Coordinating Monetary and Financial Regulatory Policies

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Introduction

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  Study coordination between monetary and macro-prudential policies

  Emphasis $\rightarrow$ coordination throughout the economic cycle

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- Model economy $\rightarrow$ **2** building blocks

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- ◦ Financial intermediaries good at providing financing to firms, but subject to financing constraints (due to moral hazard prob.)

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Firms

- Firms produce intermediate goods out of labor and capital services

$$y_{j,t} = A_t l_{j,t}^{\alpha} k_{j,t}^{1-\alpha} \quad \text{with } j \in [0,1]$$

$A_t \rightarrow$ evolves locally stochastically, $dA_t / A_t = \mu_A dt + \sigma_A dZ_t$

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- Firms reset nominal price $p_{j,t}$ sluggishly according to Calvo (1983) $\Rightarrow$

agg. price level $p_t = \left[\int_0^1 p_{j,t}^{1-\varepsilon} dj \right]^{\frac{1}{1-\varepsilon}}$ evolves locally deterministically,

$dp_t / p_t = \pi_t dt + 0 dZ_t$

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$$V_t \equiv \max_{\bar{k}_{f,t}, b_t} E_t \int_t^\infty \gamma e^{\gamma(s-t)} \frac{\Lambda_s}{\Lambda_t} n_{f,s} ds \ ,$$

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- Households $\rightarrow$ consume c_t, supply labor l_t, and invest in $-b_t, \bar{k}_{h,t}$

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SW Utility flows are:

$$(1-\alpha) \ln a_t + \ln \frac{1}{\omega_t} + \alpha \ln l_t - \chi \frac{1}{1+\psi} l_t^{1+\psi} + \ln A_t + (1-\alpha) \ln \bar{k}$$

Policy Exercise

Traditional Mandate

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NE $i_t \longrightarrow$ mimic natural rate of return $\Longrightarrow \pi_t = 0, \ \omega_t = 1, \ l_t = l_*$

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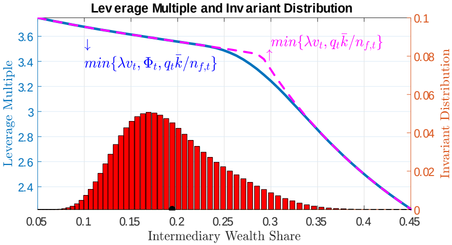
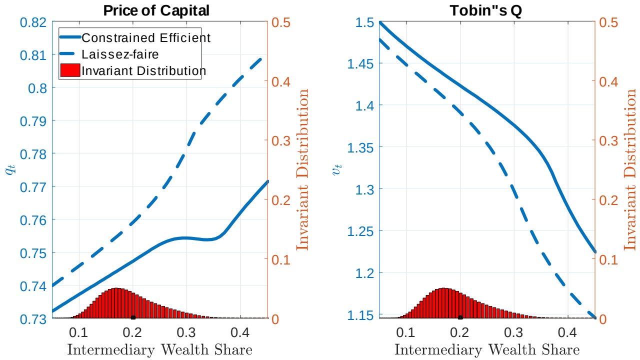
NE $i_t \longrightarrow$ mimic natural rate of return $\Longrightarrow \pi_t = 0,\ \omega_t = 1,\ l_t = l_*$

$\Phi_t \longrightarrow$ replicate constrained efficient policy of flex. price econ. $\Longrightarrow$



Macro-prudential Policy in Flexible Price Economy

- **Benefits**
  - ↓distributive externality [Fig. 1] ↑binding-constraint externality [Fig. 2]
  - ↓ co-movement btw a_t and intermediary wealth share
  - shift invariant distribution rightward [both Figs., RHS]



Policy Exercise (cont.)

Coordinated Mandate

- $$\max_{i_t,\Phi_t}\left\{E_0\int_0^\infty e^{-\rho t}\left[(1-\alpha)\ln a_t+\ln\frac{1}{\omega_t}+\alpha\ln l_t-\chi\frac{1}{1+\psi}l_t^{1+\psi}\right],\ \text{s.t. CE}\right\}$$

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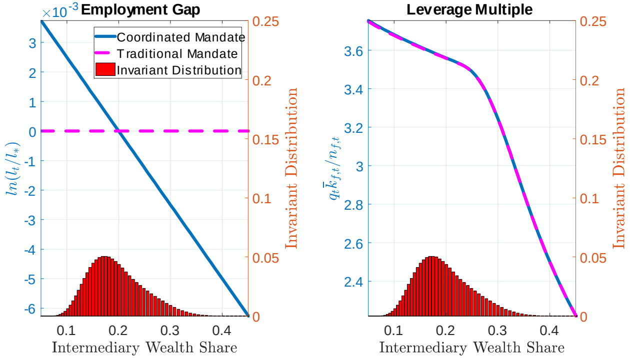

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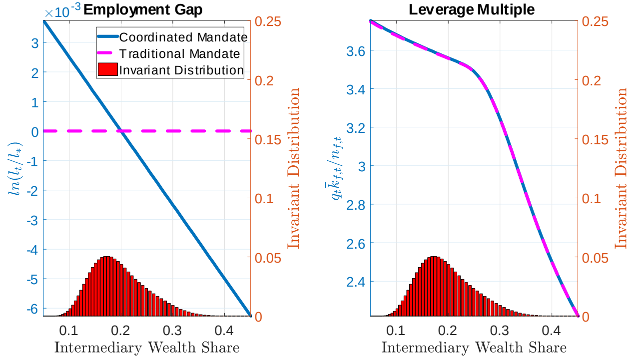

- $a_f \frac{r_{k,t}}{q_t} dt + \frac{dq_t}{q_t} - (i_t - \pi_t)\, dt$, with $q_t \to PDV\ of\ r_{k,t}$

- Baseline calibration

Parameter Values

a_h	λ	γ	μ_A	σ_A	α	ε	θ	ρ	ψ	χ
70%	2.5	10%	1.5%	3.5%	65%	2	$\ln 2^{6/5}$	2%	3	2.8

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- Social welfare gains in annual consumption equivalent

Coordinated Mandate over Traditional Mandate

	Present Discounted Value of			
	$\ln \frac{1}{\omega}$	$\ln l^{\alpha} - \chi \frac{l^{1+\psi}}{1+\psi}$	$\ln a^{1-\alpha}$	Ut. Flows
Baseline calibration	-0.04%	-0.00%	$+0.11\%$	$+0.07\%$
... but with $a_h = 60\%$	-0.05%	-0.01%	$+0.15\%$	$+0.09\%$
... but with $\theta = \ln 2^{4/5}$	-0.06%	-0.01%	$+0.20\%$	$+0.13\%$
... but with $\varepsilon = 4$	-0.05%	-0.00%	$+0.07\%$	$+0.02\%$

Conclusion

Traditional Mandate

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MacroPru $\longrightarrow$ replicate constrained eff. policy of flexible price econ.

Coordinated Mandate

MoPo $\longrightarrow$ deviate from natural rate of return

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Social Welfare Gains

Coordinated $\succ$ Traditional by 0.07% annual consumption equivalent