

Discussant presentation: Simulations using historical data

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PAYMENT AND SETTLEMENT SYSTEM SIMULATOR

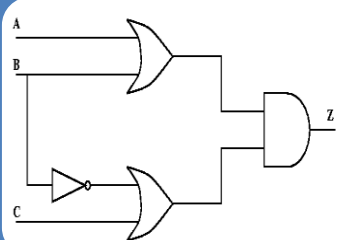
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Summary of data preparation



Cleaning historical data

- Identify and clean transaction data from liquidity transactions.



8 behavioral rules for participants

- Adjust central bank tenders, reserve requirements.
- Adjust interbank loans (trust between participants).
- Transactions: bilateral limits, timing, priorities, amounts.



Ways to speed up simulation

- Aggregate bilaterally transactions below ceiling value.
- Relax the schedule of netting algorithms (comment)?

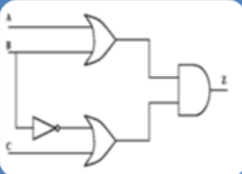
Support for running historical and behavioral simulations in BoF-PSS2

Command-line interface (CLI)

- Execute large number of simulations with different datasets.
- Import and export data.

User-defined submission algorithms (SUB)

- Default SUB-algorithm SUFIFOPR fetches the next transaction to be submitted for processing.
- Possible to create own submission algorithms which
 - Implement intelligent behavior by dynamically changing e.g. the transaction times, values and priorities during simulation.



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Question 1:

Would you always use historical data rather than stochastically generated data?

Historical data

- + Realistic payment chains.
- + Monitoring of developments in payment system.
- + Relatively easy to implement.

Stochastic data

- + Possibility to calculate probabilities for various events.
- + Infinite number of scenarios.
- + Less confidential results.
- + Identifiable transactions.

Participant behavior in data preparation vs. during simulation

Question 2

- Is it enough to take participant behavior into account when preparing data and not during simulation?

Question 3

- Present a wish list of behavioristic simulations (realized either through data preparation or by additional behavioral logics during simulation).