Procyclicality of Capital Requirements in a General Equilibrium Model of Liquidity Dependence

Discussion

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Summary and main findings

- The paper studies the impact of *alternative bank capital requirements* on macroeconomic fluctuations in a general equilibrium setting.
- Central ingredients of the framework are:
  - financial intermediation subject to an agency problem, i.e. moral hazard of the entrepreneur (Holmstrom and Tirole, 1998).
  - (countercyclical) liquidity dependence among firms; i.e. firms rely more on credit lines during downturns (Schuermann, 2009).
  - banks constrained by capital requirements.

Summary and main findings (cont'd)

- The main findings suggest that, across various calibration exercises:
  - permanent higher capital requirements result in *lower* level of output and *higher* cost of capital.
  - the inclusion of bank capital requirements (Basel I and II-type) *increase* output volatility.
  - the magnitude of these effects is small on average but slightly larger around business-cycle peaks and troughs.

Initial comments

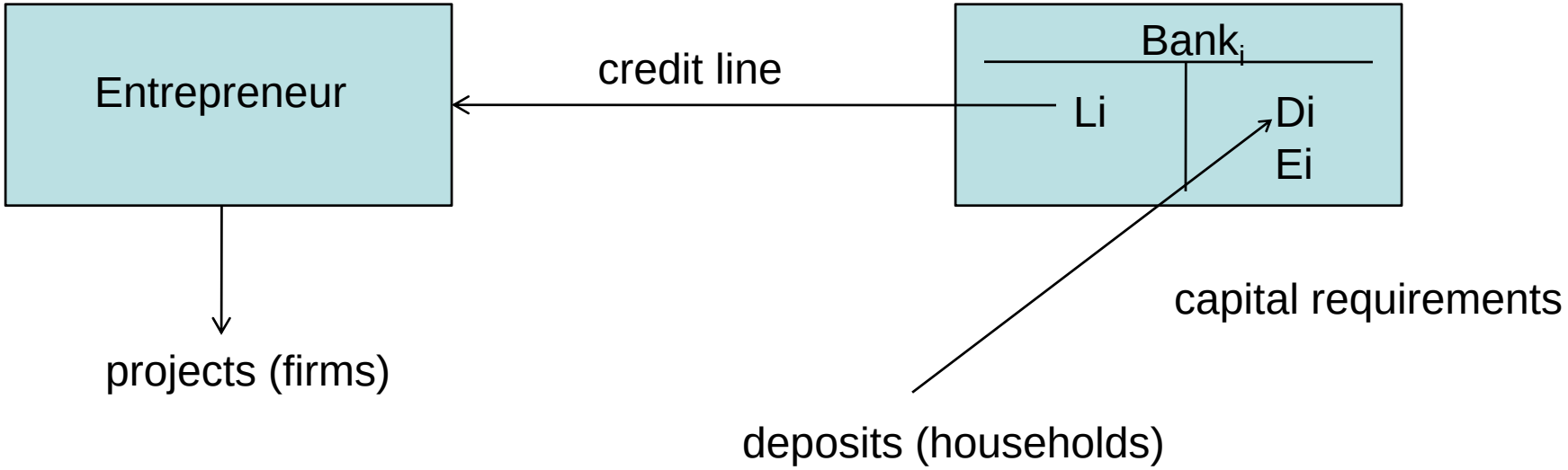
- Although the model incorporate various features, it is fairly stylized.
- The results for the steady state are not too informative (perhaps mechanical) since the model capture the cost aspects of bank regulation but does not include other benefit (welfare) aspects.
- The figures reported are fairly tiny:
  - On average: 0.05% (Basel I), 0.10% (Basel II)
  - Conditional (lower 99th percentile): 0.30% (Basel I), 0.61% (Basel II)
  - Statistical significance vs economic value?

Initial comments (cont'd)

- It seems that bank capital requirements do not impact dramatically on macroeconomic aggregates.
- Potential reasons:
  - The calibration of the relevant parameters may not necessarily provide the best characterization of the dynamics among the variables of interest (average vs dynamics)
  - The model may not capture some important features of financial market functioning

A suggestion

- What is the model ultimately trying to capture? The effect of bank funding conditions on aggregate/systemic liquidity conditions (and, in turn, their impact on macroeconomic aggregates)
- Does the model capture this? Yes and No.



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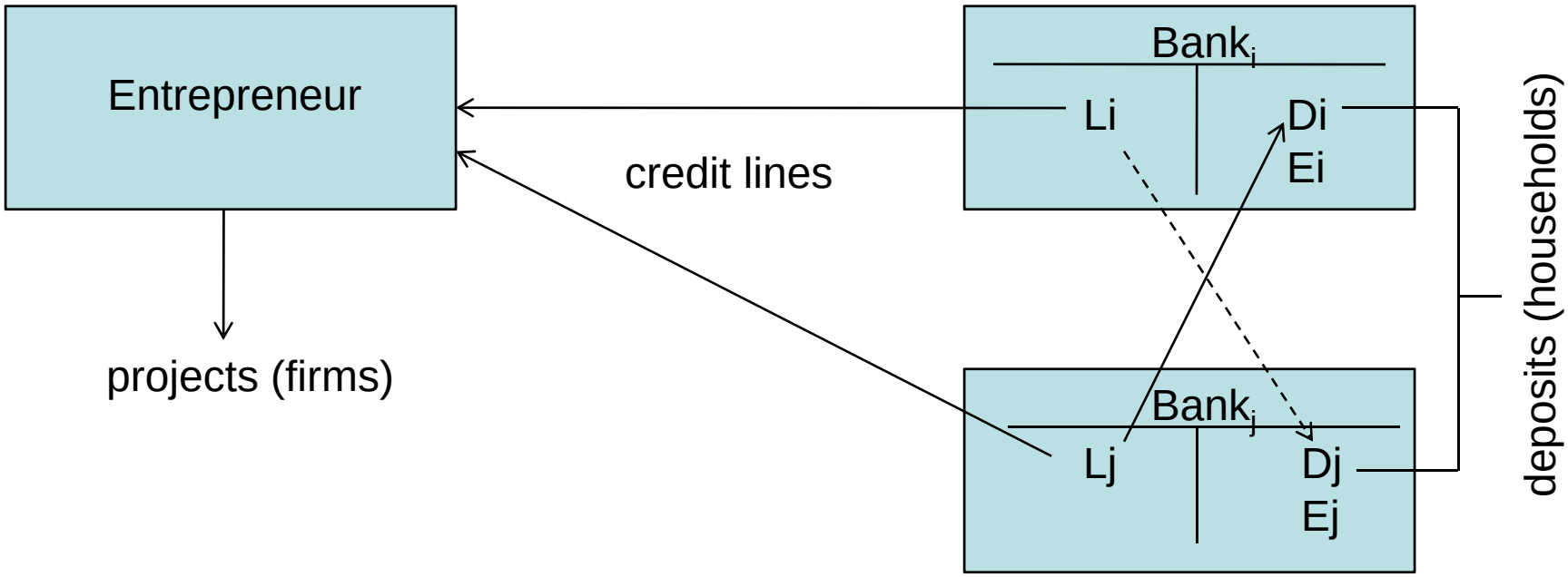

Funding liquidity and banks' balance sheets vulnerability

- The 2007-2009 crisis taught us some important lessons regarding what is important and what is missing in theoretical (general equilibrium) models (see Krugman, 2009; Cochrane, 2009)
- This framework does not incorporate some important features of banking systems, i.e. balance sheets adjustments and (funding) liquidity feedbacks (Adrian and Shin, 2009; Aikman *et al.*, 2009 and the references therein)

Funding liquidity and banks' balance sheets vulnerability (cont'd)

- Macroeconomic shocks result in adjustments to the balance sheets of financial institutions (especially via trading books and loan books due to credit losses)
  - In the model there is a maintained unidirectional causal linkage (bank capital decision→macroeconomic effect). A feedback is missing.
- The liquidity feedbacks occurring in light of these shocks entail the asset side (market liquidity risk) as well as the liability side (funding liquidity risk)
- The model is missing this part (perhaps a substantial part) of the 'real action'.
- Furthermore, the model is a model for 'good times' (σ_ω=0.44). What are the predictions of this model in light of the recent financial crisis?
- Any role for the CB as lender of last resort?

Concluding remarks

- It is an interesting paper
- It utilizes some important findings of the literature on optimal contracts and financial intermediation in a general equilibrium setting
- It represents a good starting point for investigating the impact of alternative capital requirements on the macroeconomy
- However, more realistic features should be incorporated to capture the endogenous nature of the relationship between regulatory regimes and their macroeconomic effects.