



EUROPEAN CENTRAL BANK

EUROSYSTEM

Robert Hofmeister
European Central Bank,
Oversight Division

Discussion slides on
Constanza Martínez's presentation
“Reaction Functions of the
Participants in Colombia's Large-
value Payment System”

13th Payment and Settlement System Simulation Seminar

*NOTE: The views expressed below are those of the discussant and do not necessarily reflect those of the ECB.

topic and relevance

- Liquidity recycling
 - Crucial to understand liquidity levels/needs
- Impact of incidents
 - Understanding important, especially as incidents are rare
- Behavioural aspects
 - Rules and incentives
 - Agent-based modelling

data and regression model

- Payments and opening balance in CUD, controls for netting cycle and „exogenous“ payments

- Tobit regression of payments sent in one minute

$$P_t^A = \alpha + \beta R_t^A + \varepsilon_t$$

- One explanatory variable being payments received in the previous 15 minutes → reaction function = momentum of liquidity recycling
- Four incidents analysed: Blackout, Bancolombia's operational failure; Proyectar Valores, Interbolsa

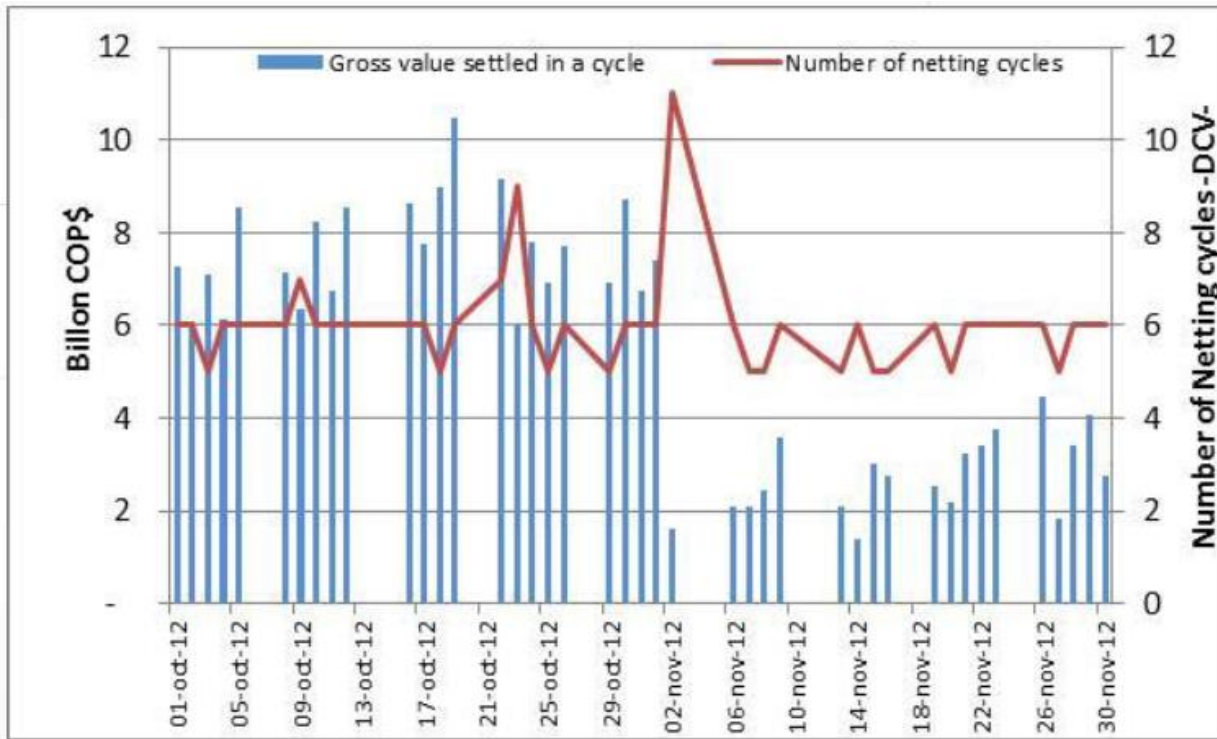
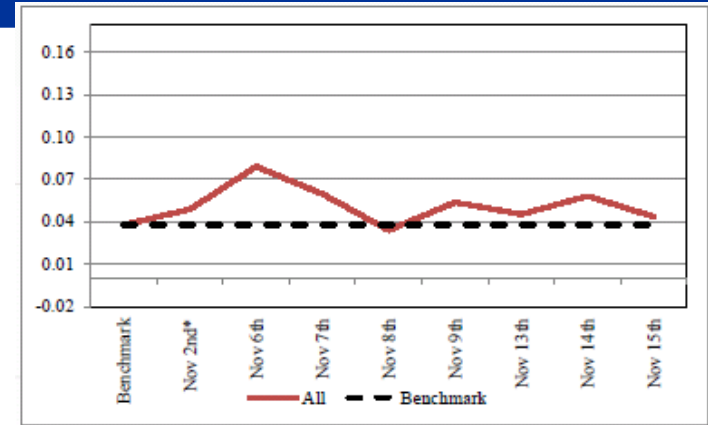
Failure of Interbolsa

- Increased reaction slope but less or not significant
 - Higher variability or result of sample-size?

	Benchmark	collapse (November 2nd)	November 6th	November 7th	November 8th
	<i>Banks</i>	<i>Banks</i>	<i>Banks</i>	<i>Banks</i>	<i>Banks</i>
Reaction function slope	0.044 (2.12)**	0.048 (1.36)	0.078 (1.82)*	0.059 (1.51)	0.033 (2.25)**
Autonomous willingness to send payments	1.8E+09 (2.12)**	1.8E+09 (2.12)**	6.2E+09 (4.01)***	4.5E+09 (2.50)***	4.0E+09 (1.91)*
Number of observations	31,248	1,287	1,216	1,314	1,333
Number of participants	8	8	8	8	8

Failure of Interbolsa

- Above-average reaction slopes
 - Lower netting efficiency
- More active liquidity management?



(more) questions and comments

- Comparability of results?
- Bi-lateral net positions?
- Relationship between liquidity recycling and liquidity position?
- Possibility to delay payments and/or reduce obligations?