"Bank interest rate pass-through in the euro area: A cross country comparison?" by Kok-Sorensen and Werner

Discussion ECB workshop MTM

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ECB workshop on MTM

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Empirical models of the pass-through

- Panel ECM, estimate m independent restricted systems for m (m=13) maturities and i (i=12) countries:

$$\Delta r_{i,t}^{m,b} = \beta_{0,i}^{m} + \alpha_{i}^{m}\left(r_{i,t-1}^{m,b} - \beta_{1,i}^{m} r_{i,t-1}^{m,mkt}\right) + \sum_{i=1}^{k}\gamma_{1,i}^{m}\Delta r_{i,t-i}^{m,b}$$
$$+\sum_{i=1}^{k}\delta_{1,i}^{m}\Delta r_{i,t-i}^{m,mkt} + u_{i,t}^{m}$$

- half-life approach mxi univariate regressions

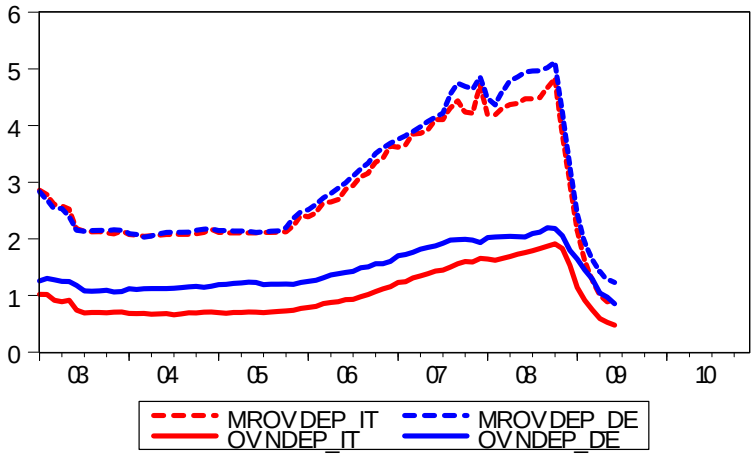
$$s_{i,t}^{m} = a_0 + a_1 s_{i,t-1}^{m} + e_t$$
$$s_{i,t}^{m} = r_{i,t}^{m,b} - r_{i,t}^{m,mkt}$$
$$hl = \frac{\ln(0.5)}{\ln a_1}$$

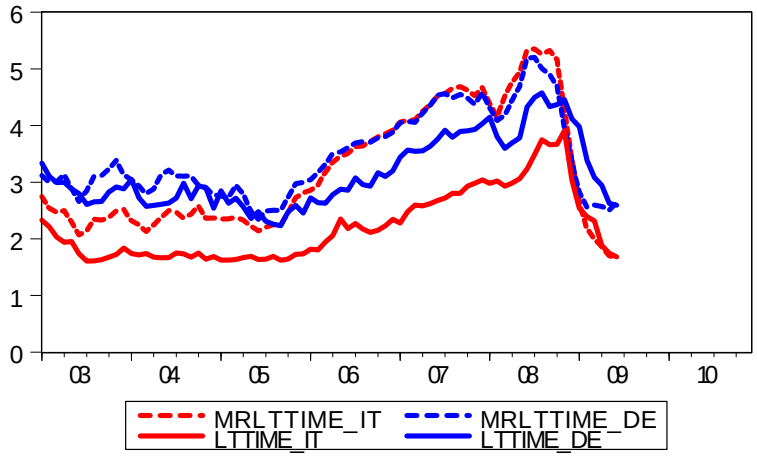
- the data
- the econometric approach in the panel ECM
- the evidence from the half-life approach

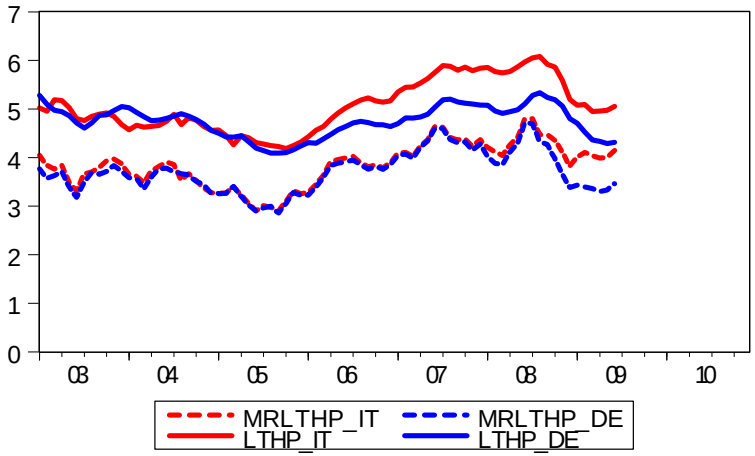
The data

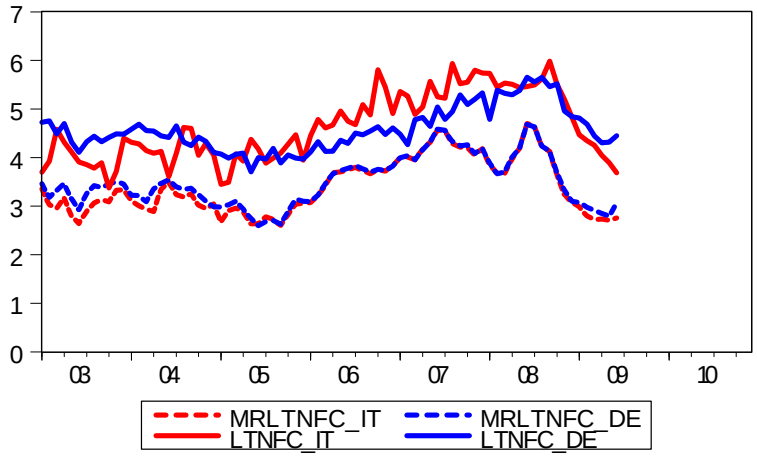
- market rates across countries are different but differences are not related to maturity
- the spread between market rates and bank rates switch sign as maturities get longer
- the crisis is a clear structural break
- the volatility of rates is not constant across time and across maturities

Italian and German (selected) rates

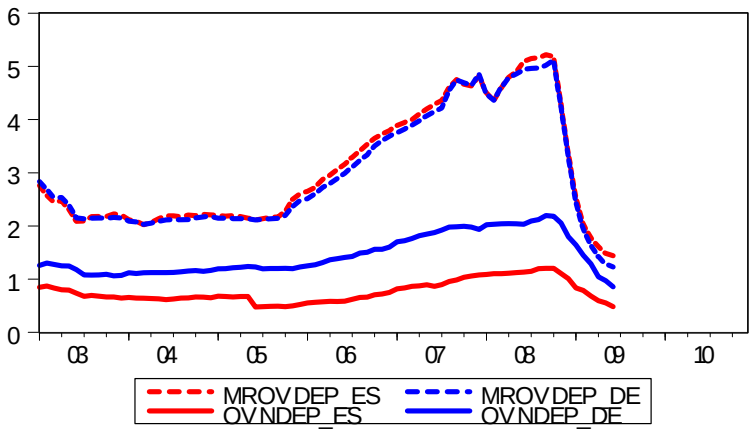


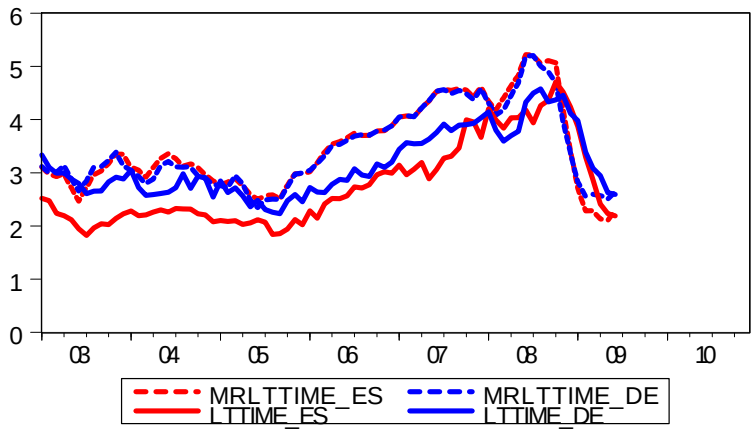


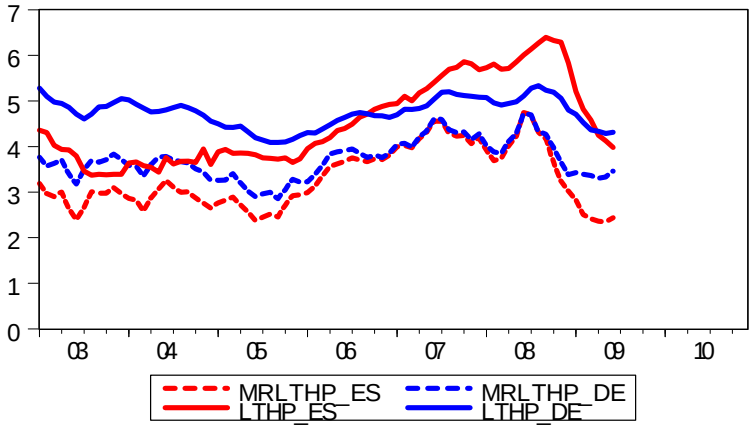


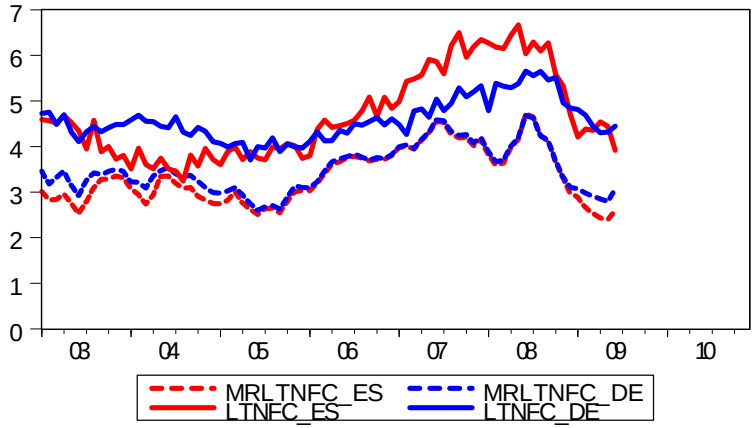


Spanish and German (selected) rates









A puzzling feature of market rates

- Run a cointegrated VAR including German, Italian and Spanish Market overnight rates
- What do I expect: a single common trend, i.e. two cointegrating vectors
- What do I get but runnng the Johansen Procedure ?

Overnight market rates are not cointegrated !

Series: MROVDEP_IT MROVDEP_ES MROVDEP_DE					
Lags interval: 1 to 2					
Selected (0.05 level*) Number of Cointegrating Relations by Model					
Data Tren	None	None	Linear	Linear	Quadratic
Test Type	No Interce	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	0	0	0	0	0
Max-Eig	0	0	0	0	0
*Critical values based on MacKinnon-Haug-Michelis (1999)					

The Panel-ECM approach

- the estimated restricted system is not a panel CVAR
- as a consequence panel techiniques make little difference: a single equation time-series VECM approach delivers the same point estimates of cointegrating parameters and speed of adjustment
- but are the restrictions imposed consistent with no arbitrage ?

The estimated VECM (simple case of two countries, and four rates, no SR dynamics)

$$\begin{bmatrix} \Delta r_{1,t}^{m,b} \\ \Delta r_{2,t}^{m,b} \\ \Delta r_{1,t}^{m,mkt} \\ \Delta r_{2,t}^{m,mkt} \end{bmatrix} = \begin{bmatrix} \alpha_{11} & 0 \\ 0 & \alpha_{22} \\ 0 & 0 \\ 0 & 0 \end{bmatrix} \begin{bmatrix} 1 & 0 & -\beta_{1,3} & 0 \\ 0 & 1 & 0 & -\beta_{2,4} \end{bmatrix} \begin{bmatrix} r_{1,t-1}^{m,b} \\ r_{2,t-2}^{m,b} \\ r_{1,t-3}^{m,mkt} \\ r_{2,t-4}^{m,mkt} \end{bmatrix}$$
$$+ \begin{bmatrix} \beta_{0,1}^{m} \\ \beta_{0,2}^{m} \\ \beta_{0,3}^{m} \\ \beta_{0,4}^{m} \end{bmatrix} + \begin{bmatrix} u_{1,t} \\ u_{2,t} \\ u_{3,t} \\ u_{4,t} \end{bmatrix}$$

- all imposed zero's are testable restrictions!!!!!
- no panel restriction imposed

The half-life estimates

- These estimates are inconsistent with the cointegration analysis:
- In fact in the cointegration analysis the restrictions that the cointegrating coefficient is equalt to one is always uniformly rejected.
- Are the other rtrictions that allow to shrink a system in a single equation also consistent with the data ?

Conclusions

- Interesting data-set, investigate more closely the propertes of the data. How important is measurement error ?
- Use a nesting framework to discuss the imposed system restrictions
- make HL approach consistent with the VECM analysis