Natural rates across the Atlantic

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5th CPM Internal Workshop

"Secular Stagnation and Financial Crises"

March 30, 2017

`The views expressed do not necessarily reflect those of the Bank of Italy or of the Eurosystem.`

THE PAPER IN A NUTSHELL

- Adds some non-stationary shocks to an otherwise standard NK DSGE model to speak to lower frequencies than the business cycle's, estimates it for US and EA with Bayesian methods (with some SS parameters, too).

- Creates a "parallel universe" (©Neiss and Nelson, 2003) with flexible prices and no mark-up shocks to extract the natural rate of interest.

- Decomposes the NRI into the contribution of the structural shocks in the time and frequency domains, evaluates the compatibility with different explanations put forth so far.

- Draws implications for monetary policy stance.

COMMENTS

1. Estimation and uncertainty around the NRI.
2. Concepts of NRI.
3. Broad modelling issues regarding NRI in current debate.
4. Interpretation of results.
5. Minor suggestions.

ESTIMATION AND UNCERTAINTY AROUND NRI

- Common critique to L&W's estimate of the NRI is that it is too uncertain, especially at the end of the sample.
- DSGEs apply tighter restrictions to the data than L&W's and others' approaches.
- In order to match data, estimation of tied-up model pumps up standard errors of structural shocks (Wolters, 2015).
- If estimated, uncertainty surrounding DSGE-based NRI is likely to be larger than less restrictive models. (Is it?)
- Choice of annual vs quarterly frequency of data might be consequential.

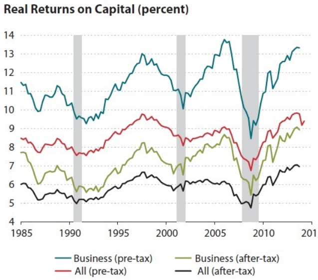
THE CONCEPT OF NRI AT LOWER FREQUENCIES

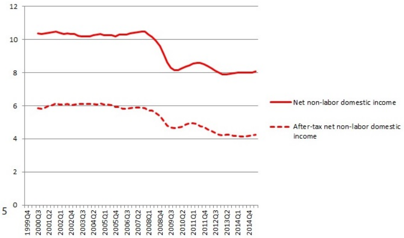
- In L&W, NRI is (mostly) a long-run concept: smooth and sluggish wrt real interest rate.
- In a DSGE model, NRI is RBC version of real interest rate: perhaps jumpy wrt real interest rate?
- As long as DSGE models remain at BC frequencies, distinction is justified by idiosyncrasy btw lower and higher frequencies. But now?
- One possibility of dialogue: reverse-engineer either parameter values or shocks necessary to obtain L&W's estimate.

OTHER SECULAR TRENDS THROUGH LENSES OF MODEL

The model (thankfully) is internally consistent, and some implications might not square with the data:

- Stable returns to capital in US (Gomme, Ravikumar, and Rupert, 2011) and EA.





- Declining labor shares (Karabarbounis and Neimar, 2012).

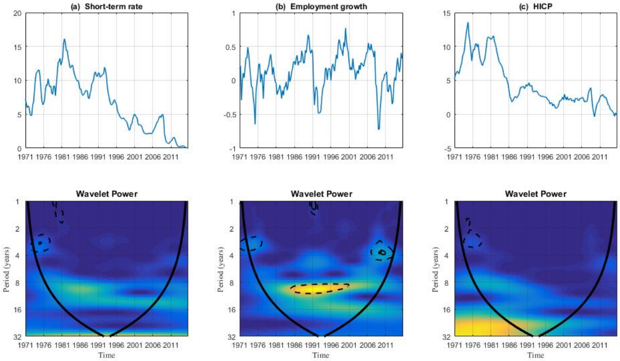
- Long-run (e.g., 5y forward 5y ahead) real interest rates.

MODELLING DIFFERENT FREQUENCIES

Useful features when dealing with multivariate mixed frequencies:

- Phase shifts.
- Different wave lengths and coherences at different times.

$\longrightarrow$ Might be obtained with time-varying parameters.



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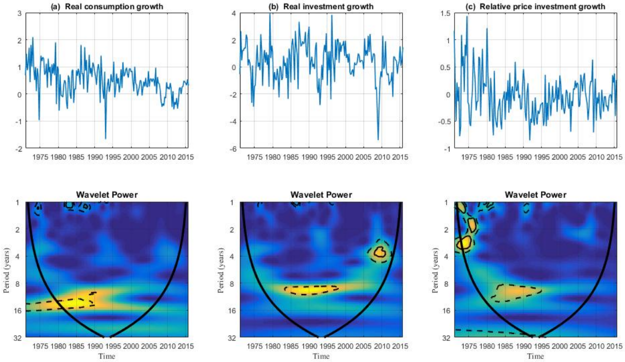
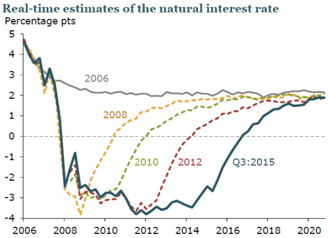


MODELLING PERMANENT CHANGES

- The model necessarily retains ergodic structure.
- Some explanations behind currently low level of NRI might not be compatible with historical averages.
- (Should we think in terms of endogenous growth?)
- Can we forecast the NRI (Cúrdia, 2015)?



HOW TO INTERPRET ROLE OF NON-STATIONARY SHOCKS?

- If we calibrate steady state and switch off non-stationary shocks, estimation of parameters and NRI does not change much.
- Stationary shocks (specifically, MEI and risk premium) explain also most of lower frequencies of NRI in both US and EA.
- We let the data speak: Should we read the paper as a reassurance for standard DSGE practitioners (calibrate SS, estimate dynamics)?

MINOR SUGGESTIONS

- Main gap: open-economy dimension, non-trivial for possible explanations due to emerging markets and mon pol spillovers.
- Role of risk-premium might point to missing observable: long-term interest rates (net of term premium).
- Role of forward guidance: an additional observable?
- Uniform labor concepts between US and EA.
- Justify inflation target concepts (survey-based for US, computed for EA): does Lippi & Neri speak with the EA-SPF for the recent years?
- Nonlinearities due to ZLB or financial frictions.

OVERALL IMPRESSION

- Great paper!
- Potential to square the debate within a unified framework.
- Makes people want to have more of it.
- Direct, sizable implications for the policy debate.