Financial crises,bank risk exposure and government financial policy

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Overview

1. Mativation and literature review
2. Model
3. Crisis simulations and policy experiments

motivation and literature review

- A common feature of many of current papers has been to extend the basic financial accelerator mechanism developed by Bernanke and Gertler (1989) and Kiyotaki and Moore (1997)to financial intermediaries (banks) in order to capture the disruption of intermediation.
- The goal of the model:
  - Capturing a crisis when banks are highly vulnerable to risk
  - Why banks adopt a risky balance sheet
  -capturing the side effect of the credit policy on moral hazard

Model

- Bank's budget constraint:

$$Q_t s_t = n_t + q_t e_t + d_t$$

- Bank's networth:

$$n_t = R_{kt} Q_{t-1} s_{t-1} - R_{et} q_{t-1} e_{t-1} - R_t d_{t-1}$$

- The fraction of bank assets funded by outside equity:

$$\chi_t = q_t e_t / Q_t s_t$$

- Leverage ratio:

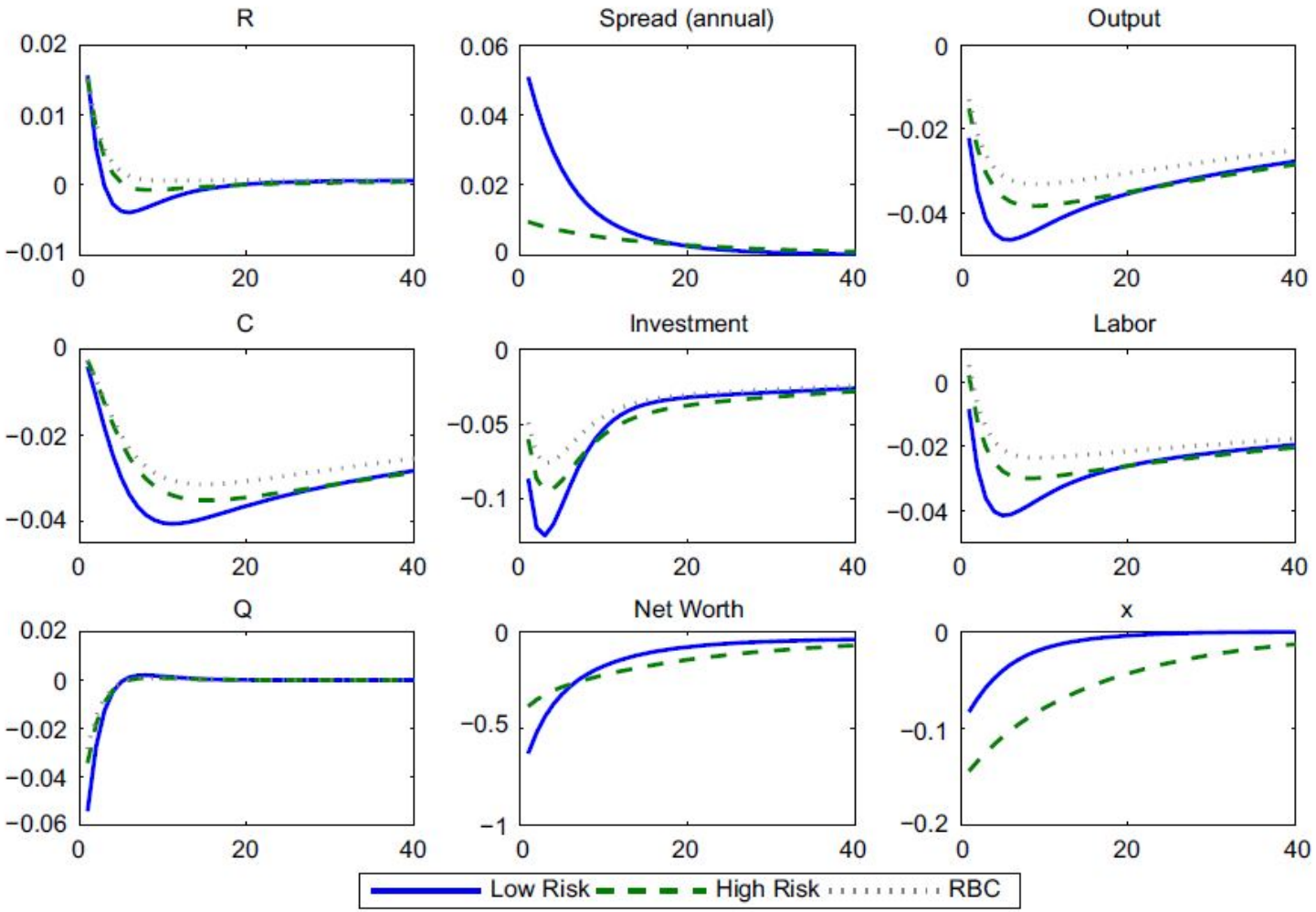
$$Q_t s_t = \phi_t n_t$$

steady states

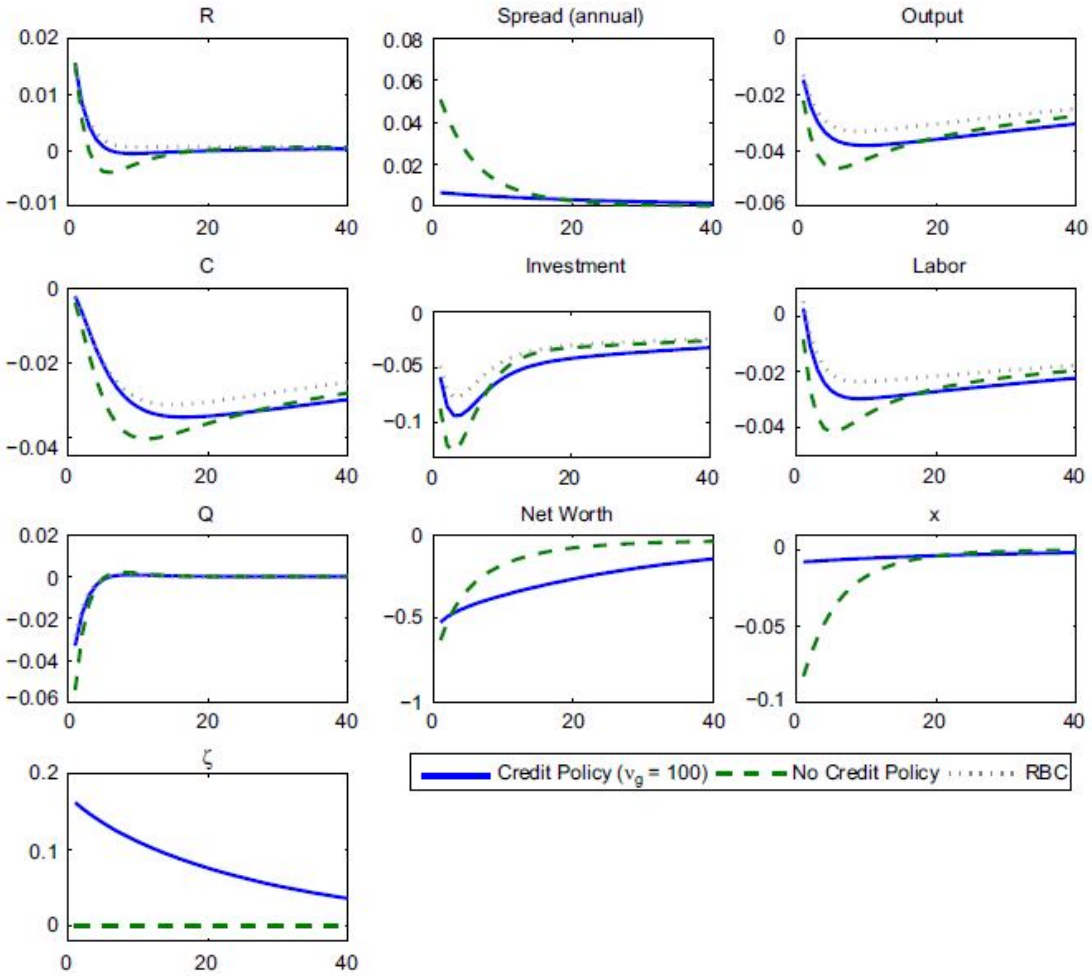
Table 2
Steady states.

	No policy		**Credit policy**		**Macroprudential policy** ($\tau^s = 0.0061$)	
	Low risk	High risk	Low risk	High risk	Low risk	High risk
Output	23.821	23.53	24.18	23.85	24.04	23.83
C	18.58	18.37	18.82	18.58	18.73	18.57
L	8.16	8.08	8.26	8.16	8.22	8.15
K	209.52	206.16	214.34	210.46	212.48	210.41
N	31.77	38.02	30.05	37.11	30.85	37.72
Risk free rate (%)	4.08	3.72	4.06	3.68	4.05	3.56
Spread (%)	0.99	1.46	0.89	1.38	0.94	1.48
x (%)	10.12	15.16	9.63	13.35	18.77	21.98
v	1.63	1.38	1.76	1.42	1.81	1.54
μ_e	0.05	0.15	0.03	0.12	0.03	0.08
μ_s	0.29	0.16	0.33	0.19	0.37	0.27
ϕ	6.59	5.42	7.13	5.67	6.89	5.58
$QK/(N+xQK)$	3.95	2.98	4.23	3.23	3.00	2.51
N/xQK	1.50	1.22	1.46	1.32	0.77	0.82
SD shock (%)	0.69	2.07	0.69	2.07	0.69	2.07
SD output growth (%)	1.09	2.53	0.81	2.43	0.80	2.29

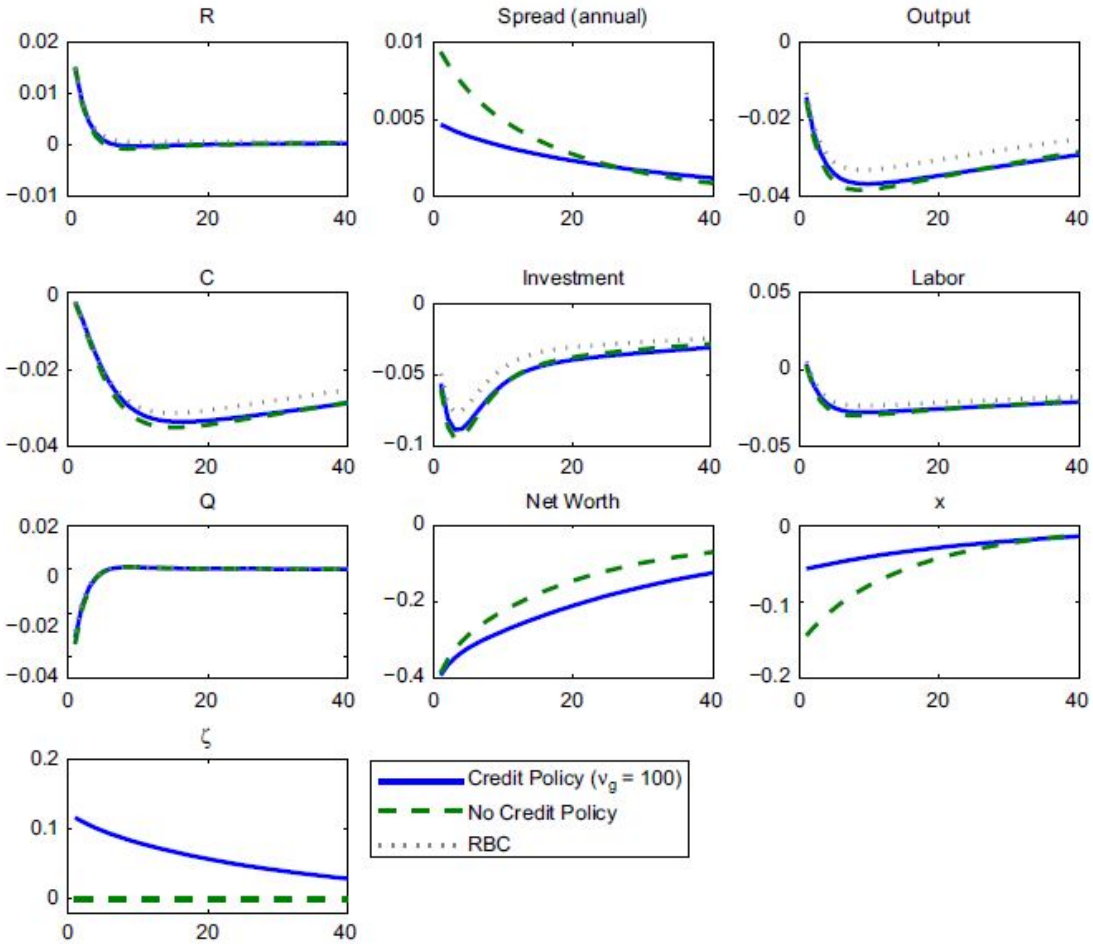
No policy responce



Credit policy responce to crisis: low risk economy

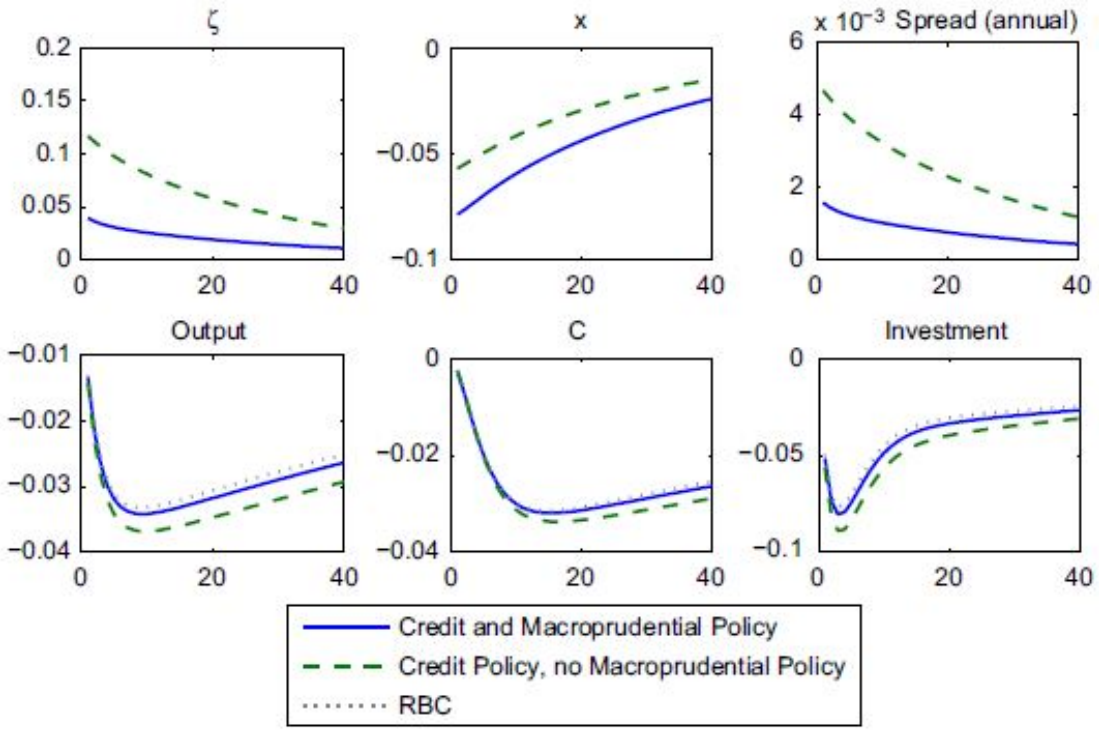


Credit policy responce to crisis: high risk economy

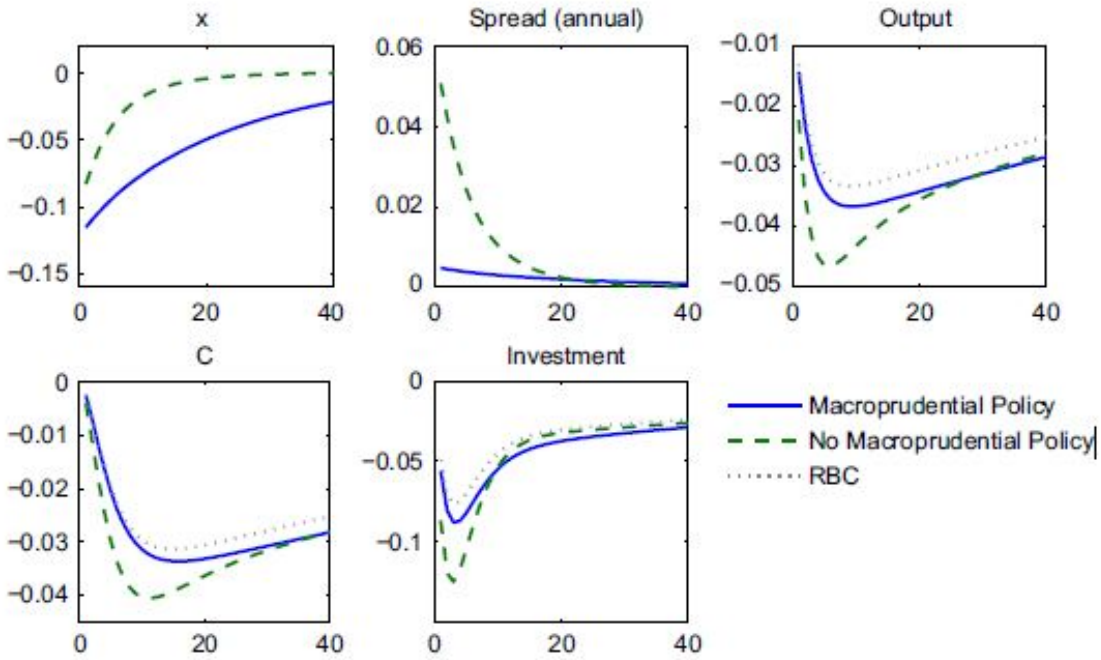


Macroprudential along with credit policy in the high risk economy

$$(1+\tau_t)Q_t s_t = n_t + (1+\tau_t{}^s)q_t e_t + d_t$$



Macroprudential policy with out credit policy in the low risk economy



Welfare effects of policy

Efficiency cost of credit policy[a] (bps)	Welfare gain from no policy in consumption equivalents (%)			
	0	10	25	50
Credit policy	0.268	0.220	0.149	0.029
Macroprudential policy	0.285	0.285	0.285	0.285
Macroprudential and credit policy	0.337	0.332	0.325	0.313

[a] The corresponding values of (τ_1,τ_2) for efficiency costs of credit policy equal to 10, 25 and 50 bps are, respectively: (0.000125,0.0012), (0.000313,0.0031) and (0.000625,0.0062).

Thank You:)