

Comments on Changes in International Business Cycle Affiliations

Executive summary

- Good econometrics
- Bad applications

Econometrics

- Identify and date breakpoints using and develop further dynamic programming approach of Bai and Perron and Perron and Qu.
- Very useful approach
 - Good simulation properties
 - Works well in practice
- Limited to stationary variables

Econometrics

- Recent extensions
 - Testing subject to parameter restrictions within regimes
 - Breaks in covariances
 - Systems
 - Here: decompose into covariances and correlations
 - VARs: solve possible problem with breaks in marginal processes

Applications

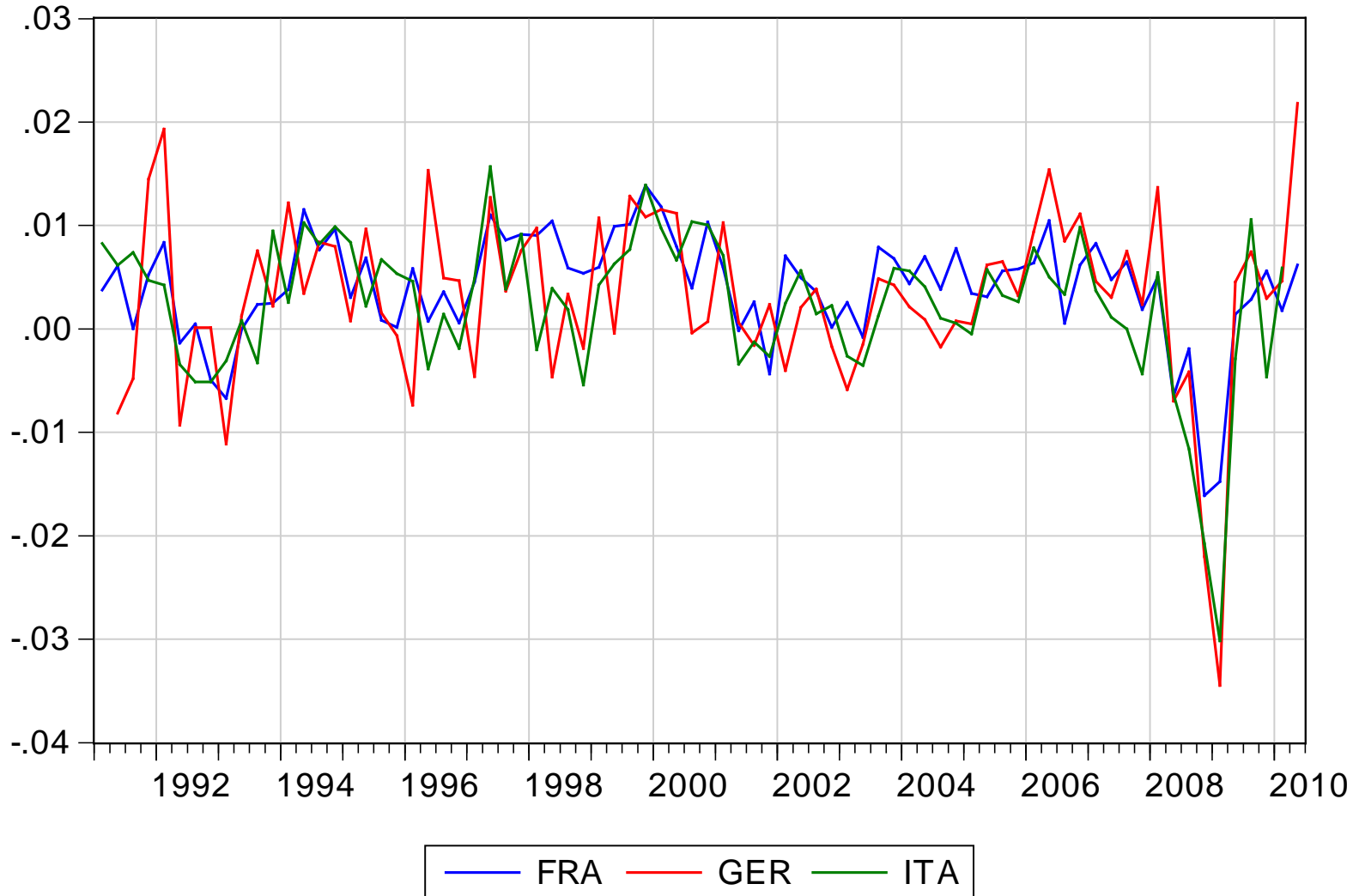
- International VAR
 - US
 - Euro
 - UK
 - Canada
- Main Euro
 - France
 - Germany
 - Italy

1. order VAR

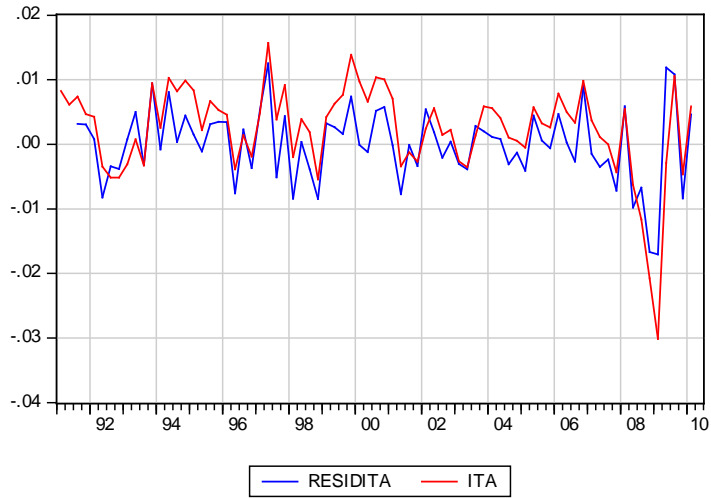
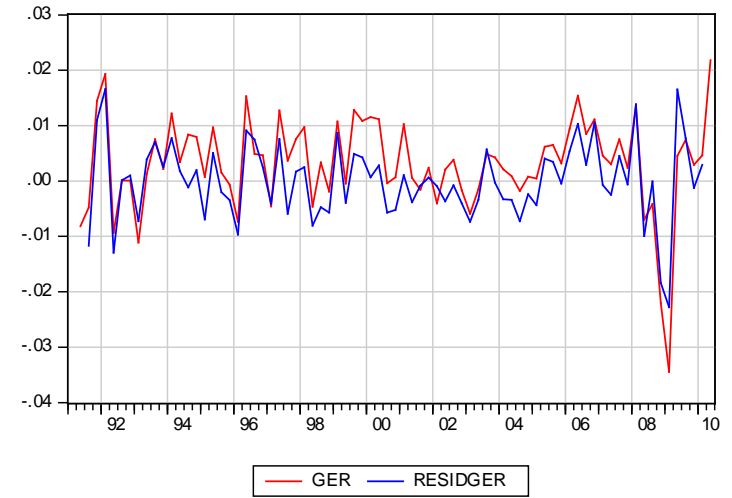
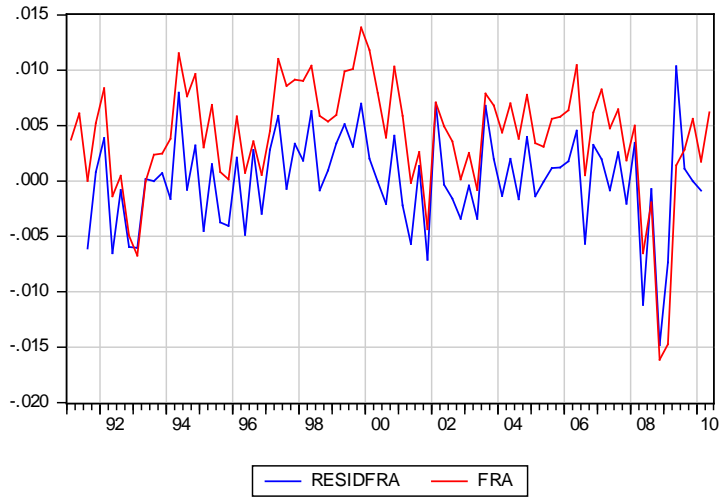
- Business cycle indicators
 - Quarterly growth rates
 - Bad model
 - Not much hope of explaining growth rates by lagged (short-run) growth rates of other economies
 - much noise
 - most parameters insignificant

Pictures speak louder than words

EU model quarterly growth rates



EU-model endogenous variables and residuals



What do we learn?

- Not much
- Probably better to impose zero restrictions
- Higher power in volatility tests
- The US leads the other economies
 - Consequenses for current situation?

Covariance breaks

- Striking with the same 3 regimes
- More economic identification
- Problem: Requires 20% of observations in each regime
 - Can first be second oil crisis?
 - Last from 2002 but interpretation of credit crisis
 - Smaller trimming possible to pin down more accurately?

Suggestions

(If you insist on the applications)

- Use actual rates rather than log-approximations
 - More volatility---more power
- Use annual rates
 - More explanatory power
 - Easier to detect regimes
- Problem with overlapping observations