

Discussion of:
“Optimal Monetary Policy
with Heterogeneous Agents”
by Galo Nuno and Carlos Thomas

Massimiliano Pisani

Banca d'Italia

Conference “Heterogeneous Agents or Heterogeneous
Information: Which Route for Monetary Policy?”

Banque de France, Paris, 5–6 December 2019

Usual disclaimers apply

What the paper does

- **Goal:** Ramsey optimal monetary policy (i.e., optimal inflation rate) when idiosyncratic risk not insurable.
- **Tool:** Huggett's (1993) model, modified to incorporate:
 - Fisherian channel: **current** inflation redistributes wealth;
 - unhedged interest rate exposure: households with net financing needs benefit from low **future** inflation, because the latter raises the price at which they issue new bonds;
 - **costly** inflation (price adjustment costs);
 - **small open** economy: bond held by foreign investors.

What the paper does

- **Main results:**
 - **optimal** inflation is transitory and frontloaded:
 - central bank has an initial redistributive inflationary bias;
 - central bank commits to gradually lowering inflation;
 - if shock is aggregate: inflation reaction is an order of magnitude smaller than that of the shock itself.

- Households' debt distribution and heterogeneity in marginal propensity to consume.
- Bond duration.
- Open-economy dimension.

Households' debt distribution and MPCs

- Typical models with heterogeneous agents poorly match observed cross-section distributions of marginal propensities to consume (MPCs) .
- Jappelli and Pistaferri (2014) document large differences in MPCs across agents and show that MPCs systematically co-vary with wealth.
- Auclert (2019): redistributive channels can amplify the effects of an expansionary monetary policy shock if the winners have a higher MPC than the losers.
- Kaplan et al. (2018): stress MPC heterogeneity in transmitting changes in interest rates (and augment the model with hand-to-mouth agents).

How does MPC heterogeneity affect your results?

Bond duration

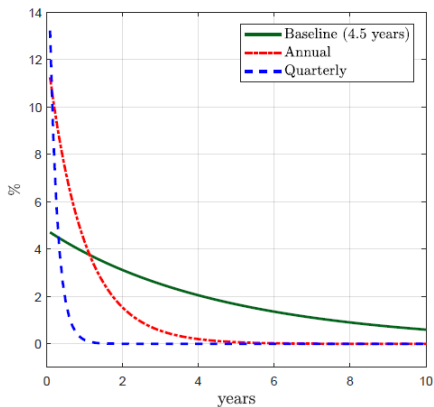


Figure 4: Optimal inflation under different debt durations.

- Di Maggio et al. (2017) measure consumption response of households to changes in the interest rates they pay on their (5-year and 10-year) mortgages.
- Auclert (2019) shows that Di Maggio et al. (2017) quantifies an important leg of the redistribution channel of monetary policy.
- What about results in the case of longer bond duration (more in line with mortgage duration)?
 - How optimal inflation would change?
 - Would it return to zero in much more gradual way?

The open economy dimension

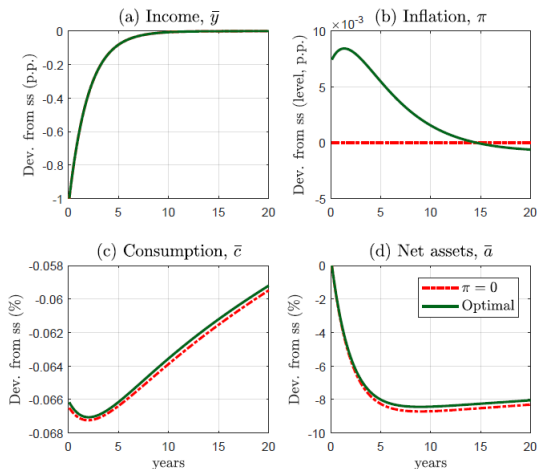


Figure 5: Generalized impulse response function of an aggregate income shock.

The open economy dimension

P. Benigno JMCB 2007, Price Stability with Imperfect Financial Integration (movements in the asset returns, i.e., valuation effects, improve risk sharing):

- in a representative agent 2-country New Keynesian model, welfare costs of incomplete markets increasing with cross-country asymmetry in initial net international positions;
- baseline scenario: welfare costs smaller than 0.20% of a permanent increase in steady-state consumption;
- welfare costs increase to 1% with persistent **aggregate** shocks;
- gains of deviating from a policy of price stability, above 0.2%.

Are your results qualitatively/quantitatively comparable?

Can you analyze the case of financial autarky ($NFA = 0$ always)?

The open economy dimension

- Your model: one-good economy and law of one price holds; domestic inflation coincides with nominal exchange rate depreciation:

$$\pi_t = \Delta S_t.$$

- Can results be interpreted in terms of optimal exchange rate change (rather than optimal inflation)?
- Do you really need the law-of-one-price assumption?
- In open-economy models, the terms of trade, and its manipulation, have a key role for international wealth redistribution.
- Try to be clear on these aspects.

- Would it be more appropriate to target international households' borrowing/lending rather than overall net international investment position?
- How does the borrowing limit calibration compare to other studies?

- Very interesting paper, it can be a benchmark for welfare analysis in richer New Keynesian Heterogenous Agent models.
- The model makes clear the complex relationship between optimal inflation and borrowing heterogeneity.
- As the paper is theoretical and focuses on *optimal* inflation, it would benefit from a systematic comparison of welfare results under alternative assumptions and calibrations.
- Thanks.