

Collateral Unchained:  
Rehypothecation networks, complexity and systemic effects  
by Thi Luu, Napoletano, Barucca and Battiston

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- ▶ A very interesting paper
- ▶ Topical subject of collateral re-use and related risks to financial stability

# Summary of the paper

## **The authors propose an elegant mathematical way**

- ▶ to account for additional collateral created in the system due to collateral reuse;
- ▶ to analyze the effect of network structure of the amount of additional collateral;
- ▶ to analyze collateral losses in the system due to agents' reduction in reusable collateral and collateral hoarding.

## **They found that**

- ▶ collateral creation is positively related to the density of the network;
- ▶ and a network structure matters such that core-periphery networks allow for more collateral creation but they are also riskier.

## General comments

- ▶ To my knowledge, it is one of the first papers that addresses the question of reuse of collateral in an applied way (though I may miss something since I don't work directly on this subject)
- ▶ Also very few references in the paper. No other work on the subject?
- ▶ I like the paper, and I find the framework very elegant
- ▶ However, being a central banker, my main comments are related to the economic story and policy implications of the paper
- ▶ and can be probably dismissed if the paper is oriented to a math journal :)

## Comments: putting the paper into a policy perspective

- ▶ The paper tackles a question important for policy makers, so I would add more economic narrative, links to current policy initiatives, and policy implications.
- ▶ You do mention FSB papers, however, it is left to the reader to figure out how the two are related. You can, for example, underline how your measures of collateral reuse are related to the ones proposed by the FSB, and mention why your measure is better or more relevant. It is also worth providing more details on the FSB measures not just mentioning them if they are different from yours.
- ▶ The same can be said about the risks that you tackle and the ones identified by the FSB.

## Comments: putting the paper into a policy perspective

- ▶ Your main parameter of shock is collateral hoarding. How relevant is it? It seems to me that during the crisis financial agents rather moved to secured transactions from unsecured ones. It would be nice to have some references.
- ▶ Was not an increase in collateral hair-cut more important during the crisis?

## Comments: putting the paper into a policy perspective 2

- ▶ To support the importance of the issue, it would be nice to add some statistics on the re-use of collateral, how much it represents on banks' balance sheets; what are the multipliers and so on. Also linking the parameters of your model to the one found in reality.
- ▶ Luckily more and more empirical data become available on collateral reuse, see, e.g., ESRB OP (2014) "Securities financing transactions and the (re)use of collateral in Europe"
- ▶ It is important to restructure the introduction in order to put forward what you do in the paper and your contribution.

## Comments on results

- ▶ Your main result as long as I understand is very intuitive and quite common to other papers on networks " networks with more links more efficient (more collateral creation) but also riskier".
- ▶ If possible, it would be nice to have some normative messages like, for example, optimal level of chains, or to put your findings somehow into perspective.



## Comments on results. detailed

- ▶ I have a bit of difficulty with interpretation of risks in your paper. You measure it in terms of drop in collateral creation, if I understand correctly. But is it really a problem?
- ▶ More collateral creation  $\Rightarrow$  more interconnections and more leverage  $\Rightarrow$  higher efficiency of collateral use but higher risks
- ▶ More collateral creation during good times is good,
- ▶ but reduction in collateral creation during bad times can potentially be a positive thing as well. As long as you do not have defaults and direct losses, or optimal level of collateral creation, it seems to be difficult to judge about the riskiness of collateral re-use.

# Suggestion

- ▶ It would be interesting to compare the frameworks (efficiency and risks) of collateral re-use in OTC markets and CCPs.

## My take on the paper

- ▶ Definitely interesting paper and a promising approach
- ▶ Some more economic narrative would benefit the paper as well as framing better the question and results.