

Discussion of:

Can the RBC hypothesis be rescued? A Model Based  
VAR Analysis

(Luca Dedola and Stefano Neri)

The Great Depression and The Friedman-Schwartz  
Hypothesis

(Lawrence Christiano, Roberto Motto, Massimo Rostagno)

A DSGE-VAR for the Euro Area

(Marco Del Negro, Frank Schorfheide, Frank Smets, Raf Wouters)

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- What do these papers do?
  - Blend economic theory and econometrics to build models useful for policy analysis and forecasting
  - Results appear to indicate that they are on a fruitful path to deliver such a model

- How much theory should we use?
  - Dedola and Neri: sign restrictions, or, the weakest implications of theory
    - This approach delivers the robust results to a controversial question that interests the authors
  - Del Negro et. al.: stronger priors derived from a fully specified DSGE model
    - Many appealing features for use in policy analysis
  - Christiano et. al.: A fully specified structural model
    - Allows us to study detailed policy questions

- How much econometrics should we use?
  - Dedola and Neri
    - Rely heavily on the VAR part of the model to deliver results most broadly supported by the data
  - Del Negro et. al.
    - Use the prior to shrink VAR parameters towards the parameters implied by a DSGE model
    - Most promising model for combining theory and data to study day-to-day policy questions

– Christiano et. al.

- Our econometric toolkit should be expanded in the direction of estimating this type of model
- Estimation is difficult because solving the model once is in itself an inherently difficult problem
- They evaluate the model by studying a “difficult” question
- Difficult can have two meanings here. The obvious is that the Great Depression data is difficult to explain. The second is that rather than matching unconditional moments (variances, autocorrelations) they are trying to explain the period-by-period movements in the data.

- Habit Formation: Why?
  - It “matches” features of the data we think are important
    - Equity Premium and many other properties of aggregate pricing kernels implied by asset return data
    - The habit model used in these papers is not the habit model most financial economists currently use
- Habit Formation: Appropriate for Policy Analysis?
  - Welfare Implications
    - Otrok (2001, *IER*)

- What parameter estimates should we use?
  - Otrok (2002, *JME*), Chen and Ludvigson (2003)
  - Del Negro et. al. paper: estimated habit parameter is 4 standard deviations away from prior mean!
  
- Alternative structural models can yield the same aggregate pricing kernel but have very different policy implications
  - Guvenen (2003, Rochester working paper)

- Priors

- Dedola and Neri

- Uniform? They should sharpen their priors to reflect current beliefs about many of the parameters
    - Choices of ranges: 0.2 for a capital share? Why not include durability as well as habit? Curvature of less than 1 is common with habit preferences.
    - Can we narrow the coverage intervals with more credible information?

- Christiano et. al.

- Sensitivity? Will allowing for a range for the calibrated parameters alter the results?

- Priors

- Del Negro et. al.

- What are the population moments from the DSGE model?
    - How well does the model match the data?

- Results

- Dedola and Neri

- Coverage intervals for the IRF for hours almost always covers 0. Do we conclude that we don't know the answer?

- Christiano et. al.

- We match the depression data well
    - Next step: Can we explain other less dramatic events with the same model (Japan in the 1990s, the latest recessions in the U.S. or Europe)?

- Del Negro et. al.

- It will be interesting to see their results!