Optimal Inflation Stabilization in a Medium-Scale Macroeconomic Model

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GENERAL REMARKS

- State-of-art macroeconomics paper
  - Solid micro-founded model
  - Realistic real and nominal distortions
  - Calibration to real data
  - Characterization of optimal policies and proposal for implementation
  - Innovation of new computational methods

- Used to address topical and relevant issues. E.g.,
  - What should a central bank respond to, when setting the nominal interest rate?
  - Inflation? Output growth?
  - What is the optimal rate of change in prices?

- Many, many, many aspects to discuss in paper; only a fraction can be covered here

- Main purposes of paper are to characterize:
  - Ramsey policies in (US-) calibrated DSGE model with focus on optimal inflation rate
  - Operational nominal interest rule (closely) implementing the Ramsey allocation

- Main motivation: "First generation" monetary DSGE models have many limitations:
  - Much too **simple** to capture business cycles regularities
  - Focus on **efficient** steady states (to validate first-order approximations)

- Approach used here:
  - Formulation of model of "**sufficient scale**" for business cycle analysis (a la ACEL)
  - Formulation of model with a **variety of realistic** real and nominal distortions
  - Use of second-order approximations (by authors' own methods) allowing focus on **inefficient** steady states

MAIN RESULTS

- Three main goals for monetary policy
  - **Price stability** to avoid inefficient output dispersion, and first-order-output losses when steady-state inflation is inefficient
  - **Nominal wage stability** to avoid inefficient work dispersion, and first-order-hours losses when steady-state wage inflation is inefficient
  - **Zero nominal interest rate** to minimize opportunity cost of holding money (i.e., the Friedman rule)

- The resolution of these trade offs in Ramsey allocation (in baseline) calibration
  - **Price stability should be main focus.** Mild deflation is optimal (and zero bound on nominal interest rate is not a relevant problem)

- Reasons:
  - Relatively rigid prices, and no indexation
  - Less rigid nominal wages, and full indexation
  - Small losses from a positive nominal interest rate

- Implementation through optimized Taylor-type nominal interest rate rule (securing determinacy):
  - Strong response towards price inflation
  - Some response to wage inflation
  - Minor response to output (growth)
  - Moderate "interest rate smoothing"

COMMENTS

- Main thrust of paper: **Go beyond** the simple two-three equation, linear models

- This introduces, of course, a well-known research trade off:
  - Loss: Closed-form, analytical solutions and clear intuition
  - Gains: Realism

- My view on where Stephanie and Martín have landed: A healthy place
  - Clear intuition is replaced by humble, conjectured intuition and visual sensitivity analyses — always very convincing
  - The introduction of more distortions, realistic shocks make it a much more convincing platform for practical policy recommendations

- Potential issues by "**going beyond**":

- Do we learn anything qualitatively new in terms of monetary policymaking?

- Are the extensions actually adding to realism, or importing the simple models' flaws?

- Do we learn anything qualitatively new?

- Hmmmmmm....

- About the trade off between zero inflation and zero nominal interest rate:
  - Woodford (2003, Chapter 7) indeed adds a transaction friction to the simple two-equation linear model
  - He shows the optimal inflation rate is between the one associated with Friedman rule and zero.
  - He relates **analytically** the optimum, to the degree of price rigidity and importance of real money

- About the costs of wage inflation:
  - Erceg, et al. (2000, *JME*) indeed show how wage inflation can be costly
  - They show **analytically** how the relative costs of wage and price inflation depend on relative rigidities

- Are the extensions actually adding to realism?

- Hmmmmm....

- On the real side, obviously!

- On the nominal side, flaws of simple models are maybe being blown out of proportions?
  - Calvo-style-model assumptions are nice for simple models, because they are simple
  - They are, however, an unrealistic short cut
  - I my view, they do not get more realistic by being extended to second order, amended by indexation, and so on

FURTHER COMMENTS (I)

- More on Calvo-style assumption
  - Stephanie and Martín show convincingly that the "Calvo parameter" (probability of "being stuck" with your previous price) is central for the optimal inflation rate
  - Leads to a call for more research into the appropriate value of the parameter

- I would vote "no" on that (for two reasons):

1 We are told that in the realistic case with distortionary taxes, it doesn't matter much after all! So why care?

2 Research would be more productive, if put into search for better models for price determination
- Current types of models make nominal stability probably hysterically important
- (a welfare-based Taylor curve could be interesting to see)

FURTHER COMMENTS (II)

- Would be nice to see pure effects of a nominal interest rate shock
  - Foster intuition about transmission of monetary policy
  - (could warrant development of some MSV solution for non-linear RE models)

- Paper focuses on ideal policy
  - What are lessons from associated business cycle properties?
  - I don't believe in policy commitment; I believe discretion characterizes actual policymaking. So, what are the welfare losses from **discretionary** monetary policymaking?
  - Will, the very stable nominal interest rate under Ramsey policy "survive"? (Thus challenging the zero bound.)

- Finally, one could take issue with the label "operational" about the interest rate rule

CONCLUDING REMARKS

- **Great** pleasure to read this paper
- Admirable simple presentation of complicated model
- Clear, concise results containing lots of "food for thought"
- A **must-read** for any researcher in the field
- So, whether one agrees or not with the approach and the research programme Stephanie and Martín have initiated, one will benefit greatly from reading the paper and its "cousins."