

Operational Disruptions: 3 + 1 cases

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Presentation Outline

- ❑ 3 + 1 case studies?
- ❑ simulations
- ❑ results of simulations
- ❑ possible explanations of differences in results
- ❑ food for thought

3 + 1 case studies?

YES, 4th case study = NBB simulations in ELLIPS

❑ assumptions:

- ✓ no business recovery procedures
- ✓ no behavioural change
- ✓ available liquidity = hair-cutted value of eligible collateral held in NBB SSS

❑ scenarios tested:

- ✓ operational failure/bankruptcy of one participant occurring before system opening/at noon (tested for the 5 largest participants)
- ✓ interlinking failure during whole day/half a day in ELLIPS

❑ rather limited impact with biggest impact being created by an outage of the interlinking component at noon.

Simulations

- ❑ all simulations investigate impact of one participant on functioning of system
- ❑ fairly simple RTGS systems with waiting queue and FIFO release mechanism
- ❑ (highly) concentrated
- ❑ simulation of problems at the level of a participant

Results of simulations (1)

- ❑ all systems are impacted
- ❑ impact fluctuates from day to day
- ❑ impact is not the same in all simulations

Results of simulations (2)

- ❑ if shock continues over multiple days, problems worsen, but not continuously (Dutch simulation)
- ❑ back-up procedures are almost as efficient as stop sending (Hungarian simulation)
- ❑ delay in input of 1 hour has serious impact on liquidity sink (Swiss simulation)
- ❑ though interlinking payments count for 88% of the value, impact of outage remains very limited (Belgian simulation)

Possible explanations of differences in results

- ❑ specificities in simulated scenarios
 - ✓ timing of incident
 - ✓ impact of incident

- ❑ specificities at system level
 - ✓ the structural design of the system
 - ✓ level of concentration within the system
 - ✓ access to intra-day liquidity through collateral

- ❑ specificities at participant level
 - ✓ access to intra-day liquidity through collateral
 - ✓ submission behaviour of participants
 - ✓ use of central waiting queue

Food for thought

- ❑ how realistic change or no change in payment behaviour
- ❑ how much collateral is available + how liquid is it in real times of stress
- ❑ impact of extra liquidity saving features (e.g. TARGET2) on simulation results
- ❑ useful in crisis preparation, but how to use in active crisis management?

