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
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
Calibrate the model

- 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?
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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Two Sources of Moral Hazard

1. Moral Hazard
   Entrepreneurs may privately choose low return projects to enjoy private benefits
   "Entrepreneurial Net Worth"

2. Moral Hazard
   Banks have an incentive not to monitor in order to save costs
   "Bank Net Worth"
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?
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.
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?
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.