Discussion of Boz, D'Erasmo and Durdu "SOVEREIGN RISK AND BANK BALANCE SHEETS"

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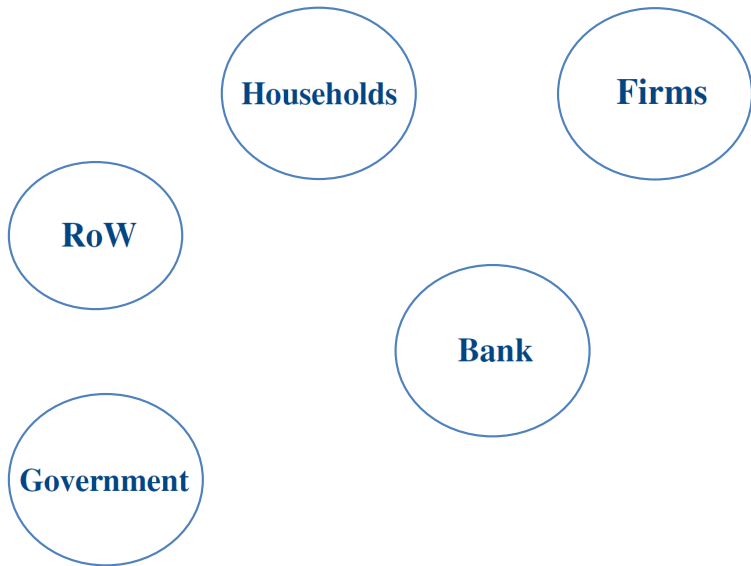
and

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INTRODUCTION

- Ambitious paper on very important topic

- Banks-sovereign nexus in a quantitative model
  - Predictions for sovereign and private sector rates, bond holdings (domestic vs. foreigners), . . .
  - Macroeconomic effects of Basel III?

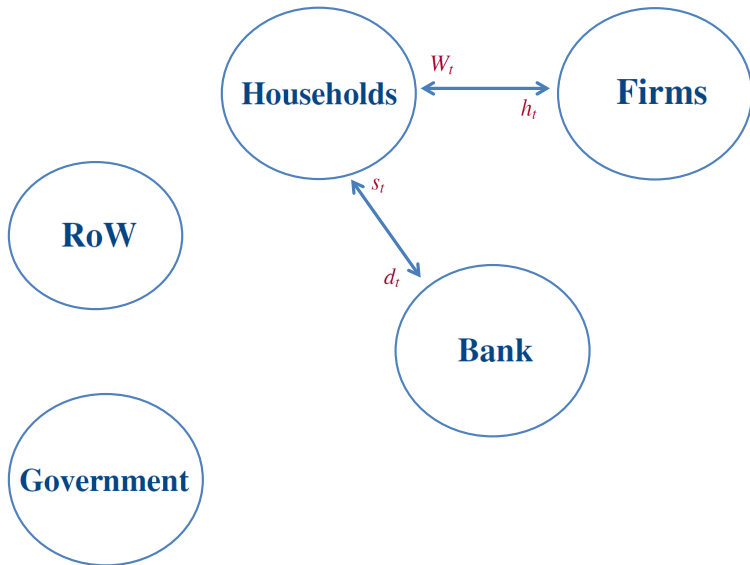- Nice exercise, many people are thinking about these issues

OUTLINE OF THE DISCUSSION

- Overview: Flow of funds, bank's problem, policy experiments

- Three remarks:

  - Sovereign and private sector borrowing costs

  - Home bias and risk weights

  - Paper needs more focus
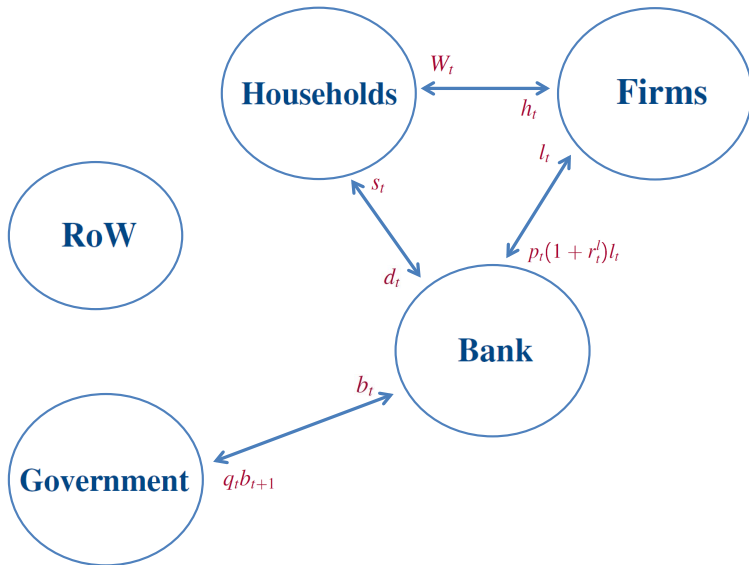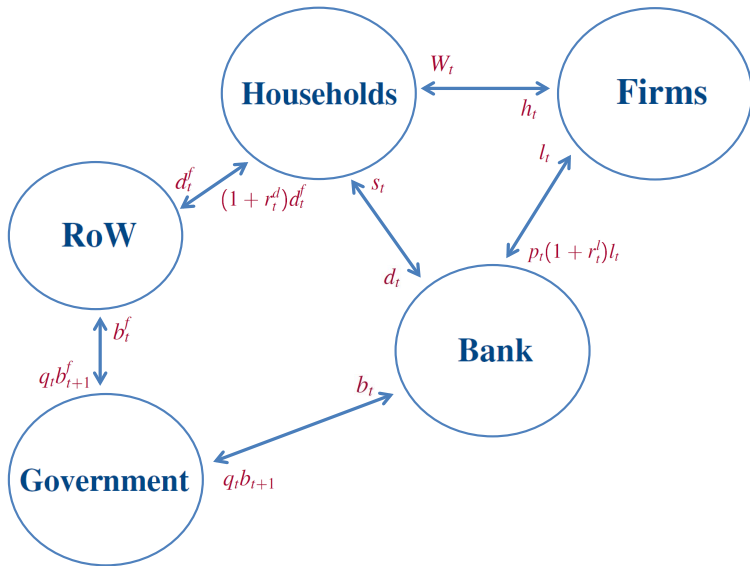
- Conclusion

FLOW OF FUNDS

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Households $\xrightarrow{W_t}$ **Firms**

h_t

s_t

l_t

d_t

$p_t(1 + r_t^l)l_t$

RoW

Bank

b_t

Government

$q_t b_{t+1}$

FLOW OF FUNDS

BANK'S PROBLEM (NO GOV DEFAULT)

- Choose assets (gov bonds, loans) and liabilities (equity, deposits)

- z' realizes. Successful firms pay back loan

- End of period, distribute payouts to households (no gov bonds)

$$W_{D=0}(b, B, z) = \max_{l, \tilde{s}, b'} \mathbb{E}_z\{\tilde{R}[f(x) + W(b', B', z')]\}$$

$$b - \tilde{s} \geq \varphi(l + \omega q b')$$

$$x = (p \times r^l - r^d)l - (1 + r^d)(q b' - b) - r^d \tilde{s} - \tilde{\phi}(\tilde{s})$$

$$f(x) = x - \phi(x)$$

DEMAND FOR BONDS AND EQUITY ISSUANCE

Bond demand:

$$\mathbb{E}_z\left\{\tilde{R}\left[f'(x)[-(1+r^d)q] + \frac{\partial W(b', B', z')}{\partial b'}\right]\right\} - \omega\varphi q\mu = 0$$

- Less payouts for households

- Liquidity value: gov bonds relax future capital requirements

- If constraint binds, more costly to finance them

Issuance of equity:

$$\mathbb{E}_z\{\tilde{R}[f'(x)(r^d - \tilde{\phi}'(\tilde{s}))]\} + \mu = 0$$

- Issuing equity is costly

- Relaxes capital requirement when it binds

BANK-SOVEREIGN NEXUS

- If government defaults, bank looses b

- Bank pays higher issuance costs (finance firms + negative profits)

- Output declines

Output losses + market exclusion shape government's default incentives

No balance sheet effects in the run-up to a default (debt short term)

POLICY EXPERIMENTS: φ

Suppose regulators increase φ. Then:

- Liquidity value of gov bonds increases

- Gov default less painful (two opposing effects)

- Bank pays less issuance costs

Moment	Baseline	$\varphi = 0.06$ $\omega = 0$
Bank cap. Ratio %	19.59	19.71
Bank Loans / Assets %	84.23	84.20
r^ℓ %	23.740	23.725
b/B %	82.47	90.39
B/y %	12.84	11.96
Def. Probability %	0.973	1.159
$\sigma(c)$ %	1.76	1.62
$\alpha(b, B, z)$ %		0.0342

POLICY EXPERIMENTS: ω

Suppose regulators increase ω. Then:

- Bond demand by bank declines

- Gov default less painful (less commitment for the government)

Moment	Baseline	$\varphi = 0.06$ $\omega = 0$	$\varphi = 0.04$ $\omega = 1$
Bank cap. Ratio %	19.59	19.71	19.27
Bank Loans / Assets %	84.23	84.20	84.54
r^ℓ %	23.740	23.725	23.742
b/B %	82.47	90.39	79.41
B/y %	12.84	11.96	13.05
Def. Probability %	0.973	1.159	1.251
$\sigma(c)$ %	1.76	1.62	1.80
$\alpha(b, B, z)$ %		0.0342	-0.0050

SUMMARY

- Changes in ϕ and ω affect bank leverage and default risk

- Decline in leverage lowers equity issuance costs

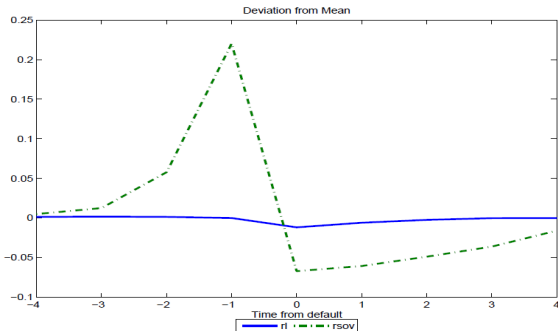- Default risk typically increase

Model has little to say about equity issuance costs (reduced form)

It could say more about macroeconomic implications of sovereign risk

REMARK 1: SOVEREIGN AND PRIVATE SECTOR RATES

In the model, sovereign risk irrelevant for firms' financing

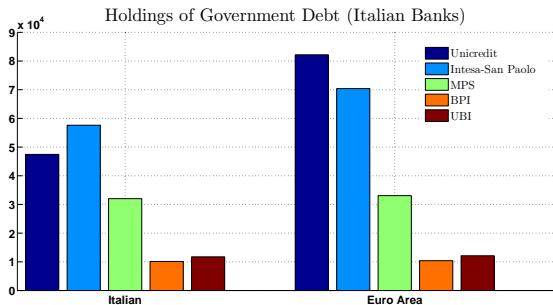Figure 12: Dynamics around Default: Interest Rates

- Ample empirical evidence supporting the opposite
- Important for policy experiments

Authors need to correct for that (e.g. long term debt?)

REMARK 2: HOME BIAS AND RISK WEIGHTS

In the model, domestic bonds (only) source of liquidity for bank

Holdings of Government Debt (Italian Banks)

- Risk weighting sovereign debt may re-balance portfolios

- Default risk in the periphery affected

- Related to Chari, Dovis and Kehoe (2014)

REMARK 3: NEED MORE FOCUS

- At the moment, a mix between positive and normative analysis

- Positive analysis: model rich, but many features are reduced form. What are the empirical targets we aim at matching? Why?

- Normative analysis: mechanisms hard to grasp, too many moving parts

- Challenging to have both parts in one paper

CONCLUSION

- Very interesting paper on very important research question

- Suggestions:

  - Introduce the "obvious" feed-back (sovereign risk $\rightarrow$ firms' financing costs)

  - Allow the bank to have another risk free asset in the background

  - Focus more the paper