$, respondents have approx. same forecast
- Even matching on forecasted returns, past returns still strong predictor of investment

Results

Addressing Multicollinearity between r_t and $E_t[r_{t+1}]$ ▸ back

Dependent Variable: Housing fund share (on a 0-100 scale)	(1)	(2)	(3)	(4)	(5)	(6)
Forecasted Returns	0.59***	0.61***	0.61***			
	(0.15)	(0.16)	(0.16)			
Perceived Past Returns				0.52***	0.52***	0.51***
				(0.11)	(0.11)	(0.11)
Bin FEs for Perceived HPA	X	X	X			
Bin FEs for Expected HPA				X	X	X
Number of Bins Specified	10	100	200	10	100	200
Number of Actual Bins	10	43	63	9	37	58
Bin Probabilities Cubic	X	X	X	X	X	X
Demographics	X	X	X	X	X	X
Observations	2,963	2,963	2,963	2,963	2,963	2,963
R-Squared	0.169	0.182	0.189	0.175	0.183	0.190

#2. Shrunk Factors ▸ back

Dependent Variable:	Expected HPA	Housing fund share	
	(1)	(2)	(3)
Expected HPA in the Next 12 months			0.53***
			(0.15)
Perceived HPA in the Past 12 months	0.29***	0.80***	0.49***
	(0.020)	(0.10)	(0.11)
Expected Rent Growth	0.14***	0.067	-0.094
	(0.016)	(0.11)	(0.11)
Expected Rate of Inflation	0.12***	-0.045	-0.17
	(0.026)	(0.15)	(0.15)
Probabilities Cubic			X
Observations	2,963	2,963	2,963
R-Squared	0.276	0.144	0.170

#3. Demographics of Relying on the Past back

- Risk-loving and college-educated respondents more likely to rely on r_{t+1} instead of r_t.
- Overall results strongest for respondents who don't check housing websites (see also Andries et al. 2020)
- Consistent with factors identified by Enke and Graeber (2019) as strongly correlated with cognitive uncertainty

Self-reflection reduces reliance on r_{t+1} ▸ back

	(1)	(2)	(3)	(4)
$\hat{E}_t[r_{i,t+1}]$	1.46***	1.39**	1.21**	1.17**
	(0.56)	(0.55)	(0.59)	(0.60)
$\hat{r}_{i,t}$	0.98***	0.82**	0.96***	0.80**
	(0.37)	(0.38)	(0.36)	(0.37)
$\hat{E}_t[r_{i,t+1}]$ × Treated	-1.47**	-1.40**	-1.35*	-1.30*
	(0.71)	(0.68)	(0.74)	(0.72)
$\hat{r}_{i,t}$ × Treated	0.49	0.57	0.38	0.44
	(0.52)	(0.53)	(0.52)	(0.52)
Treated	4.36	4.08	4.71	6.13
	(3.18)	(3.15)	(4.76)	(4.67)
Distribution of Expected Return			X	X
Individual Controls		X		X
Observations	808	808	808	808
R-Squared	0.069	0.166	0.083	0.178