

‘Expected Inflation, Inflation Risk Premium and the
Term Structure of Macroeconomic
Announcements in the Euro Area and the US’

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The paper

What does the paper do?

The paper provides a no-arbitrage affine Gaussian term structure model for nominal and real ZC-interest rates for standard and index-linked bonds in the EA and US.

From this it can infer the inflation expectations and premium on unexpected inflation (*risk premium* or *term premium*).

The advantage of jointly estimating the two elements allows

- i) A comparison with the basic breakeven rate of inflation (nominal minus real rate), which can be revealing;
- ii) An explanation for the movement of real and nominal rates using factors, that can provide economic intuition for changes in inflation expectations; and
- iii) Since the model is estimated on weekly data it provides a high frequency observation on inflation expectations for monetary policymakers.

The paper

The paper is therefore innovative in that it

- uses a new methodology for the investigation of inflation expectations and risk premium jointly
- provides weekly data on inflation expectations
- allows a comparison between the US and the EA as far as the properties of the inflation expectations and risk premium are concerned.
- Give impulse responses or real and nominal rates to shocks to latent factors
- Relates macro news to the movements of nominal and real rates through the factor structure of the model.

The paper

What does the paper tell us?

From US Treasuries and French Government bonds of maturity 1 week – 5 years the authors extract

- Current and estimated nominal and real rates, which give the basic breakeven inflation rate, but can be used in a no-arbitrage affine Gaussian term structure model to give the expected inflation and risk premium
- The latent factors and correlation with information from rates; factor loadings for three factors
- The relationship between breakeven and expected inflation in EA and the US individually, and a comparison between them.
- Impulse response functions to macro shocks.

Commentary

The author is to be congratulated on an excellent paper that provides a promising analysis of information from standard and index linked government bonds about inflation expectations and the risk premium.

There are a number of comments to be made about the paper that could lead to further elaboration, clarification and greater insight.

Commentary

I would like to comment briefly on the following issues:

- Choice of factor model
- Use of macro/finance information
- Comparisons of model outputs

Choice of factor model

- Why do you prefer the particular choice of no-arbitrage affine Gaussian term structure model? I thought this got lost in the details of the model structure.
 - You argue that three factor models ‘are capable of describing accurately and parsimoniously the evolution of interest rates over time, the factors they identify as the driving forces of interest rates *often lack economic intuition and are difficult to relate to the relevant economic variables*’ [emphasis added].
 - Would the interpretation of the ‘driving forces’ be improved with the use of macro-finance model with more macro information? (There is a literature that uses macro factors to explain drivers e.g. Hörddal and Tristani (2010))
 - Data do not have to be lower frequency, as you suggest, since some measures of macro indicators (particularly prices) are available at high frequency.

Use of macro/finance information

- The analysis is based on the three factor model, followed by a discussion of the impact of macro ‘news’.
 - Why take the approach that macro data have impact effects as ‘news’ as opposed to direct effects on the variables of interest?
- Regime Change
 - How do you allow for the impact of changes in policy regimes (esp the ECB), policy reversals (esp the Fed) on the variables of interest?
- Liquidity
 - How do you anticipate your results are influenced by changing liquidity in the index-linked bond market over the sample?

Comparisons of model outputs

- The estimates of inflation expectations are compared to the breakeven rate, but not to other indicators such as
 - surveys of professional forecasters, labour market data
 - estimates of inflation expectations derived from macro VAR models, or NK models
 - estimates of inflation expectations derived from other studies of nominal and real rates e.g. Grischenko and Huang (2008), Christensen et al (2010), Hördal and Tristani (2010)

Wouldn't this provide a good comparison of model performance?

Comparisons of model outputs

- The same treatment is not carried out for the estimates of inflation risk premia.
 - Why not compare to the simple term premium? Previous studies found large discrepancies.
 - Or to measures of the risk premium derived using methods employed by Grishchenko and Huang (2008) or D'Amico et al (2006) for the US or Hördal et al (2010), Hördal and Tristani (2010) for the US and EA?
 - Or to measures of the risk premium from the structural monetary version of the RBC model in Buraschi and Jiltsov (2005)?

Comparisons of model outputs

- There is a brief discussion of the comparison of the differences between the US and the EA inflation expectations, but this was very short.
 - Why has the expected inflation remained close to the target in the EA and not varied with QE measures?
 - Why has it changed more in the US with QE measures? Are we sure this is related to QE and not expected inflationary pressures from the real economy?

Knowing inflation expectations have changed but not knowing exactly why leaves us with further questions to answer.

Summary

- The paper that provides a promising analysis of information from standard and index-linked government bonds about inflation expectations and the risk premium.
- The high frequency of the data makes the model of the inflation expectations measure useful for monetary policy.
- Further justification of
 - the chosen model versus alternatives,
 - a comparison of the outputs with other measures of inflation expectations and the risk premium, and
 - evaluation of macro inputswould make this a very useful contribution to the literature.