Term Structure Transmission of Monetary Policy

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This paper asks a very interesting question:

- Determinacy in NK macro models (without fiscal policy) depends on the responses of the interest rates to inflation

- If aggregate demand depends on long-term real rate, determinacy depends on the responses of present and future policy rates and of the risk premium to present and future inflation

- Fact (Table 1) the response of long-term rates to inflation has been always higher than one. This is different from the response of short-term rate to inflation

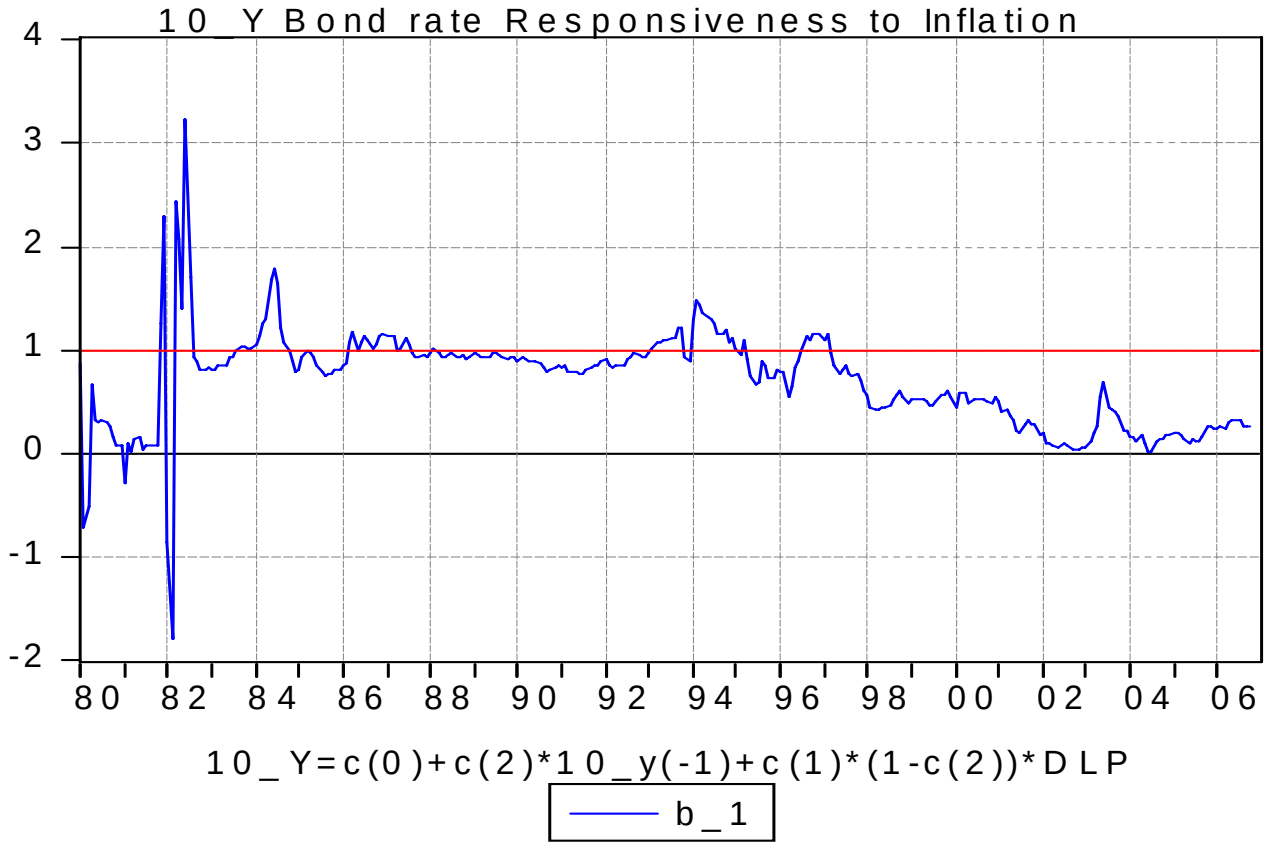
- Does the difference between the historical response of short-term and long-term interest rates to inflation depend on the behaviour of the risk premium or on the behaviour of future expected monetary policy?

The Fact: Table 1 of the paper

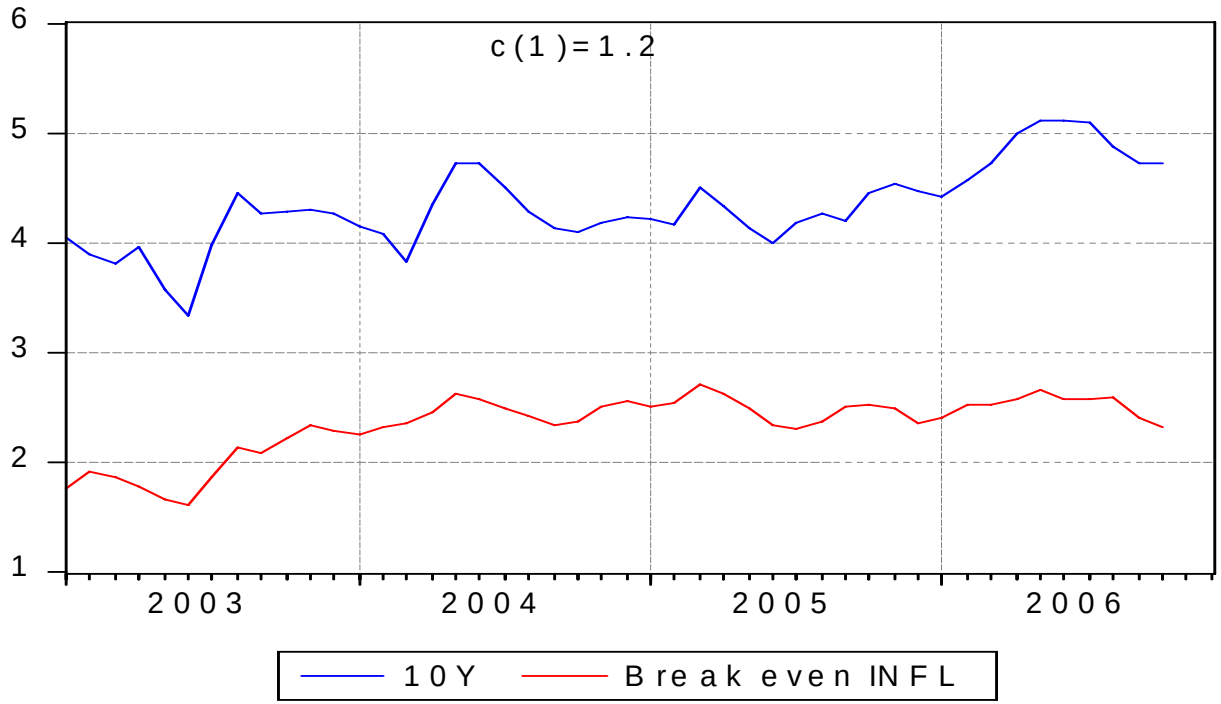
- two subsamples 1966:1-1979:9 and 1982:1 1987:7

- lagged monthly (annualised) CPI inflation is used as a proxy for inflation over the residual life of the bond

- Open Questions: what happens after 1987 ? Is the proxy used a good one?


10_Y Bond rate Responsiveness to Inflation
4
3
2
1
0
-1
-2
80
82
84
86
88
90
92
94
96
98
00
02
04
06
10_Y=c(0)+c(2)*10_y(-1)+c(1)*(1-c(2))*DLP
b_1

However, using TIPS over the 2003-2006 sample



The Question: is it the RP or is it the response of future policy rates to inflation?

- The RP depends (also) on the behaviour of fiscal authorities.

- New Channel of interaction between monetary and fiscal policy but a very risky one!

- In the models used to provide microfoundation RP does not matter.

The adopted model

The adopted model is a member of this class

$$\begin{aligned} y_{t,t+n} &= \frac{-1}{n}\left(A_n + B_n' X_t\right) \\ X_t &= \mu + \Phi X_{t-1} + v_t \end{aligned}$$

- Nelson-Siegel factor models $B_{1,n} = -n, B_{2,n} = -\left(\frac{1-e^{-\lambda n}}{\lambda}\right)$,

  $B_{3,n} = -\left(\frac{1-e^{-\lambda n}}{\lambda} - ne^{-\lambda n}\right)$, $A_n = 0, X_t$ unobserved components

- Traditional Arbitrage Model: cross-equation restrictions on coefficients X_t unobserved components

- Macro Arbitrage Model X_t unobserved components and macro variables

- Macro Factors Models X_t macro factors extracted from a large panel

- the chosen model is a no-arbitrage model where $X_t = (\pi_t, u_t)$.

- This member of the class is not the best to predict rates.

- Good performance in prediction depends on having a factor that captures persistence in policy rates and persistence in the TS.