A Distributional Theory of Household Sentiment

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EEA

THIS PAPER

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- **Beliefs**

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- ◇ Euler equation distortion: $\widetilde{\rho}_t = \rho + \mathcal{S}_t \eta_t$

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III Derive testable implications for wealth dynamics
- ◇ Theory : Positive income shock $\longrightarrow$ overoptimism $\longrightarrow$ under-saving $\longrightarrow$ poverty trap
- ◇ Data : 35% probability of staying HtM after 14 years, in line with model

PLAN FOR TODAY

I Empirics

II Model

III Results

SURVEY OF HOUSEHOLDS INCOME AND WEALTH

- Panel survey data from the Bank of Italy
- Bi-annual
- Contains data on households' expected idiosyncratic income
- Rely on years 2012-2016

SUGGESTIVE EVIDENCE ON EXPECTATIONS

- SHIW $\longrightarrow$ idiosyncratic forecast error: $ForecastError_t^i = y_{t+2}^i / \widetilde{\mathbb{E}}_t^i(y_{t+2}^i) - 1$

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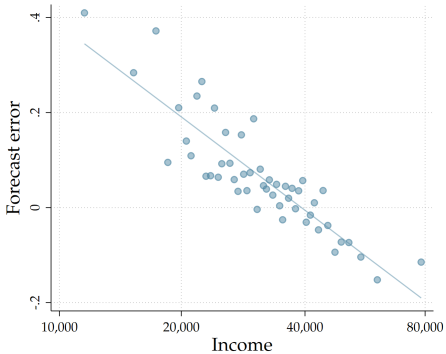
  - Between households: higher income $\implies$ higher optimism



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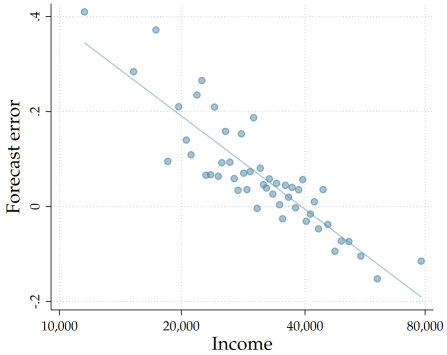

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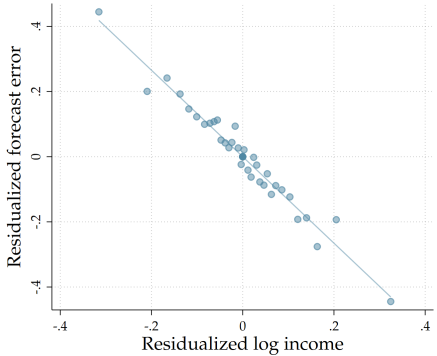

Note: household and time FE.

TAKING STOCK

I Income and belief dispersion

II Richer/poorer households are more optimistic/pessimistic

III Households become more optimistic/pessimistic as their income goes up/down

Model

- Expectations biased by recent income shocks

$$\underbrace{dy_t}_{\text{log-inc. change}} = \underbrace{-\mu y_t dt}_{\text{drift}} + \underbrace{dN_t}_{\text{jump shocks}} \quad v.s. \quad \widetilde{dy_t} = \Big(-\mu y_t + \mathcal{S}_t \Big) dt + dN_t$$

Sentiment $\mathcal{S}_t \equiv \theta \int_{-\infty}^{t} e^{-\kappa(t-s)} dN_s$ $\longleftarrow$ discounted sum of shocks

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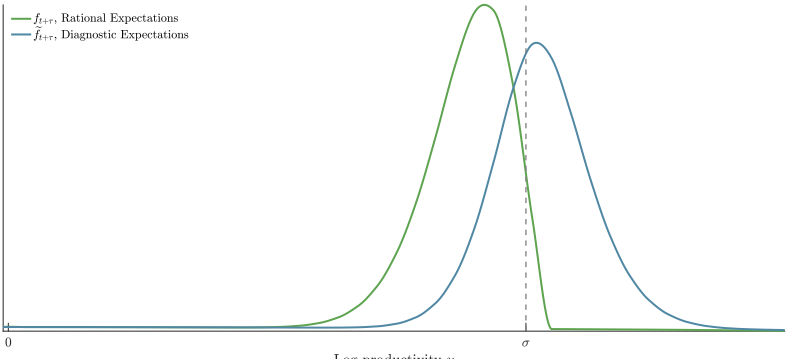

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INCOMPLETE MARKETS WITH DIAGNOSTIC EXPECTATIONS

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- Aggregate state: $g(x) = g(a, y, \mathcal{S})$, wealth a, log-productivity y and sentiment $\mathcal{S}$

Results

PROPOSITION

$$\mathbb{E}_t \quad \frac{du'(c_t)/dt}{u'(c_t)} = \Big[\rho + \mathcal{S}_t \cdot \eta(x_t)\Big] - r, \qquad \eta(x) \equiv \textit{inc. elasticity of cons.} \ \frac{\partial \log c(x)}{\partial y}$$

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- Under rational expectations ($\mathcal{S} = 0$), standard Euler equation
- Sentiment distortions depend on distance to borrowing limit

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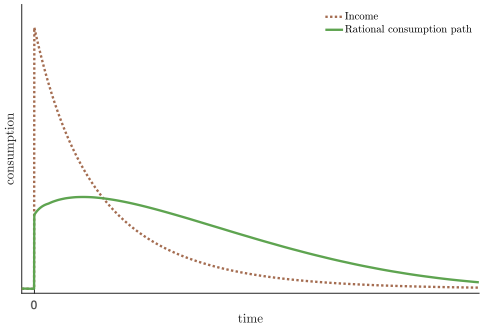

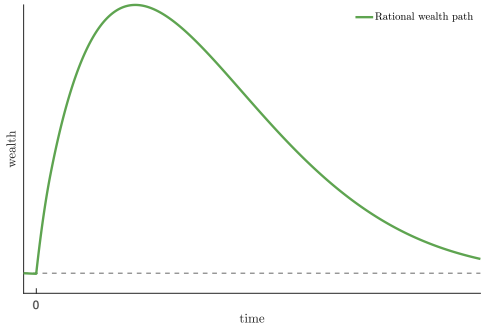

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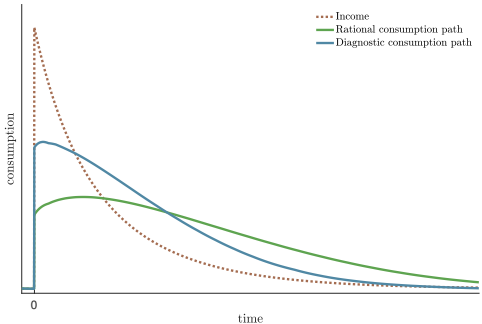

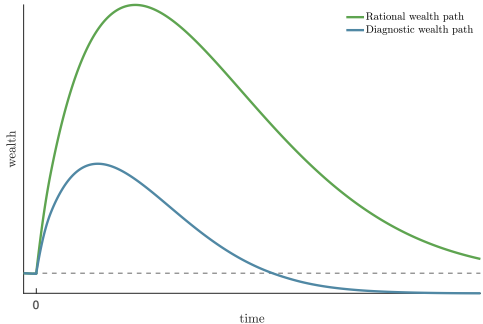

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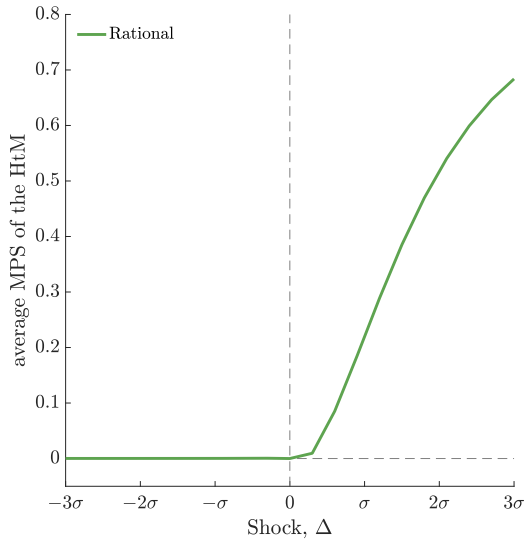

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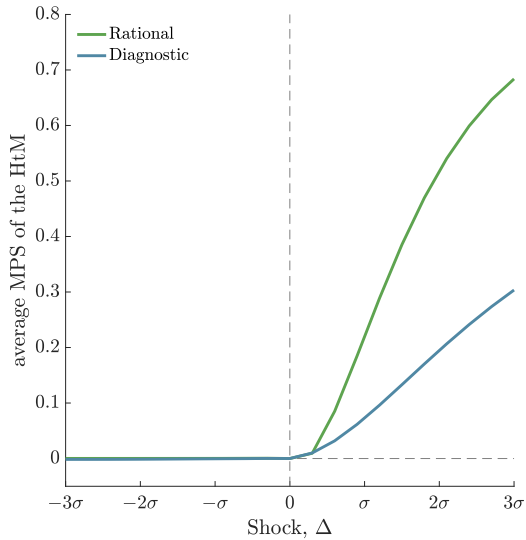

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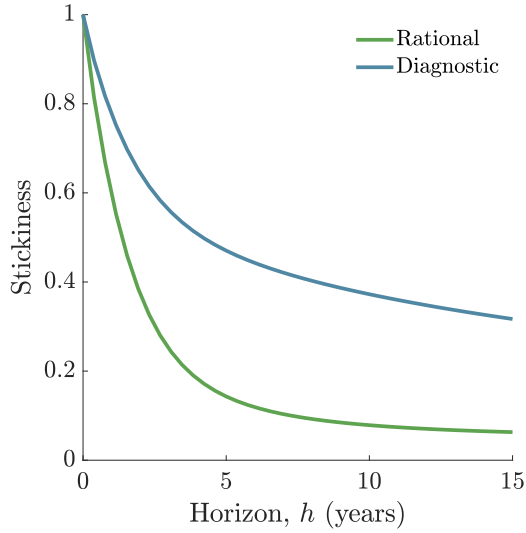

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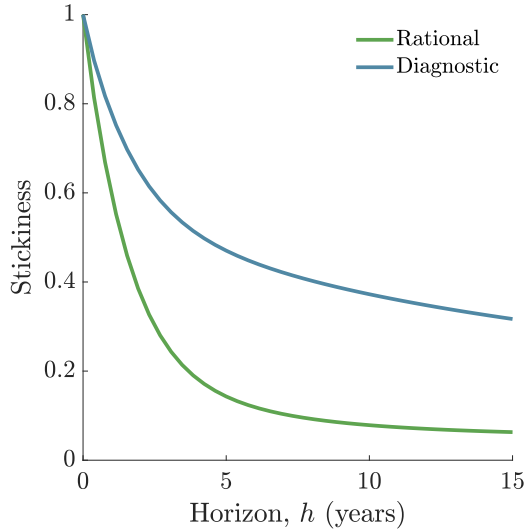

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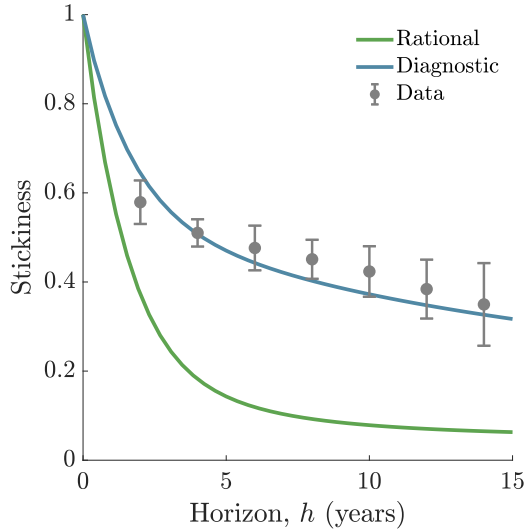

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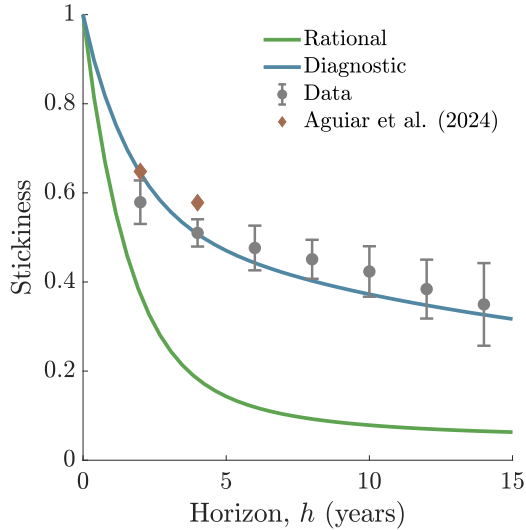

Distributed welfare cost

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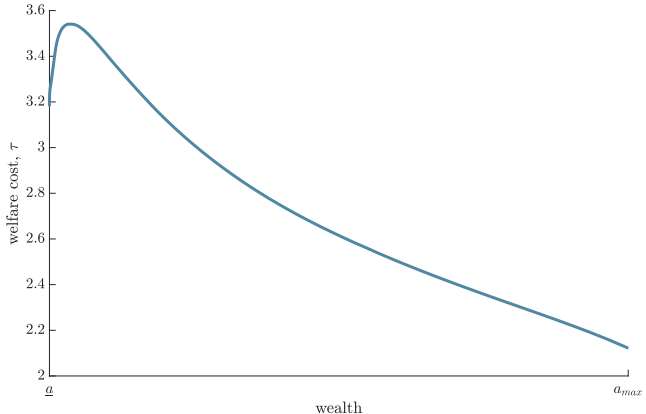

CONCLUSION

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II Use them to inform an Aiyagari model with diagnostic expectations

III Generates sticky HtM

IV New empirical evidence in line with model

V Beliefs vs preferences?

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