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**Comments on**  
***Analysis of the Payment System of the National Bank of Serbia***  
**by Milan Nikolic, Miro Vukoje & Aleksandar Dimtrijevic**

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## Study in Nutshell

- ◆ **Focus of the study:** crucial importance of operational reliability
  - Operational issues can lead to liquidity traps and, in turn, increase liquidity usage and reduce throughput
- ◆ **Main results of the study:**

Implementing “a stop sending rule” can

  - *on the one hand* reduce liquidity usage and unsettled transactions, but
  - *on the other hand* it may also reduce throughput

**=> How to interpret these results and apply them into the real-life / practical policy considerations?**



## **Comments (1): some observations**

### **◆ Selected scenarios & behavioral aspects**

- Could the importance of participants change over time (mergers, etc.) ?
- A need for more scenarios (more than 2 institutions are troubled)?

### **◆ Survey period [01.12.2009-31.10.2011] & robustness of results**

- How dependent your results are from the chosen period?
- Longer survey period: pre-crisis & post-crises
- Division into sub-periods (detection of structural breaks)

## Comments (2): Potential policy recommendations

In paper's conclusion: spell out what overseers' and payment system operators can draw from your results

- ◆ Guidance on operational contingencies
  - What direction can be given to banks facing outages? To banks that may be most affected by outages?
- ◆ Guidance on the stop sending rule
  - What are the benefits of an enforceable stop sending rule?
  - What should influence the decision to implement the stop sending rule (participant size/characteristics, time of day, expected length of outage)?
- ◆ What is the main objective of the stop sending rule and how can it best be achieved?



## **Comments (3): Potential extension areas for the future research**

- ◆ **Most important bank may not always be the largest bank**
  - Network analysis indicates that smaller participants could play a key role for liquidity flows (among a sub-group of participants).
- ◆ **Different timing and outage durations**
  - Examining an outage at critical times in the day could reveal greater impacts.
- ◆ **Operational contingency and recovery catch-up period**
  - Assessing potential liquidity relief from contingency procedures.
  - System and participant's ability to catch-up following outage.

## **Annex: Some potential further references**

***“Diagnostics for the financial markets –computational studies of payment system”***, Hellqvist & Laine (eds.), Bank of Finland Scientific monographs, E:45, 2012

- Chapter 8 (Clarke & Hancock): *“Participant operational disruptions: the impact of system design”*
- Chapter 10 (Pröpper et al.): *“Network dynamics of TOP payments”*
- Chapter 11 (León et al.): *“Systemic risk in large value payment systems in Colombia: a network topology and payments simulation approach”*