HANK beyond FIRE

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Motivation

- There is already a RANK under FIRE
- Why "HANK"? Why "beyond FIRE"?
- Empirical evidence!

HANK
Amplification
Bilbiie (2019)
Almgren et al.(2020)

beyondFIRE
Sluggish expectations
Coibion & Gorodnichenko (2015)
Angeletos & Huo (2020)

	FIRE	Dispersed Information
RANK	Galí (2008)	Angeletos and Huo (2020)
HANK	Bilbiie (2019)	This paper

- Understand the key interaction between these two extensions

Model

- Financial frictions: HANK à la Bilbiie (2019)
  - TANK model with transitions
  - Generates a precautionary savings motive
- Information frictions
  - Households and Firms do not observe the monetary shock v_t
  - Each agent observes a noisy signal
  - We allow households and firms to be differently informed!
  - Optimal expectations: depend on priors (past) and signal (present)

Impulse Response Functions

- Amplification present: ↑ HtM: ↑ Peak
- But ↓ magnitude, due to dispersed info
- Differences more sizable on demand side
- IRFs have a hump–shape without compromising micro evidence

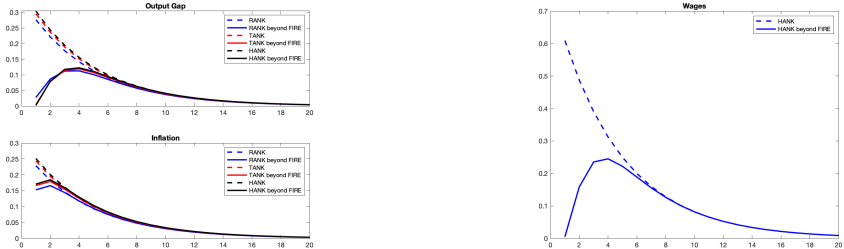
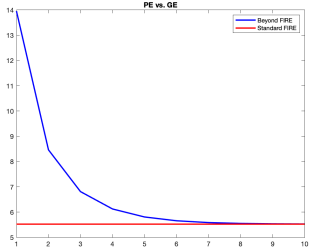


Figure: Dynamics after a 25bp monetary policy shock

PE vs. GE

- Benchmark model: constant PE share
- beyond FIRE: PE share initially high, and converges over time to the benchmark value



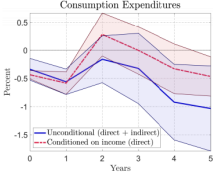


Figure 19: **Direct and Indirect Effects of Monetary Policy.**
Notes: Impulse responses to a 1 percentage point contractionary monetary policy shock at an annual frequency, based on the local projection approaches in (4) and (7). The blue line shows the estimated impulse responses without controlling for income, the red dashed line shows the responses with income controls. 68 percent confidence bands shown, using Driscoll and Kraay (1998) standard errors.

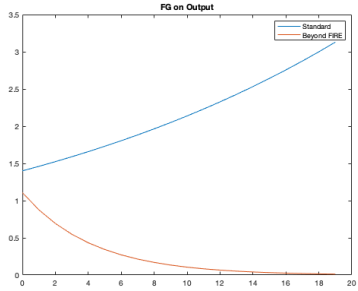
- The amplification result relies heavily on GE effects (wages)
- Constrained hh need to be perfectly aware of the state of nature *and* of others' actions
- With dispersed info, individual expectations anchored to priors
- GE effects, which are the result of higher–order moments, move sluggishly
- Result: aggregate dynamics entirely driven by PE effects initially

Forward Guidance

- ZLB binding between periods $t_1 = t$ and $t_2 = t + T$
- Central Bank controls the real rate
- Suppose the CB credibly commits to a shock in the future
- What is the effect on current consumption at each decision period?
- Benchmark model:

$$\frac{\partial c_t}{\partial \mathbb{E}_t r_{t+T}} = -\sigma \frac{1-\lambda}{1-\lambda\chi} \delta^T$$

- Beyond FIRE model



Conclusion

Main Result

- Amplification still present
- But the PE vs. GE shift reduces the relevance of GE effects in the initial periods
- Shutting down the HtM transmission

Secondary results

- Aggregate sluggishness micro–founded, not engineered micro–inconsistently
- Taylor Principle with dispersed info
- Forward guidance puzzle cured