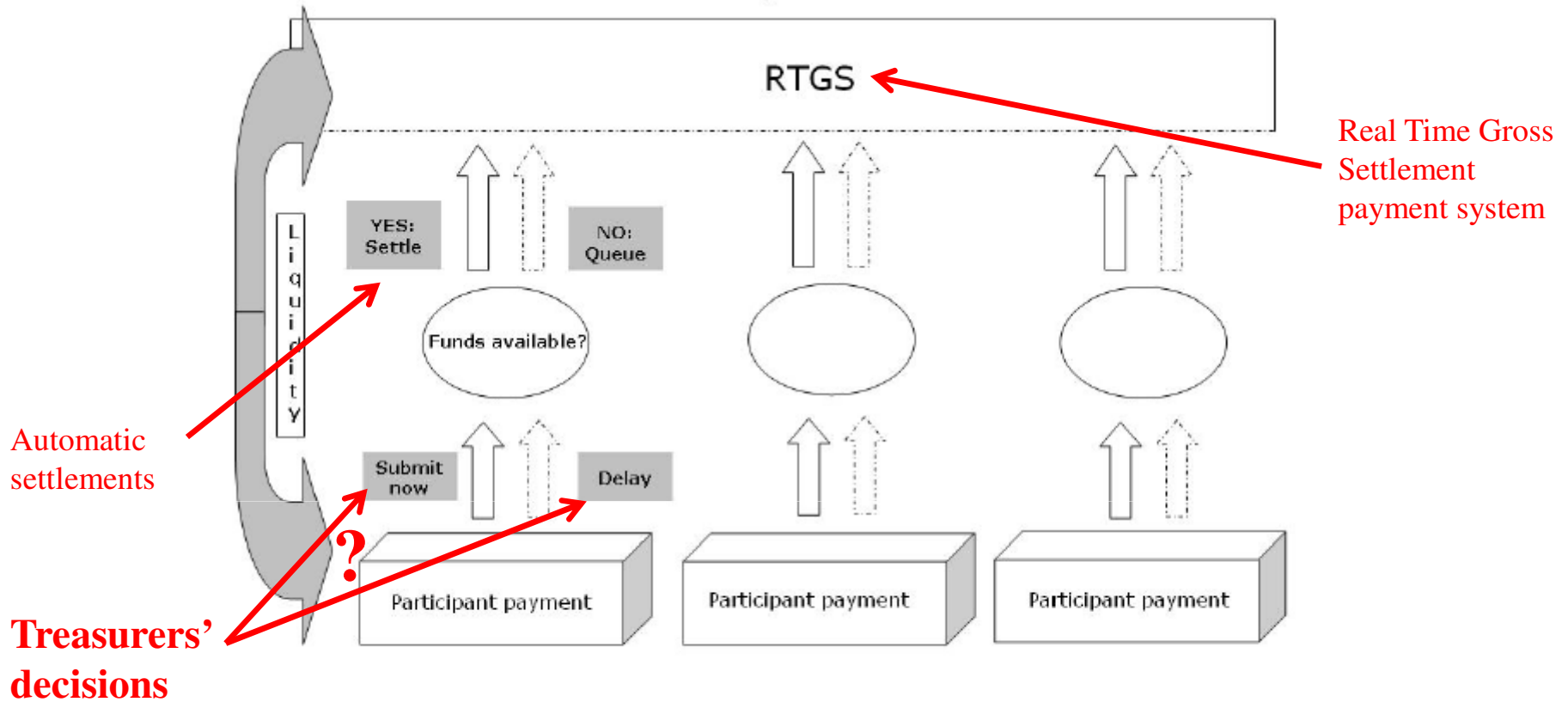




SLAPP and the Italian Central Bank model of the internal interbank payment system



Basic functioning of an RTGS environment



This figure, related to a StarLogo TNG implementation of the model, comes from: Luca Arciero+, Claudia Biancotti*, Leandro D'Aurizio*, Claudio Impenna+ (2008), An agent-based model for crisis simulation in payment systems, forthcoming.

+ Bank of Italy, Payment System Oversight Office; * Bank of Italy, Economic and Financial Statistics Department.



- Delays* in payments ...
- ... liquidity shortages ...
- ... in presence of unexpected negative operational or financial shocks ...
- ... financial crisis (generated or amplified by *), with domino effects



Two parallel highly connected institutions:

- RTGS (Real Time Gross Settlement payment system)
- eMID (electronic Market of Interbank Deposit)

Starting from actual data, we simulate delays, looking at the emergent interest rate dynamics into the eMID



Agent based simulation as a magnifying glass to understand reality



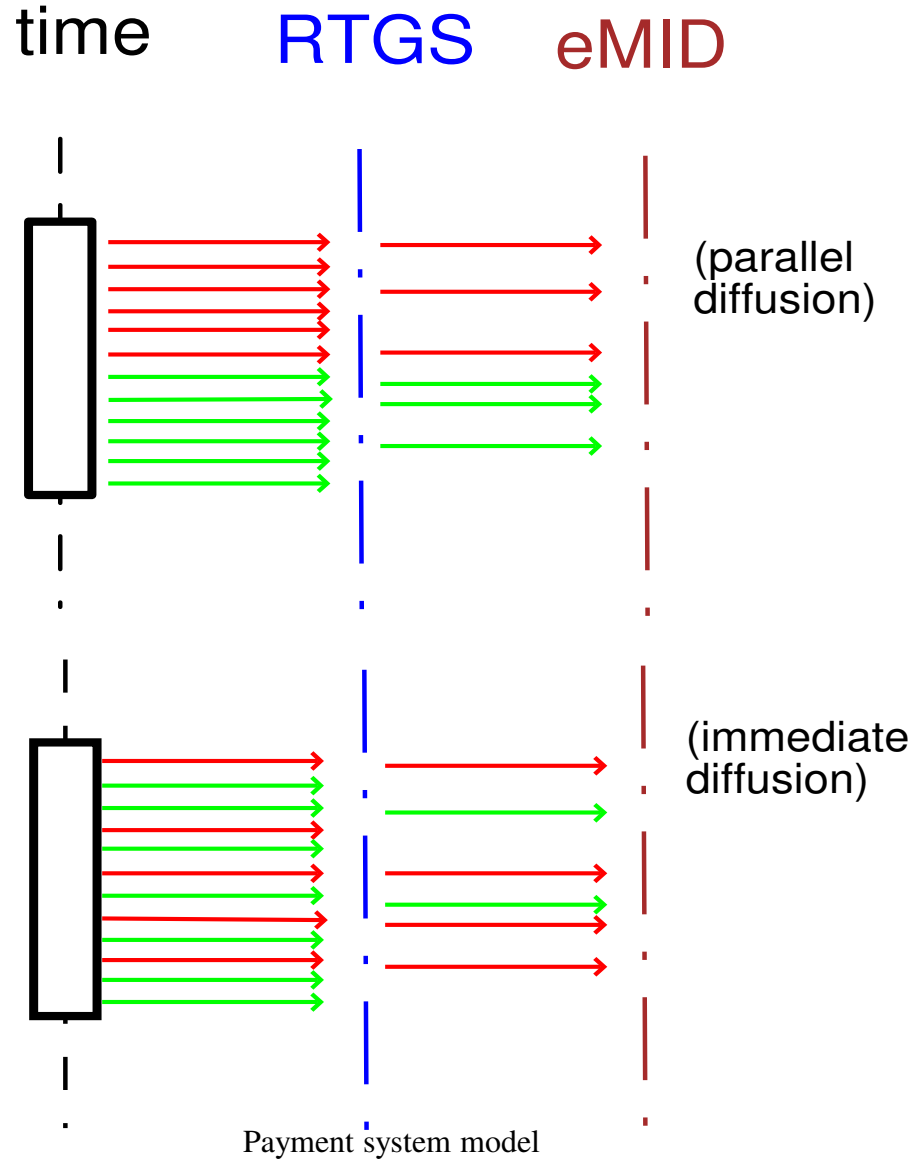
SLAPP and the Italian Central Bank model:
a few complicated microstructures



- A treasurer making a payment: she bids a price to obtain money with $P = p$
- A treasurer receiving a payment: she asks a price to employ money with $P = p$

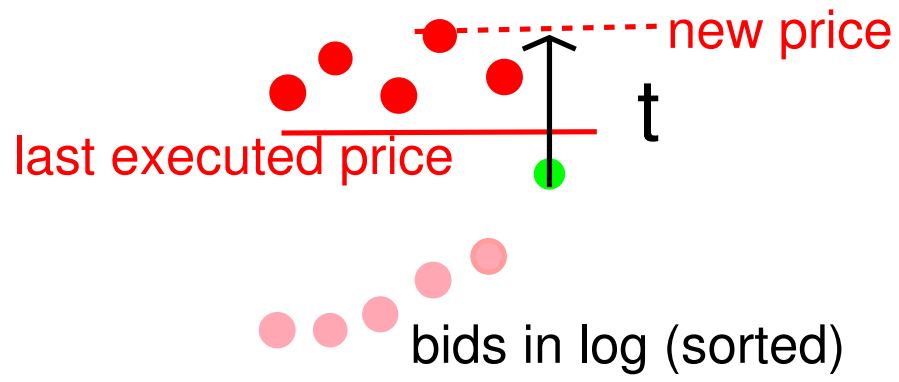
A “quasi UML”
representation

**NB prices
are bid (or
offered) by
buyers and
asked by
sellers**

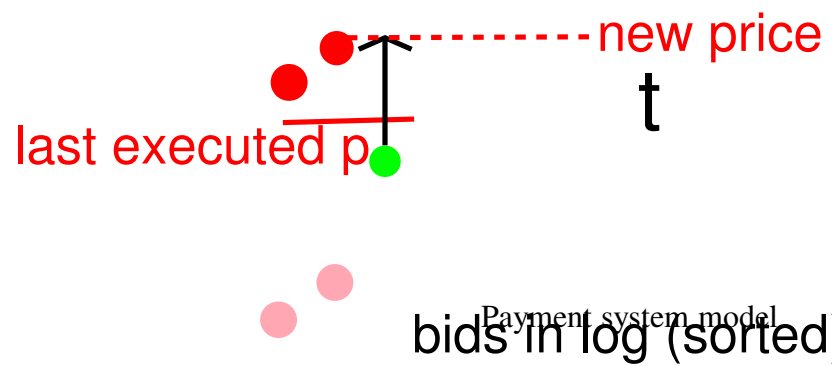




● ask ● bid ★ parallel payment diffusion, looking at the last executed price



● ask ● bid ★ immediate payment diffusion, looking at the last executed price





● ask ● bid ★ parallel payment diffusion, looking at the best price in opposite log



● ask ● bid ★ immediate payment diffusion, looking at the best price in opposite log

