

Discussion of *Assessing the role of interbank network structure in business and financial cycle analysis* by J-Y. Gnabo and N. K. Scholtes

Olivier Pierrard

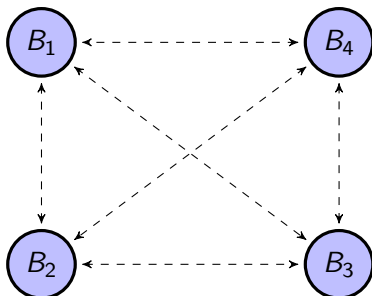
Banque Centrale du Luxembourg

National Bank of Belgium conference, 13-14 October 2016

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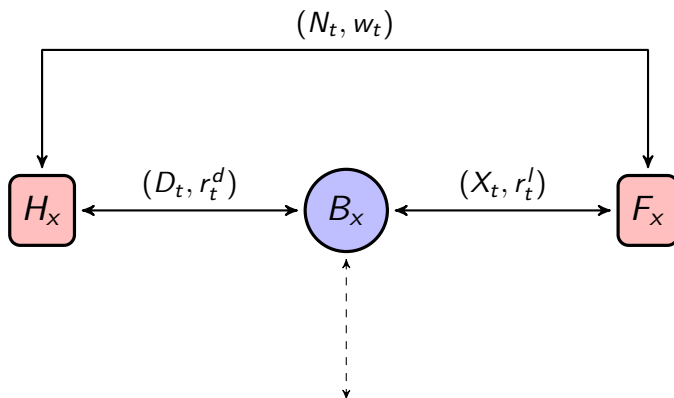
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Combine the network properties ...



$$\left(\begin{array}{c} \equiv_{ij} \\ \equiv_t \end{array}, r_t^{b,ij} \right)$$

... and the DSGE methodology



Main result and discussion

Main result: The complete network plays a stabilizing role.

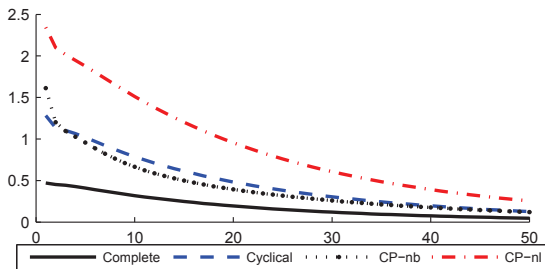


Figure 19: Total normalised central bank liquidity injections

Main comment: What is the – new – economic story you want to tell? In particular, what do the DSGE ingredients add to the network literature? (Or what does the network representation add to the known DSGE results?)

Selected network literature

From Allen & Gale (JPE, 2000) to Acemoglu et al (AER, 2015):

- 3 periods: $t = 0, 1, 2$; 2 types of assets: short vs. long; 4 regions.
- Decisions at $t = 0$ but preference for liquidity revealed at $t = 1$.
- *Ex ante* identical regions.
- Result (1): better to have a complete network structure with a small aggregate liquidity shock.
- Result (2): opposite result when the shock becomes larger.

What does your paper add?

Similar exercise: study shock transmission (here a market book shock instead of a liquidity shock) depending on the type of network.

Similar result: better to have a complete network. Note that you cannot look at larger shocks because the model is linearized (e.g. no occasionally binding constraints for default).

Other concerns:

- The steady state is different across regions (why and how?) and across types of network. It biases comparisons.
- Why does the market book shock come on top of the productivity shock?
- Would you get similar results with a much lighter structure (e.g. without endogenous defaults)?
- Would you get similar results without the countercyclical buffers?

What does your paper add? (ctd.)

- IRFs are not always intuitive (e.g. negative shock reduces default in the first two years; small effects in the first two years are followed by opposite and strong effects in the following years; see figure 6).
- How can we validate the model?
- How can the DSGE enrich the analysis: welfare (\approx summary of macro variables), volatility analysis (\approx intertemporal dimension), ...?

Selected network literature (ctd.)

Elliott et al (AER 2014) with random networks show that intermediate levels of integration and diversification can be problematic with a moderate shock. Though this is beyond the scope of your paper, they provide a nice numerical illustration at the end (European debt cross-holdings):

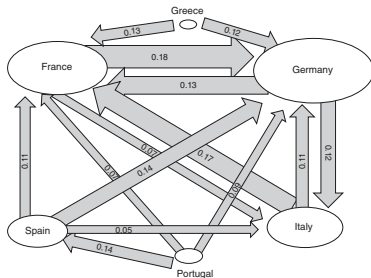


FIGURE 8. INTERDEPENDENCIES IN EUROPE

Think how you could draw on this numerical exercise. This kind of calibration is also closer to the DSGE literature.

Selected DSGE literature

Kalemli-Ozcan et al (JIE, 2013) or Dedola et al (JME, 2013): 2-country model with different degree of financial integration through banks. They study the role of financial integration for the international transmission of shocks and policies. Note that there is no interbank market.

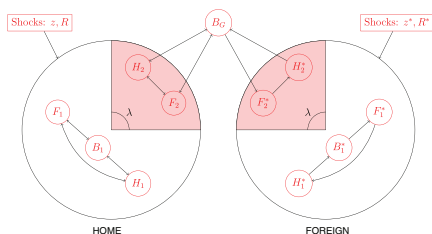


Fig. 1. The economy.

They go to the data and/or take advantage of the DSGE ingredients.

Proposals

Probably need to go closer to the data if you want to differentiate from the network literature (you have to justify your 'big machinery').

- First question: what are A,B,C,D? Are they regions, countries, areas? The answer will also have implications for regional tax scheme and modeling of monetary policy.
- Interbank data between countries are provided by the BIS and could be used for the calibration. Problem: the type of network is determined by the data (but you can nevertheless produce counterfactual simulations).

Proposals (ctd.)

- Look at a shock transmission with alternative monetary and macroprudential policies. Counterfactuals with blocked interbank market. What do you add wrt a 2-country model?
- Justify all particular specifications borrowed from De Walque et al (EJ, 2010): \bar{D} objective, $\bar{N} = N_t$, insurance fund, default disutility + cost.
- A serious calibration is needed.
- What if the CB finances liquidity injections (figure 21).

Conclusion: very nice paper, but needs to justify the hybrid approach of network (find a new story to tell) + DSGE (go closer to the data).