Banks, Capital Flows and Financial Crises
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Very interesting and rich paper.

Goal:
Explain the financial crises.

- (Almost!) Standard small open economy where:
  - Consumers cannot hold capital directly.
  - Domestic real interest rate reacts to foreign saving.
  - Financial intermediation sector is frictional and modeled in details.
Banking Sector

At the beginning of every period the bankers:

- Enter with net worth, \( n_t \rightarrow \) Profits and equity from the past.
- Collect external funding -> Home deposits \( b_t \) and Foreign deposits \( b^*_t \).
- Purchase securities from non financial firms \( s_t \) at price \( Q_t \)

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Q_t s_t \leq n_t + b_t + b^*_t
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- ... BUT ...
Agency Problem: Every period the bankers can default on their obligations and transfer a fraction of assets to their family.
Amplification Mechanism-Borrowing Constraint

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- If bankers’ net worth is too low
- They will default
- Nobody is willing to lend resource to them - No deposit.
Exit Shock Realized

- With Probability $\sigma$ the banker will remain a banker:
  - Raise equity to buy assets (higher net worth).
  - Issuing new equity, he will pay a cost.
  - Receive the return from the past investment.
  - Pay back the depositors.
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- With Probability $1 - \sigma$ the banker will retire:
  - Transfer profits to the members of his household.
Figure 2: Period-t Timeline for Bankers

- Beginning-of-period net worth: $n_t$
  - $Q_t s_t \leq n_t + d_t$
- Honor: $\theta Q_t s_t$ (with exit)
- Divers: $\text{exit (prob. } 1 - \sigma\text{)}$
- Survive (prob. $\sigma$): Raise equity $e_t$
  - Pay cost $C(e_t, Q_t s_t)$
- Exit shock realized: $n_{t+1} = R_{K,t+1} Q_t s_t - R_t d_t + e_t$
- Pay household $R_{K,t+1} Q_t s_t - R_t d_t$
Precautionary Saving

Novel ingredients of this model

- The bank can issue equity → banks can save.

- Borrowing constraint is occasionally binding → This allows to analyze normal times as well as crises.
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- Less investments
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- Domestic output declines.
Figure 5: Average Financial Crisis

[Graphs showing the impact of financial crises on various economic indicators such as output, investment, foreign debt, net worth, total credit, and shocks on output and investment over a time span.]
Variable $x_t$ is the ratio between bank equity and assets → Inverse of the leverage ratio.

- It increases before the crises.
- It decreases after the crises.
Leverage Ratios Data

Banking sector leverage Total, % of net value added, 2001 – 2012

Compare countries on data.oecd.org
Model VS Data

- Banks seem to be too cautious.
- They start to save (issue equities?) and to disinvest before the crisis.
- Deleveraging pre-crisis followed by a leveraging post-crisis.
- Data seems to tell us the opposite took place.
Policy

In the stochastic steady state there are not enough equities.
- Albert and Ozge suggest to:
  - Subsidize equity issuance.
  - Tax investment.

Possible problem:
Let us assume banks can choose among different projects with different riskiness and returns. Returns on investment decrease due to taxation. Banks can choose riskier projects since they are the ones associated with higher return. This will deteriorate banks' balance sheets. Leading to a worse and more persistent crises.

Speaker: Albert Queralto (Fed Board)
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- Leading to a worse and more persistent crises.
Minor Comments and Curiosity

- It is not clear if the credit spread increases due to a drop in the domestic real interest rate or to an increase in the capital return.

- What happens if the real interest rate cannot decrease- ZLB?
Conclusion

This paper is very interesting and rich of new results.

It is a nice model to analyze the financial crises.

I learn a lot by reading it. I strongly suggest to read it.