Discussion of "Banks Collateral, Asymmetric Information and Aggregate Fluctuations"

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The problem

- Starting point: Lesson from the financial crisis: amplification effects originating in debt markets can have sizeable implications for aggregate economic activity.
- Literature has looked at amplification effects arising from
  - households sector: e.g. Iacoviello (2004), Iacoviello and Neri (2007)
  - firms sector: e.g. Bernanke, Gertler and Gilchrist (1999), Christiano, Motto and Rostagno (2009)
- No existing equilibrium models to evaluate (qualitatively and quantitatively) the amplification effects originating from the interbank market.

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- Interesting and useful results:
  - Amplification effects of liquidity shocks
  - sizeable effects on real aggregate activity

General setup

- Households save real one-period deposits in commercial banks
- commercial banks loans the deposits to investment banks,
- investment banks combine the loans received with their net worth to purchase assets
- Entrepreneurs issue bonds that are purchased by investment banks

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- Leverage: $LV_t = \frac{q_t a_t^+}{nw_t}$

Investment banks II

Is a high leverage a bad thing? depends on size and signs of shocks ...

- idiosyncratic shock: $\log \eta_t \sim N\left(\mu_{\eta,t}, \sigma^2_{\eta,t}\right)$
- After idiosyncratic shock occurs: $q_t a_t^+ \longrightarrow \eta_{t+1} q_t a_t^+$
- Gross expected return on assets purchased: $\Delta_{t+1} \equiv E_t\left(\frac{q_{t+1}}{q_t}\right)$
- So expected value of assets is: $\eta_{t+1}\Delta_{t+1} q_t a_t^+$

Investments in assets are risky!!!

Investment banks III

- Investment banks with shocks above a cutoff level $\bar{\eta}_{t+1}$ repay $R^b_{t+1} b_t$ to commercial banks.
- Cutoff level of shock is such that: $\bar{\eta}_{t+1} \Delta_{t+1} q_t a^+_t = R^b_{t+1} b_t$
- Investment banks with bad shocks must turn over to commercial banks everything they have left: $\eta_{t+1} \Delta_{t+1} q_t a^+_t$
- Commercial banks come and monitor bankrupt Investment banks and in the process loose a fraction ξ of the proceeds they collect

Commercial banks

Commercial bank maximize end-of-contract expected income subject to participation constraint.

$$\max_{a_t^+, \bar{\eta}_{t+1}} \left[1 - \Gamma\left(\bar{\eta}_{t+1}\right)\right] \Delta_{t+1} q_t a_t^+$$
$$+\chi_t \left[\left\{ \frac{\Gamma\left(\bar{\eta}_{t+1}\right) - \xi M\left(\bar{\eta}_{t+1}\right)}{R_t^d} \right\} \Delta_{t+1} q_t a_t^+ - b_t \right]$$

Arrive at

$$E_t \left\{ \frac{\Delta_{t+1}}{R_t^d} \right\} = \theta\left(\bar{\eta}_{t+1}\right) > 1$$

Equilibrium gross return exceeds riskless return on deposits by a (return) premium $\theta\left(\bar{\eta}_{t+1}\right)$, which increases in $\bar{\eta}_{t+1}$.

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- It follows that borrowing and capital stock are reduced

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- Attitude towards risk: Is the observed high leverage stemming from a bad assessment of the risks or to a low degree of risk aversion?
- Nonlinearities: Order of approximation ? Are they worth looking at in this context?

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- Which one of the mechanisms is the most important (households borrowing, firms borrowing, interbank borrowing)

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- Can they / should they be combined in a model?

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- Contributes importantly to the debate on the effects of financial disturbances on the macroeconomy
- results are intuitive
- well written and concise: Can be read, understood... and commented in 2 days... with little sleep
- good job!!!