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Policy Mandates for Macroprudential and Monetary Policies in a New Keynesian Framework

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A. Key research questions

1) *Do we need to revisit the monetary policy framework in light of the financial crisis?*
2) *How should monetary policy and macroprudential policy be co-ordinated?*

B. Objectives of the Paper

1) **Assess whether there is a welfare gainfrom monetary policy that 'leans against the wind' (macroprudential policies are absent).**

2) **Analyse the impact on welfare of introducing in the model macroprudential policies reacting counter-cyclically to financial imbalances.**

C. The Model

A New Keynesian model is extended to include a banking sector a la Gertler and Karadi (2012).

Macroprudential Regulation

$$T_t^{MR} = \tau_t Q_t S_t - \tau_t^s N_t$$

$$n_t = R_{k,t} Q_{t-1} s_{t-1} - R_t^{cr} d_{t-1} + \tau_{t-1}^s n_{t-1} - \tau_{t-1} Q_{t-1} s_{t-1}$$

D. Policy Rules

General Augmented Taylor rule:

$$\log\left(\frac{R_{n,t}}{R_n}\right) = \rho_r \log\left(\frac{R_{n,t-1}}{R_n}\right) + (1-\rho_r)\left[\theta_{r,\pi}\log\left(\frac{\Pi_t}{\Pi}\right) + \theta_{r,y}\log\left(\frac{Y_t}{Y_t^F}\right) + \theta_{r,Q}\log\left(\frac{Q_t}{Q}\right)\right.$$
$$\left. + \theta_{r,s}\log\left(\frac{1+E_t\left[R_{k,t+1} - R_{t+1}^{cr}\right]}{1+R_k - R^{cr}}\right) + \theta_{r,Qs}\log\left(\frac{Q_t s_t}{Qs}\right)\right] + \log(MPS_t)$$

We examine simple augmented Taylor rules feeding back alternatively on credit, credit spreads, assets prices or credit and credit spreads.

General Macroprudential Rule:

$$\log\left(\frac{1+\tau_t}{1+\tau}\right) = \rho_\tau \log\left(\frac{1+\tau_{t-1}}{1+\tau}\right) + (1-\rho_\tau)[\alpha_{\tau,Qs}\log\left(\frac{Q_t s_t}{Qs}\right)$$
$$+ \alpha_{\tau,s}\log\left(\frac{1+E_t\left[R_{k,t+1} - R_{t+1}^{cr}\right]}{1+R_k - R^{cr}}\right) + \alpha_{\tau,Qs/Y}\log\left(\frac{\frac{Q_t s_t}{Y_t}}{\frac{Q_s}{Y_t^F}}\right) + \alpha_{\tau\Delta Qs}\frac{cg_t}{cg_{ss}}] + \log(MRS_t)$$

E. Policy Mandates

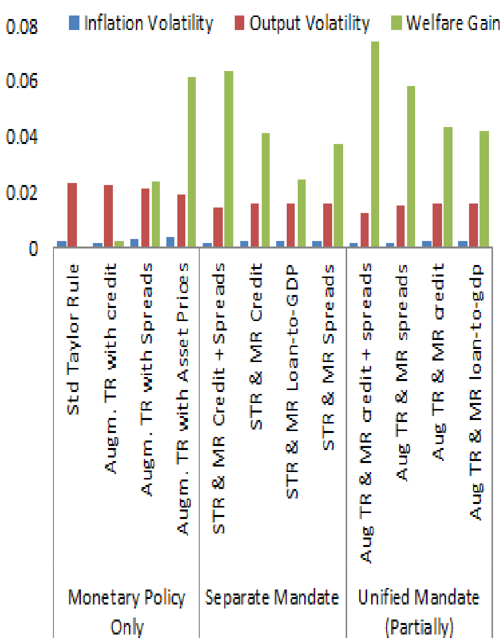
1) Monetary Policy Only

- Std Taylor Rule (TR)
- Augmented TR responding to credit
- Augmented TR responding to spreads
- Augm. TR responding to asset prices

2) Monetary and Macroprudential Policies

- Separate Mandate: each policymaker pursues each own policy goal
- (Partially) Unified Mandate: both policymakers pursue financial stability goals

F. Optimal Policy Exercises



G. Main Findings

1) **It is welfare improving to have a monetary policy stance responding countercyclically to asset prices, but it comes with a trade-off in terms of inflation stabilization.**

2) **There are welfare gains from introducing macroprudential regulation, even when considering a separate regime.**