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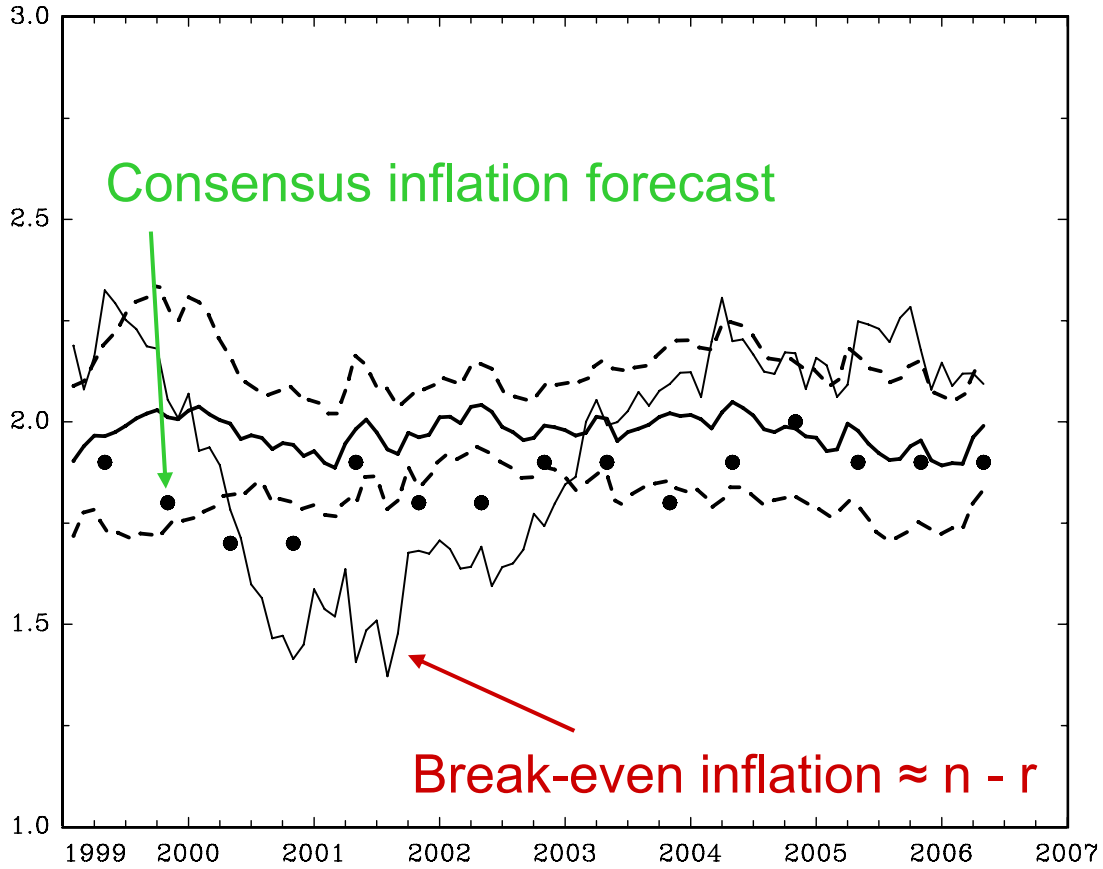
Inflation Risk Premia in the Term Structure of Interest Rates

by P. Hördahl and O. Tristani

discussed by Mikhail Chernov, LBS and CEPR

What is the paper about?



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A very natural exercise…

- … use inflation-indexed bonds to extract inflation expectations and risk premia
- Evans (1998) did it with gilts, but…
  - No dynamic model
  - No macro factors
- Maybe, D'Amico, Kim and Wei (2007) do this for the US
- So, this is a first or one of the first exercises along these lines
  - Nice paper!

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Details of the model

- New-Keynsian (NK) evolution of inflation, π_t, and output, x_t
- Taylor rule with interest rate smoothing
- Additional factors: inflation target and MP shock (both latent)
- Rational expectations (RE) solution:

$$
\begin{aligned}
r_t &= \Delta' X_t \\
X_t &= M X_{t-1} + \Sigma \xi_t
\end{aligned}
$$

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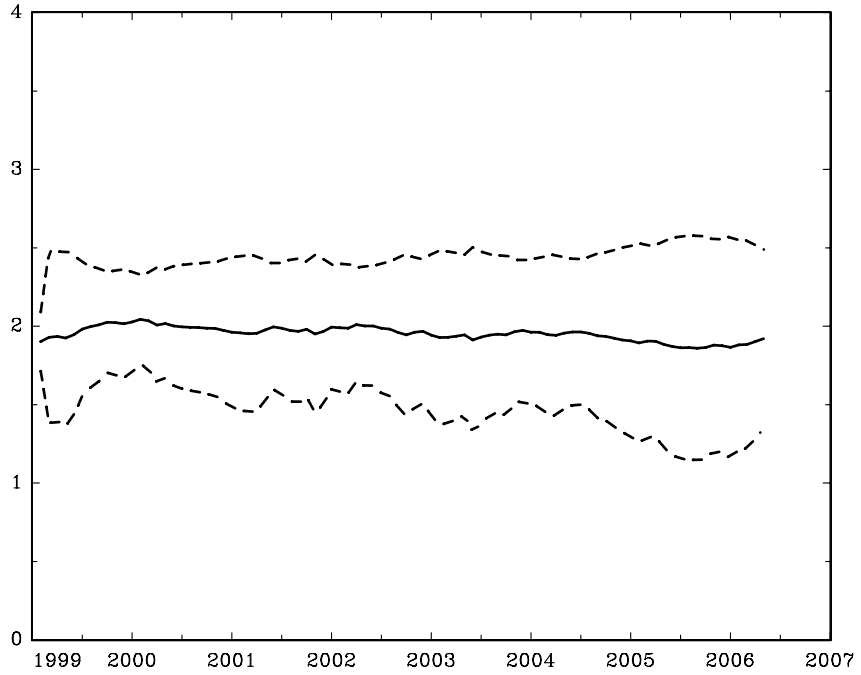
Affine term structure

- Ad-hoc risk premia to ensure no-arbitrage and empirical flexibility
- Linear bond yields
- Assume the 3-mo and 10-yr nominal yields are observed with no error
- Estimate… Compute inflation premium, expected inflation

- Interpretation: do we need the NK setup given
  - the risk premia and two latent factors
  - the task at hand?

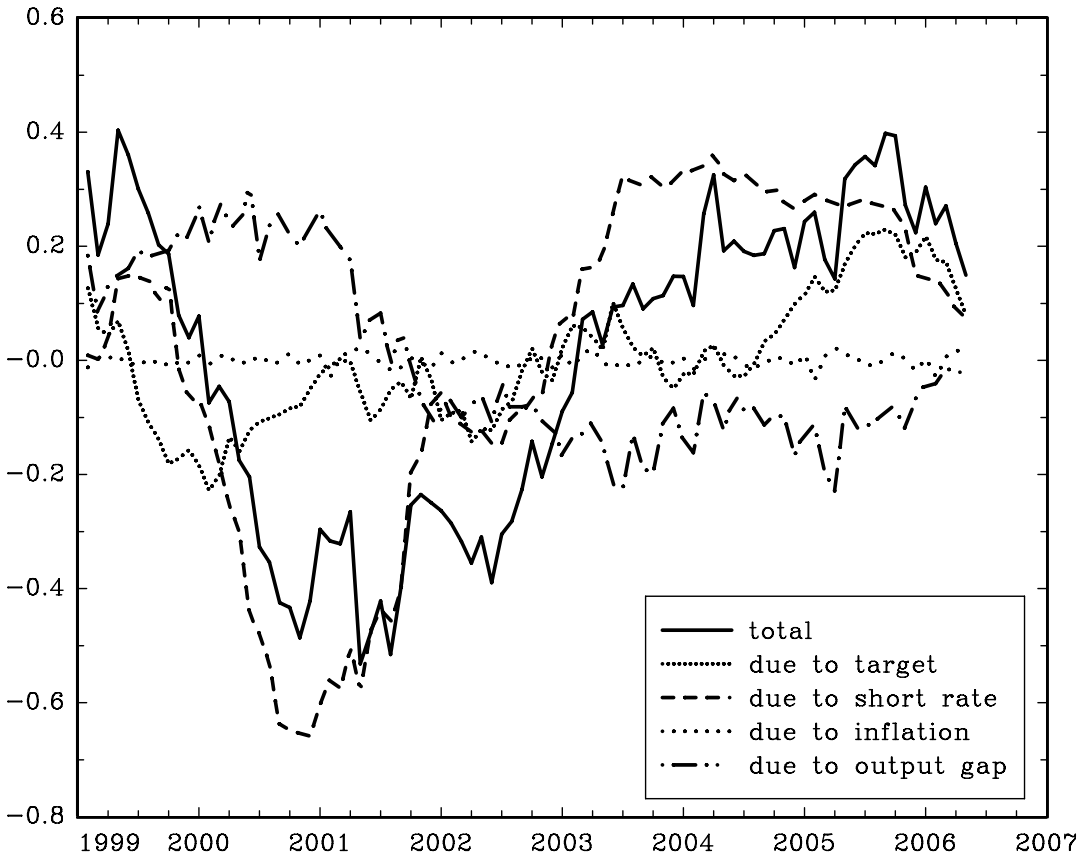
Intepretation: Latent factors

Estimated inflation target



- Latent factors are usually strongly correlated with yields…
  - What happened here?
  - Does it translate into expectations?
- How does the second factor, MP shock, behave?

Interpretation: Inflation R.P. decomposition



- No contribution from inflation:
  - Ad-hoc constraints on rp
- Visible contribution from the target:
  - How can this be?
- The biggest one from the short rate
  - Must be the MP shock

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Macro-finance models

- These models have two, almost parallel, objectives
  1. Learn about the "deep" parameters connecting the economy with yields
  2. Relate risk premia to macro factors
- The first goal requires factors to be observable
  - Ignoring this and using NK framework could be misleading
- For this paper, tell us more about the RE solution, so that we could see the link between factors and results
  - It would be nice to see what M and Σ come out to be

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Conclusion

- Interesting paper:
  - Good question
  - Novel data
  - Rich framework

- I would like to see more results that give intuition about:
  - The RE solution
  - Latent factors
  - Their connection to the results