Simple Implementable Financial Policy Rules

by

Mauricio Calani, Javier Moreno and Marco Piña

Manuel A. Muñoz
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Overview

1. Motivation

2. Five questions

Motivation

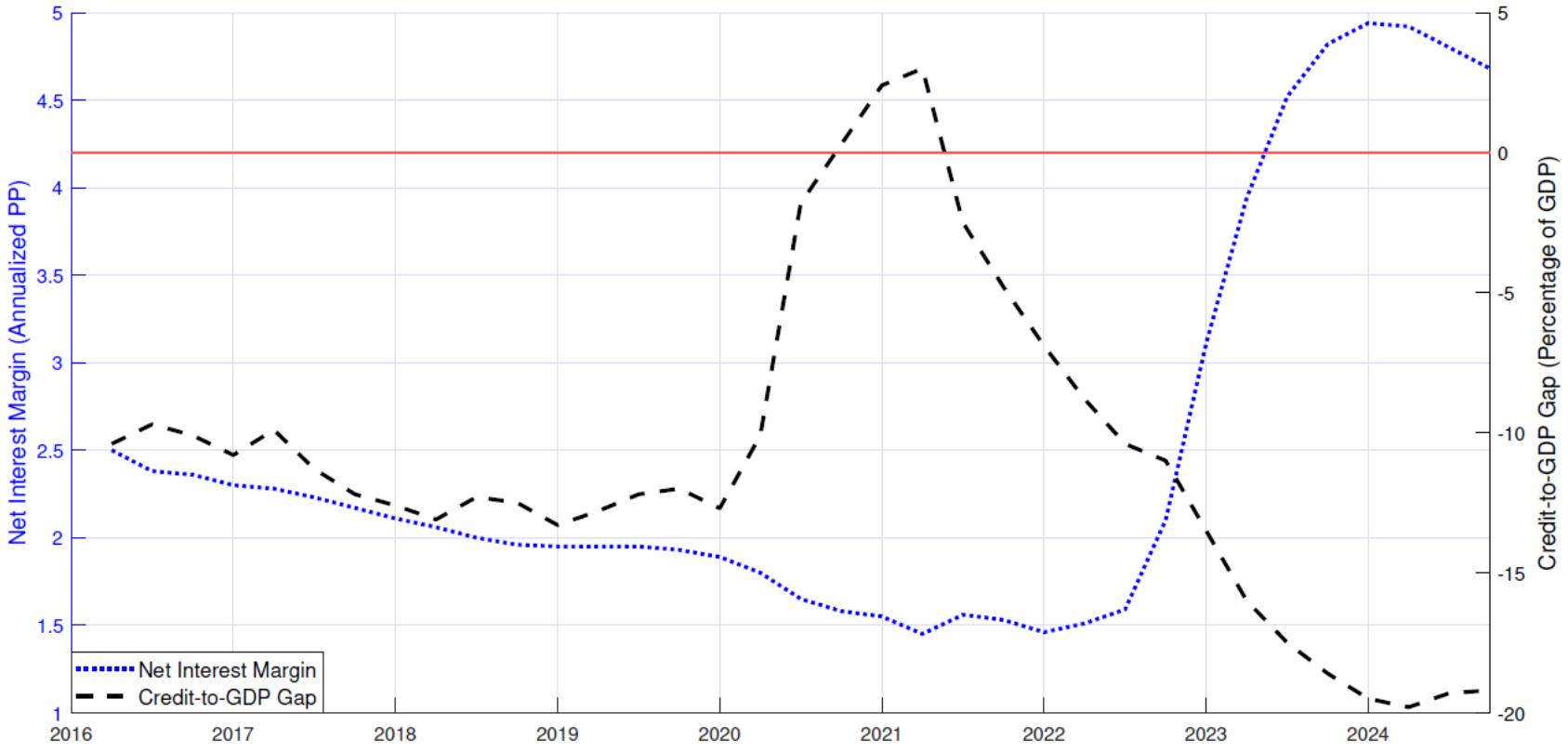
- **Release (releasable) capital buffers in extraordinary crisis times**
  - Evidence: Jimenez et al. 2017
  - Theory: e.g., Elenev et al. 2021, Corbae and D'Erasmo 2021 (others: Faria-e Castro 2021).

- **When and how to build such capital buffers?**
  - Basel III Accords: birth of CCyB in 2016: credit-to-GDP gap as a key common reference
  - Evidence: e.g., Bedayo and Galan (2024)
  - Recent tightening cycle: Numerous competent authorities build capital buffers.
  - Theory: Bank failure, limited liability and deposit insurance (Clerc et al. 2015, Mendicino et al. 2018, 2020; Abad 2019)
    - Optimal static capital requirements are hard to beat in standard business-cycle macro-banking models of this type (e.g., Abad et al. 2024; Canzoneri et al. 2024)
    - Very few exceptions: find optimal to respond to macro indicators (e.g., Davydiuk 2017)

➢ Muñoz and Smets (2024): optimality of building buffers when there is headroom for doing so even if credit gaps are negative.

Motivation (Cont'd)

Figure 1: Net interest margin and credit-to-GDP gap in the euro area



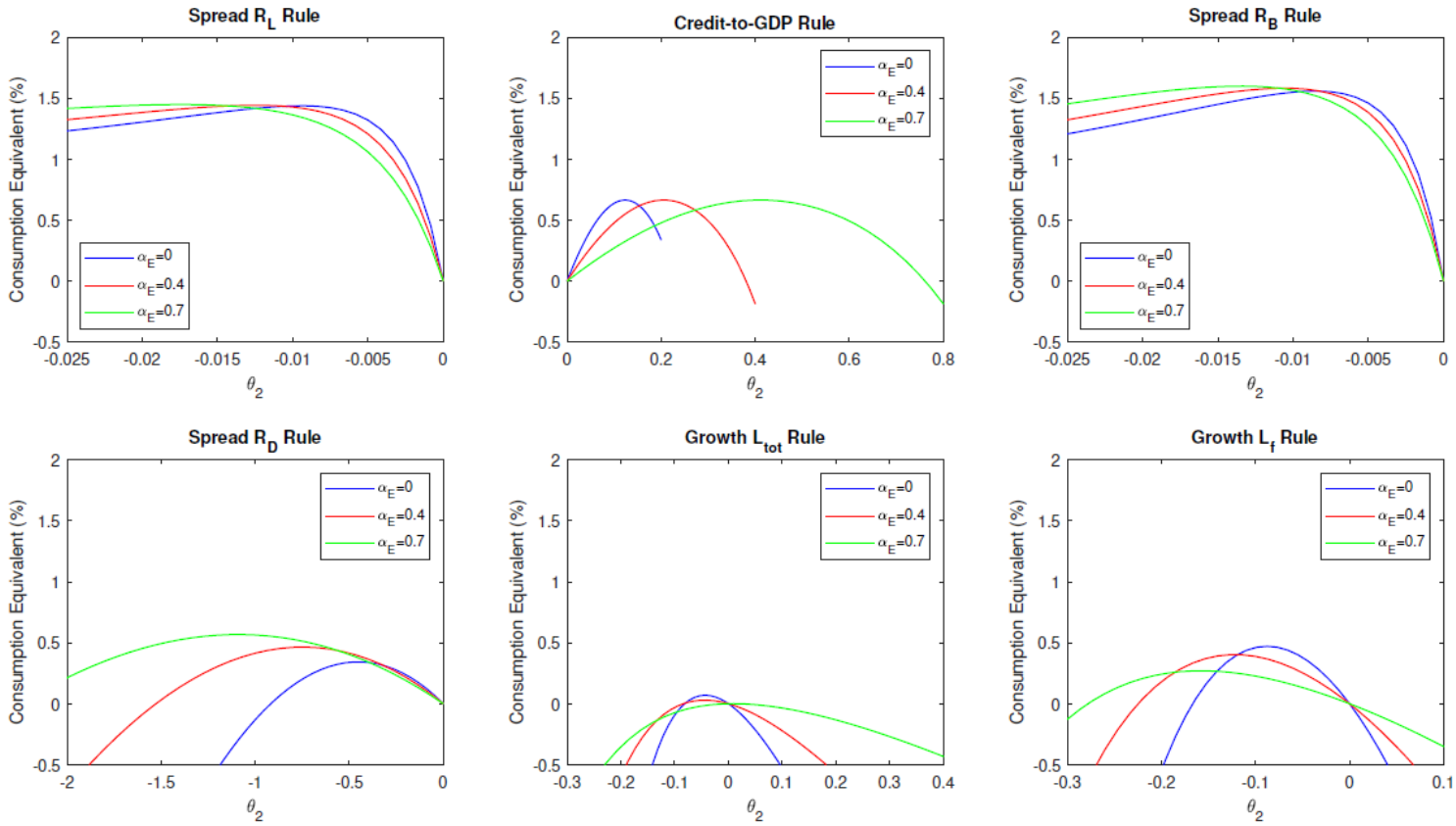
Muñoz and Smets (2024)

1. How does the model speak to the evidence on the CCyB?

- **CCyB rule**

$$\left(\frac{1+CCyB_t}{1+\overline{CCyB}}\right)=\left(\frac{1+CCyB_{t-1}}{1+\overline{CCyB}}\right)^{\theta_1}\left(\frac{(1-\alpha_E)X_t+\alpha_E\mathbb{E}(X_{t+h})}{X}\right)^{\theta_2}$$

- **When to activate the buffer?**



2. Why do NIMs enable the largest real & welfare effects?

- **The authors mention risk shocks.. But what about the no default cond?**

$$\bar{\omega}^F_{t+1} \equiv \frac{R^D_t D^F_t}{\tilde{R}^F_{t+1} L^F_t}, \qquad \bar{\omega}^H_{t+1} \equiv \frac{R^{BB}_{t+1} Q^{BB}_{t+1} BB_t}{\tilde{R}^H_{t+1} Q^L_t L^H_t}$$

- **How can welfare improve when building the CCyB as NIMs compress?**

Rule	Model variable
Spread R_L	$R^L_t - R_t$
Credit-to-GDP	$L_{tot,t}/GDP_t$

- **Effectiveness of CCyB typically requires an additional externality (channel)**
  - E.g., Muñoz and Smets (2024): pecuniary externalities due to collateral constraints
  - Externality due to bank risk failure

$$\lambda_{h,t} = \beta_h E_t \left[\lambda_{h,t+1} (R^d_t - (1-\kappa)\Psi_{t+1}) \right],$$

$$\lambda_{h,t} = \beta_h E_t \left(\lambda_{h,t+1} R^b_t \right),$$

$$R^d_t > R^b_t,$$

3. What is the friction (& externality) that gives a role for CCyB?

– Externalities due to collateral constraints

$$\lambda_{e,t} = \beta_e E_t \left(\lambda_{e,t+1} R^l_{t+1}\right) + \mu_{e,t}.$$

$$q_t \lambda_{e,t} = \beta_e E_t \left[\lambda_{e,t+1} \left(q_{t+1} + \frac{\nu Y_{e,t+1}}{h_{e,t}}\right)\right] + \mu_{e,t} \phi^A_t q_t,$$

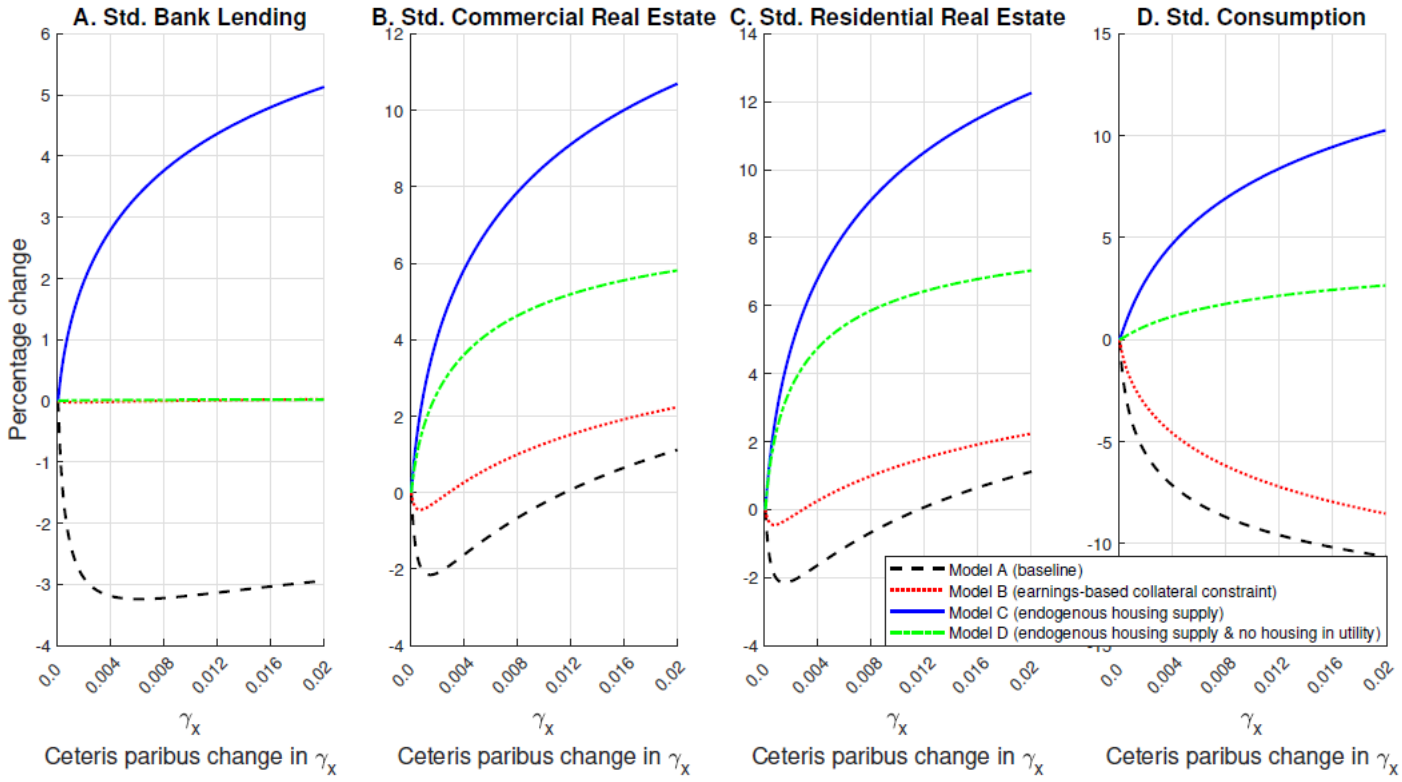
$$\frac{\left(q_{t+1} + \frac{\nu Y_{e,t+1}}{h_{e,t}}\right)}{q_t} > R^l_{t+1}.$$

$$\beta_h E_t \left[\frac{\lambda_{h,t+1}}{\lambda_{h,t}} (R^d_t - (1-\kappa)\Psi_{t+1})\right] = 1 > \beta_e E_t \left[\frac{\lambda_{e,t+1}}{\lambda_{e,t}} R^l_{t+1}\right]$$

Muñoz and Smets (2024)

3. What is the friction (& externality) that gives a role for CCyB? (Cont'd)

Figure 13: Volatility effects of a dynamic capital buffer: Collateral market features

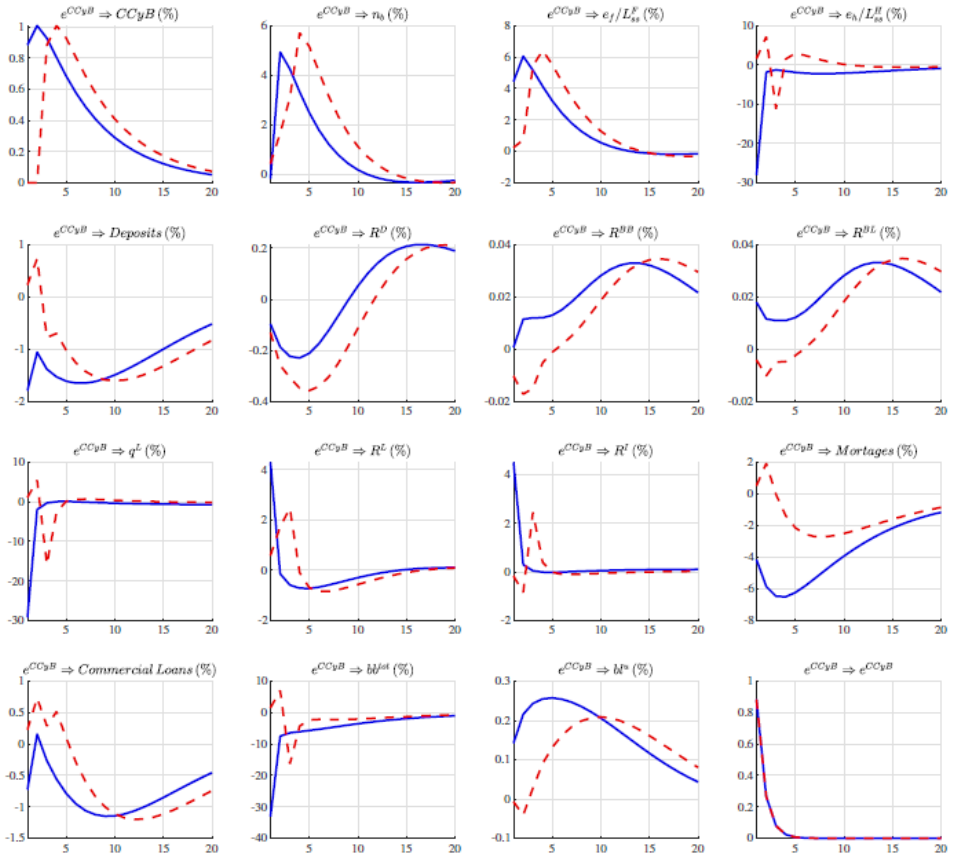


Muñoz and Smets (2024)

4. What is the transmission mechanism?

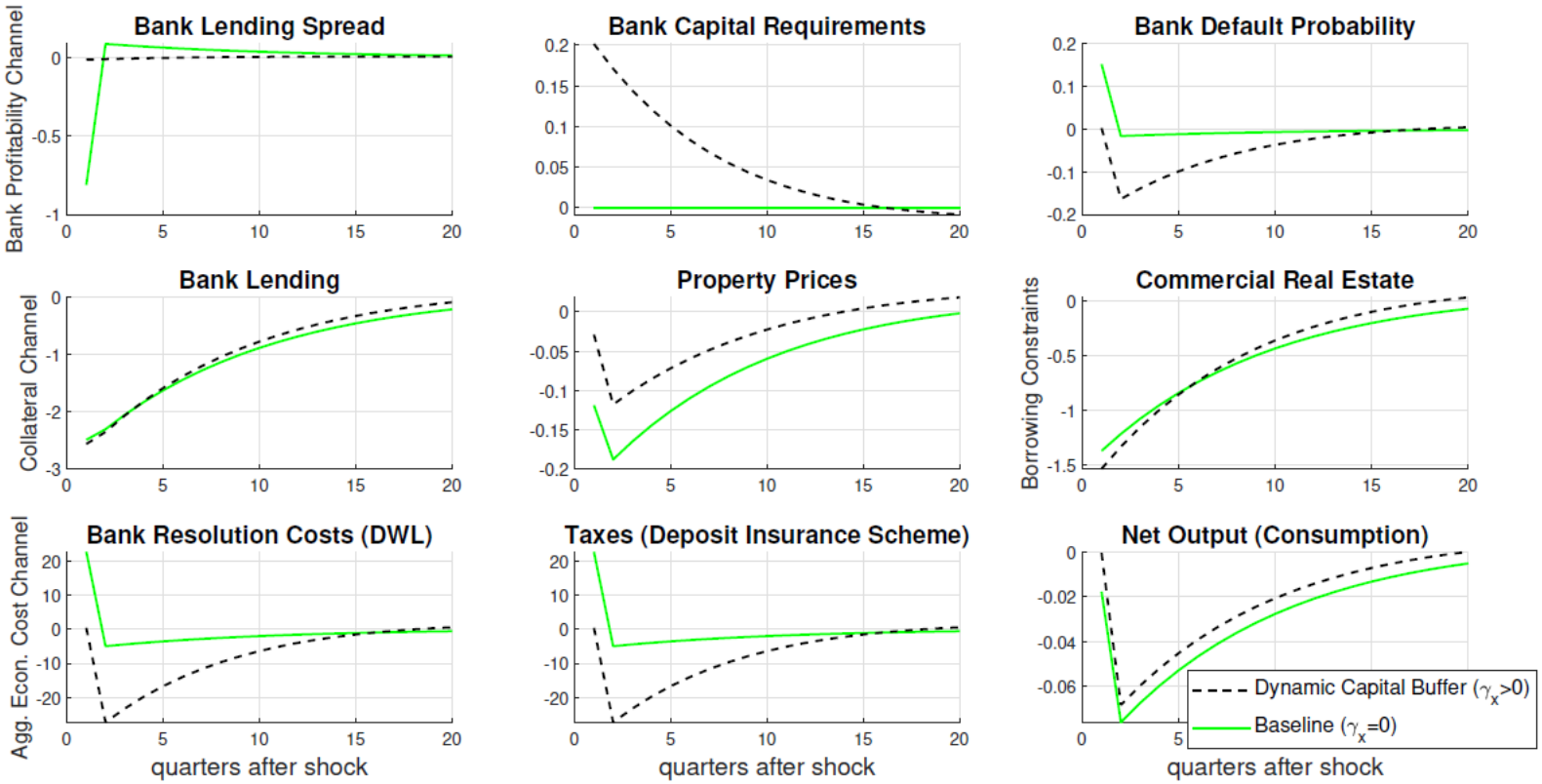
- **Subsection 4.1 describes the transmission mechanism**
  - Exogenous capital requirement shocks in a rule without a CCyB
  - Transmission of temporary effects of a tightening in static capital requirements (not of accumulating the CCyB)

Figure 3: Transmission Channel CCyB activation



4. What is the transmission mechanism? (Cont'd)

Figure 5: IRFs to a negative financial (collateral) shock



Muñoz and Smets (2024)

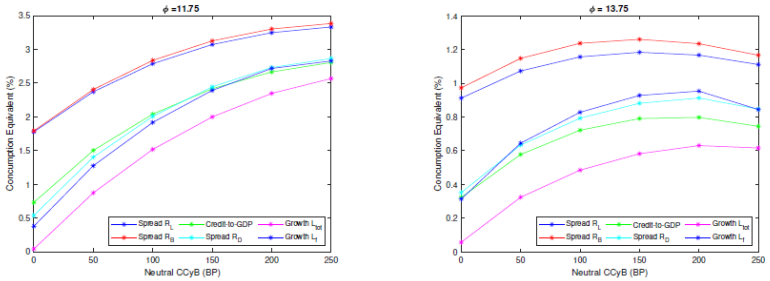
5. How does the CCyB parameter interact with the others?

- **Is there a static capital requirement above which having a CCyB is not optimal?**

Table 2: Calibration, Financial Sector

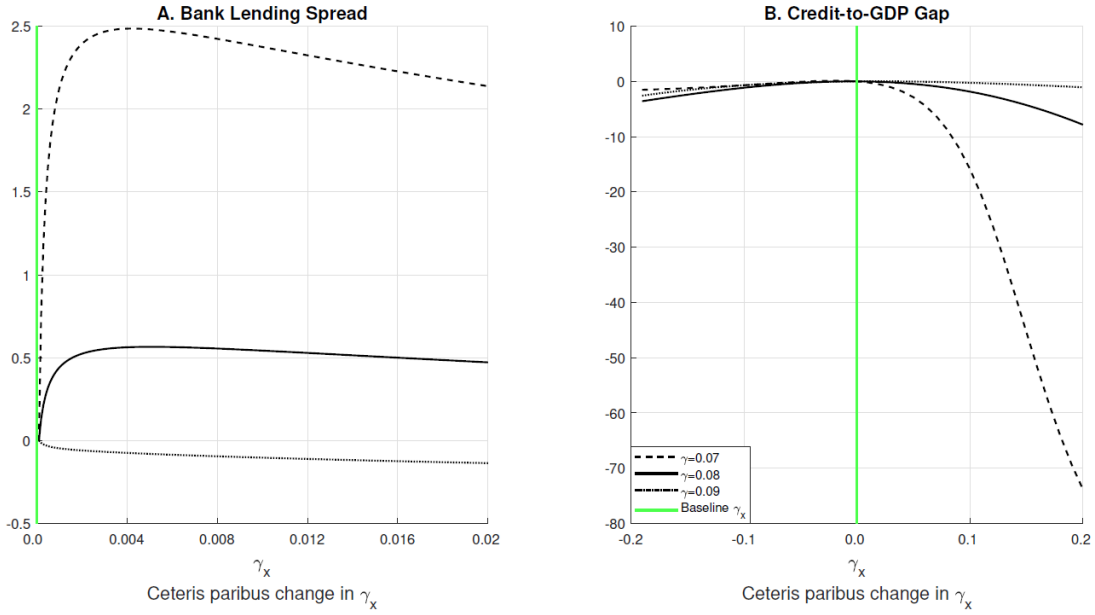
Parameter	Description	Value	Source
χ_b	Banks dividend policy	0.04	Clerc et al. (2015)
χ_e	Entrepreneurs dividend policy	0.05	Clerc et al. (2015)
γ_{bh}	Household cost bank bonds default	0.10	Clerc et al. (2015)
γ_d	Cost of recovering defaulted bank deposits	0.10	Clerc et al. (2015)
ϕ_F	Bank Capital Requirement (RWA)	0.1683	Data (2000-2022)
ϕ_H	Bank Capital Requirement (RWA)	0.1183	Data (2000-2022)

Figure 10: Consumption Equivalent for different levels of Neutral CCyB and Effective Band



Note – This figure shows the consumption equivalent for different values of neutral $CCyB$, for the optimal θ_2 found previously for each rule, and $\theta_1 = 0.8409$. The figure on the left is for a base capital requirement equal to $\bar{\phi} = 11.75\%$, while the one on the right is for $\bar{\phi} = 13.75\%$.

Figure 8: Welfare gains of a dynamic capital buffer: γ_x - γ interactions

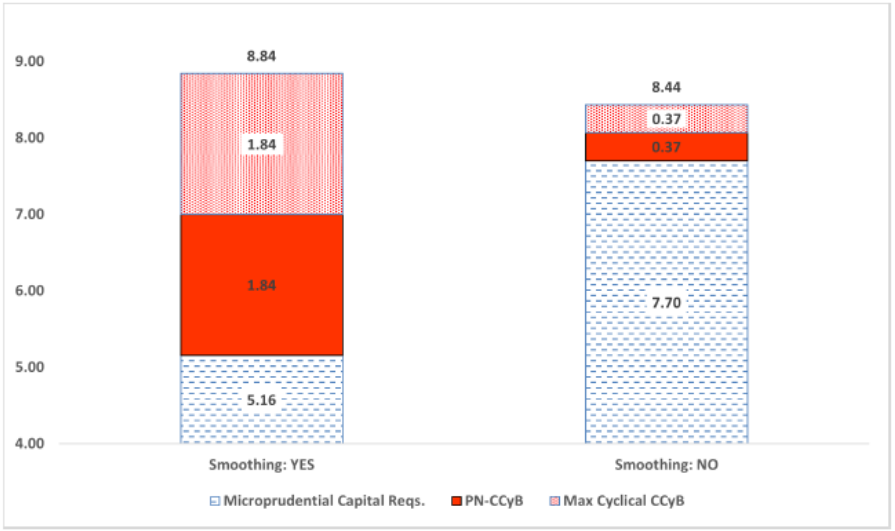


Muñoz and Smets (2024)

- **What is the role of capital buffer smoothing in your model?**
- **What is the optimal rule?**

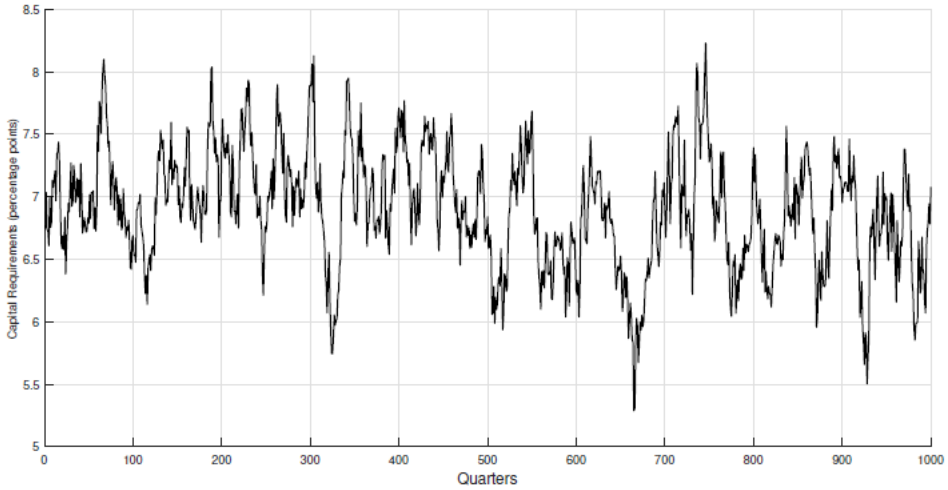
5. How does the CCyB parameter interact with the others? (Cont'd)

Figure 15: Calibrated optimal capital requirements



Muñoz and Smets (2024)

Figure F.2: Simulated optimal dynamic capital requirements



Muñoz and Smets (2024)

Thank you