

Discussion of “Searching for a Metric for Financial Stability” by Aspachs, Goodhart, Segoviano, Tsomocos and Zicchino

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OUTLINE

- Summary
- Comment on the model
- Brief comment on mapping model to data
- Conclusion

SUMMARY (1)

- The papers propose a framework based on structural models to analyze financial stability.
- We commend the authors for undertaking this difficult and important task!
- Construct a model with
 - ▶ Heterogenous agents
 - ▶ Endogenous bank default decisions
 - ▶ Only banks optimize, households and firm behaviours are given by reduced-form equations
 - ▶ Central bank and/or regulator

SUMMARY (2)

- Calibrate the model
 - ▶ Goodhart, Sunirand, and Tsomocos (2006) calibrate to the UK data
 - ▶ Estrada, Saade, and Osorio (2007) use for Columbia
- These models can replicate the evolution of key bank regularities in the data
- The authors argue that the GST type models provide a micro-founded structural model for financial stability analysis
- This leads us to ask if this is the right framework, should we stop here or improve it? or should we restart?

Are we there yet?

- Lucas Critique: The reduced-form equations summarizing households and firms behaviours might not hold in extreme events.
- The model has a lot of free parameters.
 - ▶ This is problematic since the structural model may not constrain much the behaviour economic agents.
- This suggests that the model becomes very similar to a structural VAR model.
- How can one improve the GST model?

Source of Shocks and Default

- There is a fast growing literature on consumer/firm debt and default decisions in quantitative DGE models with heterogeneous agents.
 - ▶ Eg., Chatterjee et al. (Econometrica, 2007), Livshits et al. (AER, 2006) and Meh and Terajima (2007)
- In those models, the sources of shocks are important for understanding default decisions of agents.
- Is this the case for bank defaults?

Household, firm, and bank defaults

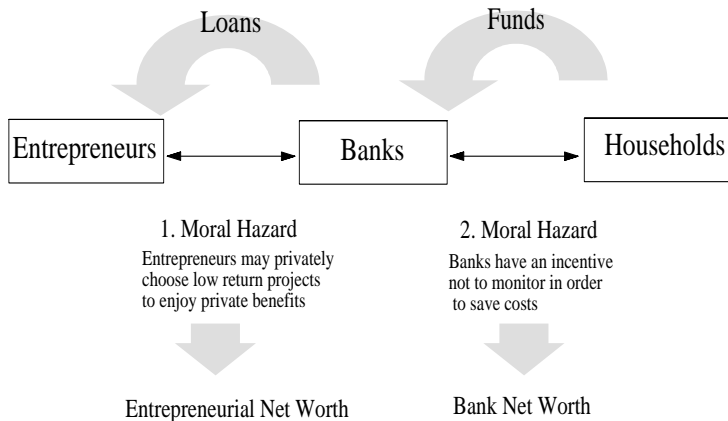
- The default decisions of households/firms affects the balance sheets of banks and their default decision
 - ▶ See for example, the subprime markets problem in the US
- These household and firms default quantitative models can be useful in building a model for financial stability.
- Computer systems are now powerful: multiple processors and powerful software.

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Bank Capital Model and Information Frictions

Two Sources of Moral Hazard



Bank Capital Model and Information Frictions

- This framework is inserted in a general equilibrium model
 - ▶ production and investment decisions
 - ▶ household optimization
- See Chen (2001), Meh and Moran (2005) and Holstrom and Tirole (1997)
- This will allow to capture feedback effect of banking on real economic activity (eg. Credit Crunch)

Importance of Banks

- Economies are becoming more market-based (Allen and Gale 2001)
- The GST model only accounts for intermediated lending.
- If the banking sector collapses, the whole economy collapses
- True in reality?

Bringing the Model to the Data (1)

- Let's assume that the GST type model is the model for financial stability analysis
- The purpose of the paper is to validate the model by bringing it to the data
- In order to test the prescriptions of the theoretical model, we need to impose on the data the restrictions coming from the model

Bringing the Model to the Data (2)

- There appears to be a disconnect between the model and the data
 - ▶ Non-linear model versus VAR
 - ▶ Is the probability of default obtained from distance to default consistent with the model?
 - ▶ How sensitive are the results to the assumption that the interest rate affects probability of default with a lag?

CONCLUSION

- I like the research agenda!
- The authors have made an important step toward building a structural model and a metric for financial stability analysis
- It is however too soon to claim that we have a micro-founded general equilibrium model useful for financial stability analysis
- Central banks and regulators should intensify their efforts on this important agenda