

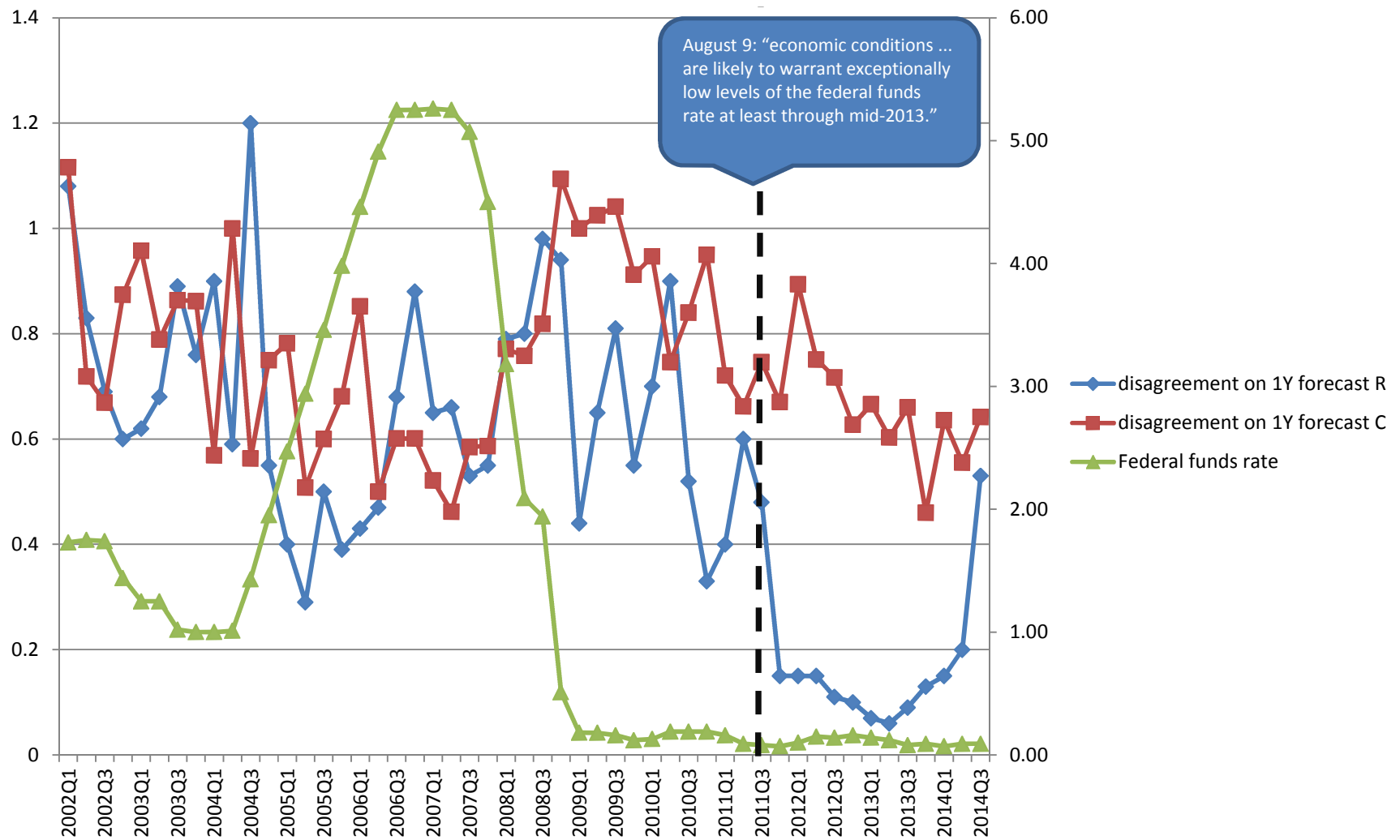
Heterogeneous Beliefs and Forward Guidance

by Philippe Anrade, Gaetano Gaballo, Eric Mengus and Benoit Mojon

discussion by Vincent Sterk (UCL)

DNB annual research conference 2014

Forward guidance and forecast dispersion: empirical evidence



Three questions

1. Does forward guidance really reduce forecast dispersion?
2. Can we rationalize the empirical evidence?
3. What are the implications for policy effectiveness?

1. Does forward guidance really reduce forecast dispersion?

- How many data points?
 - Cross-section: ± 30 forecasters
 - Time series: more than one forward guidance shock?

1. Does forward guidance really reduce forecast dispersion?

- How many data points?
 - Cross-section: ± 30 forecasters
 - Time series: more than one forward guidance shock?
- Endogeneity of policy announcements?
 - Mechanical effects due to bunching of forecasts at $r=0$?

1. Does forward guidance really reduce forecast dispersion?

- How many data points?
 - Cross-section: ± 30 forecasters
 - Time series: more than one forward guidance shock?
- Endogeneity of policy announcements?
 - Mechanical effects due to bunching of forecasts at $r=0$?
- Still, plot looks striking...

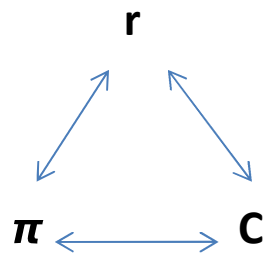
2. Can we rationalize the empirical evidence?

“Conclusion: forward guidance increased disagreement about the impact of future monetary policy” (p.9)

2. Can we rationalize the empirical evidence?

“Conclusion: forward guidance increased disagreement about the impact of future monetary policy” (p.9)

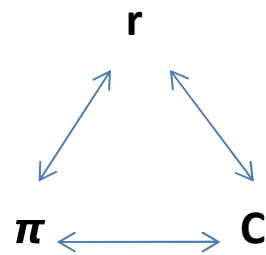
New Keynesian model



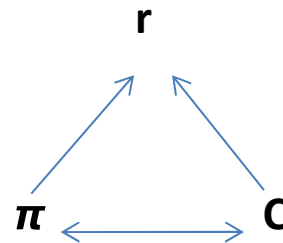
2. Can we rationalize the empirical evidence?

“Conclusion: forward guidance increased disagreement about the impact of future monetary policy” (p.9)

New Keynesian model



Alternative model



3. Implications for policy effectiveness?

Monetary policy announcements in model with:

– Sticky prices

- Economy brought to ZLB by shock to discount factor (Eggertsson and Woodford (2003)).
- key role for inflation expectations, especially at ZLB

3. Implications for policy effectiveness?

Monetary policy announcements in model with

- Sticky prices
 - Economy brought to ZLB by shock to discount factor (Eggertsson and Woodford (2003)).
 - key role for inflation expectations, especially at ZLB
- Belief heterogeneity

3. Implications for policy effectiveness?

Why are inflation expectations so important?

Log-linearized consumption Euler equation representative household:

$$\begin{aligned}c_t &= E_t\{-\sigma^{-1}(r_t - \pi_{t+1}) + c_{t+1}\} \\ &= -\sigma^{-1}E_t\{\sum_{s=0}^{\infty}(r_{t+s} - \pi_{t+s+1})\}\end{aligned}$$

Implies (too) strong effects of forward guidance; Del Negro, Giannoni and Patterson (2012)

3. Implications for policy effectiveness?

What if we introduce a simple form of belief heterogeneity?

Fraction $\omega \in (0,1)$ of rule-of-thumb households (with constant consumption). Aggregate consumption becomes:

$$c_t = -(1-\omega)\sigma^{-1}E_t \left\{ \sum_{s=0}^{\infty} (r_{t+s} - \pi_{t+s+1}) \right\}$$

Dampens policy effectiveness; Wiederholt (2014).

3. Implications for policy effectiveness?

More sophisticated forms of beliefs heterogeneity + sticky prices + ZLB found in:

- Wiederholt (2012): Agents cannot perfectly observe all variables.
- Anrade, Gaballo, Mengus and Mojon (2014): disagreement on length of ZLB period.

Quantitative policy implications likely to depend on modelling details.

3. Implications for policy effectiveness?

How to choose from many alternative ways of modelling belief heterogeneity?

- Direction taken by AGMM: look at (changes) in the distribution of forecast.
 - use interquartile range as dispersion measure.
 - could use various other statistics, e.g. the correlation between forecast of different variables across agents.

3. Implications for policy effectiveness?

How to choose from many alternative ways of modelling belief heterogeneity?

- Direction taken by AGMM: look at (changes) in the distribution of forecast.
 - use interquartile range as dispersion measure.
 - Could use various other statistics, e.g. the correlation between forecast of different variables across agents.
- Looking forward to more serious effort trying to let the data speak on preferred way of modelling heterogeneity
 - Ideally also include data based on agents with money on the table (asset prices).
 - Link model experiment more directly to events in the data: simulate the effect of a change in forward guidance on the cross-section of forecasts.

Wealth heterogeneity

Computational nuisance:

belief heterogeneity \rightarrow savings heterogeneity \rightarrow wealth heterogeneity

Solution AGGM:

- altruistic agent
- transfers only possible when agents agree about expectations

Alternative: no transfers

- solve model with 2 wealth levels

Conclusion

- Interesting and very topical paper
- Serious implications for forward guidance
- ... and other policies (e.g. fiscal stimulus)