

INFLATION EXPECTATION UNCERTAINTY, INFLATION AND THE OUTPUT GAP – DISCUSSION

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SHORT SUMMARY

- ▶ What is the effect of inflation expectation uncertainty (IEU) on the level of output gap and inflation?
- ▶ put differently: Should there be a IEU term in the New Keynesian Phillips Curve (NKPC)?
- ▶ use a VAR-GARCH to address the question
- ▶ find significant positive effect of IEU on inflation and negative one on output

STRENGTHS OF THE PAPER

- ▶ detailed literature review
- ▶ precise description of the methodology used
- ▶ methodology seems apt to address the research question
- ▶ the topic is important and timely (also for EA!)
 - ▶ determinants of inflation matter in low-inflation environment
 - ▶ uncertainty as a tool to revive inflation?

THINGS THAT COULD BE ADDED

- ▶ robustness checks
 - ▶ lag length in VAR (1 lag might not be enough to capture dynamics in bivariate VAR)
if not feasible: at least run tests on residuals to establish their whiteness!
 - ▶ survey expectation horizon (12 is large compared to VAR-GARCH dynamics)
 - ▶ disagreement measure (variance besides interquartile range)
- ▶ impulse responses to illustrate dynamics
- ▶ policy prescriptions: Is uncertainty desirable when faced with disinflationary pressures?
 - ▶ “tie your hands” as in forward guidance
 - ▶ Should central bank communication become more opaque during low-inflation episodes?
 - ▶ relation to “de-anchoring” of inflation expectations

THINGS THAT SHOULD BE CHANGED

- ▶ use one-sided HP filter (Stock and Watson, 1999) for output gap: The non-causal standard HP filter (which incorporates future unfiltered variables x_{t+j} for filtered variable x_t) contradicts the backward-looking nature of the VAR!

POSSIBLE EXTENSIONS

RELATION TO NK DSGE LITERATURE (1/3)

- ▶ take the standard 3-equation model from Galí (2008)

$$\pi_t = \beta E_t\{\pi_{t+1}\} + \kappa \tilde{y}_t$$

$$\tilde{y}_t = -\frac{1}{\sigma}(i_t - \pi_{t+1}) + \tilde{y}_{t+1}$$

$$i_t = \phi_\pi \pi_t + \phi_y \tilde{y}_t$$

- ▶ add a “disagreement term” d_t to NKPC (observationally equivalent to cost-push shock!)

$$\pi_t = \beta(E_t\{\pi_{t+1}\} + d_t) + \kappa \tilde{y}_t$$

$$d_t = 0.75d_{t-1} + 0.1\epsilon_t^d$$

POSSIBLE EXTENSIONS

RELATION TO NK DSGE LITERATURE (2/3)

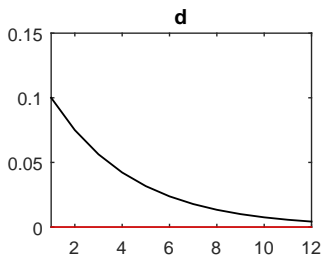
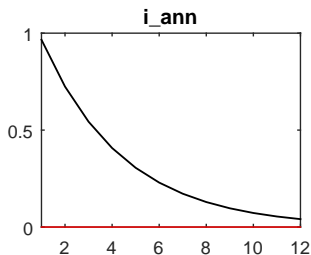
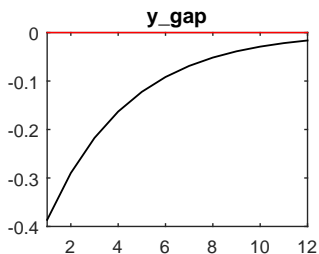
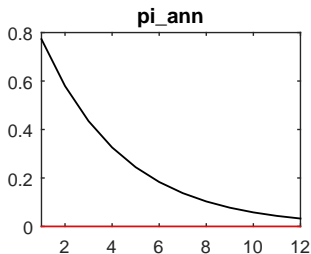
- ▶ can be motivated by costly forecast of marginal costs, with cost D_t
- ▶ in first-order condition of retailer (see Galí, 2008):

$$\sum_{k=0}^{\infty} \theta^k E_t \{ Q_{t,t+k} Y_{t+k|t} (P_t^* - D_t \mathcal{M} \Psi'_{t+k}(Y_{t+k|t})) \} = 0$$

- ▶ could be calibrated to the values you obtain (not done here)

POSSIBLE EXTENSIONS

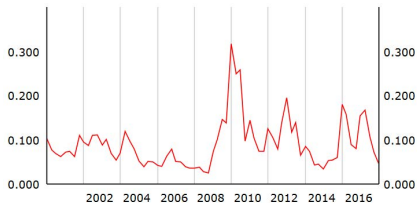
RELATION TO NK DSGE LITERATURE (3/3)



POSSIBLE EXTENSIONS

REPEAT ANALYSIS FOR EURO AREA (EA)

- use EA Survey of Professional Forecasters data (only quarterly from 98Q4 to 16Q4), e.g. variance of point forecasts:



- if dof problems, just use survey disagreement as IEU?
- relate to debate about de-anchoring (e.g. Łyziak and Paloviita, 2015; Nautz, Pagenhardt and Strohsal, 2017)

CONCLUSION

- ▶ the paper shows that IEU is associated with increase in inflation and diminished output gap
- ▶ detailed literature review, precise analysis, interesting and highly relevant topic (esp. today!)
- ▶ there is potential for further analysis:
 - ▶ show impulse responses to exogenous increase in IEU
 - ▶ more robustness checks (lags, expectations horizon, disagreement measure)
 - ▶ policy implications
 - ▶ (maybe) compare to predictions from small DSGE model
 - ▶ (maybe) redo similar analysis for EA