

New Developments in Large Value Payment Systems

Martina Glaser
Swiss National Bank

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Structure of the report

- ◆ Drivers of new developments
- ◆ Descriptive analysis of payment systems
 - presentation of recent developments
- ◆ Risk and efficiency analysis
- ◆ Outlook for the future
- ◆ Annex with comparative tables on selected large value payment systems

Main Drivers

- ◆ Technological change
- ◆ Globalisation, regionalisation and financial integration
- ◆ Regulatory action
- ◆ Changing needs of users and end-users
 - Cost efficiency
 - Liquidity and operational efficiency
 - Service harmonisation and standardisation
 - Service differentiation and modification
 - Safety, resilience and operational reliability

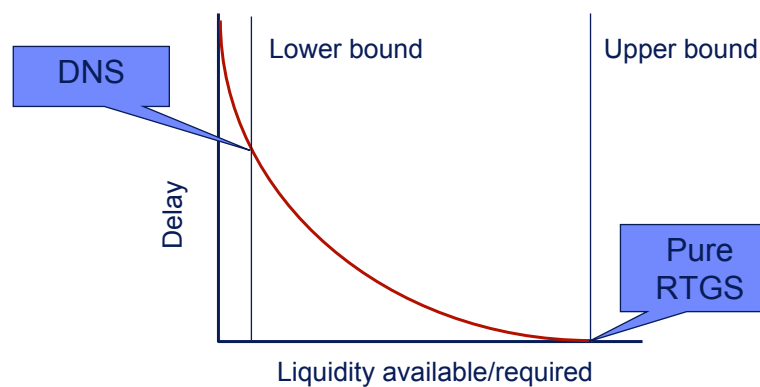
Descriptive analysis

- ◆ Legal and regulatory framework
- ◆ Governance and market structure
- ◆ Payment process
- ◆ Funding and credit
- ◆ Communication and information

New developments in large value payment systems

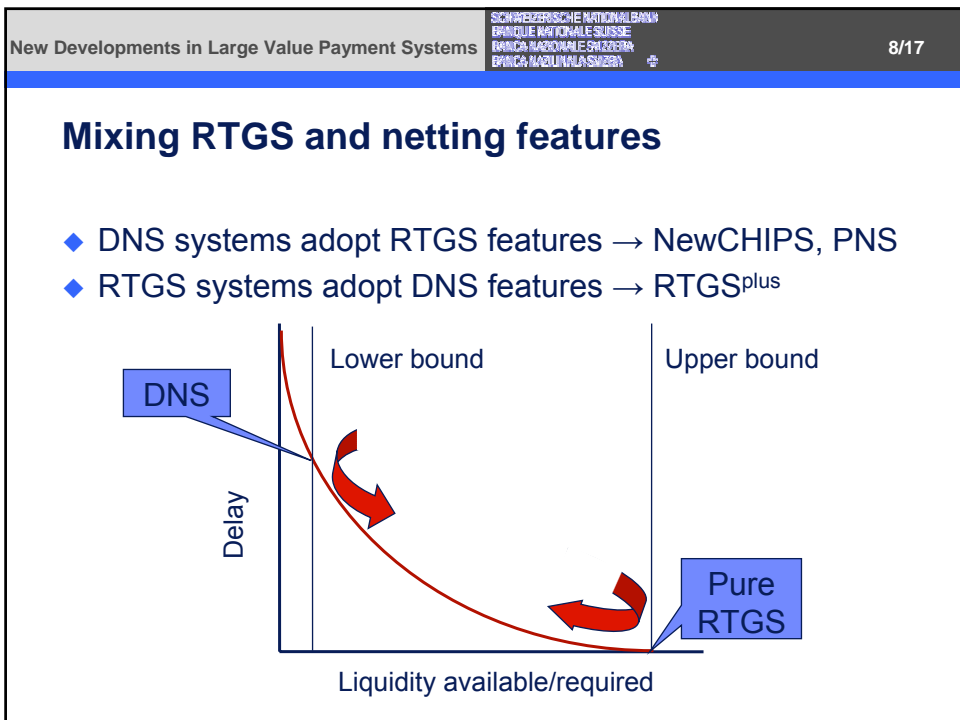
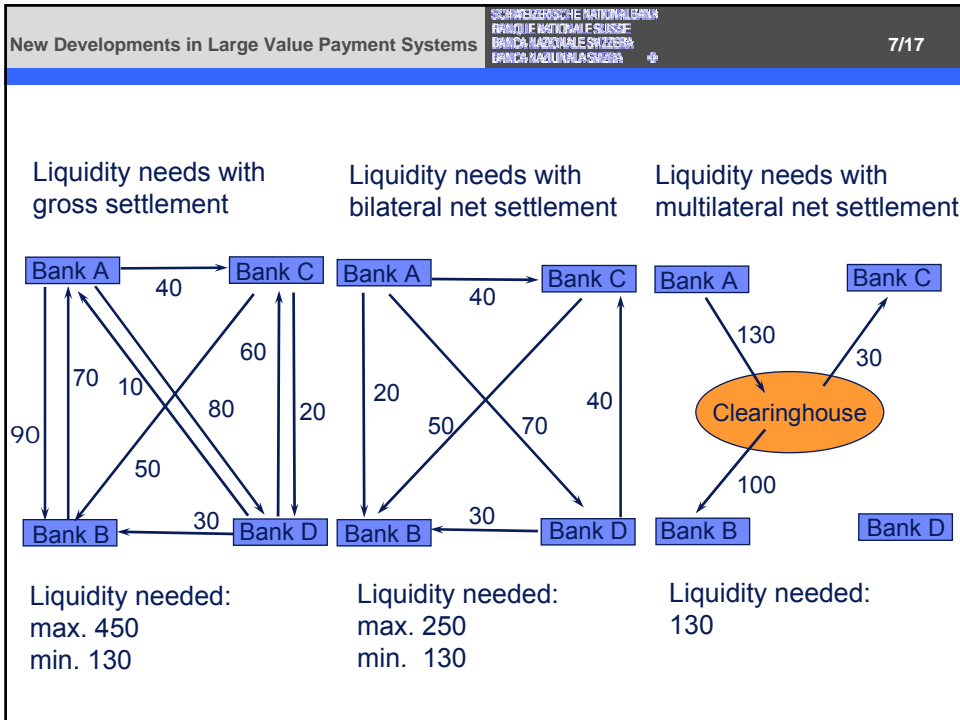
- ◆ Mixing RTGS and netting features
 - New CHIPS (USA)
 - PNS (France)
 - RTGS^{plus} (Germany)
- ◆ Implementation of CLS and its implications
- ◆ Liquidity control measures
- ◆ New arrangements in correspondent banking
 - USD and euro CHATS (Hong Kong)
 - euroSIC (Switzerland)

Liquidity and delay



DNS is cheaper because only net amounts are settled

RTGS is safer because settlement is immediate



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New CHIPS (USA)

Until 9 am

5 pm

Predetermined initial prefunding

Submission of payment messages

Algorithm settles payments with immediate finality if:

- the sending participant's current position is sufficient to cover the payment
- the receiving participant's current position would not exceed twice its initial prefunding requirements (=credit cap)

Credit cap is removed in order to settle as many payments as possible

Multilateral netting for residual payments

Transfer from Fedwire for funding negative final positions

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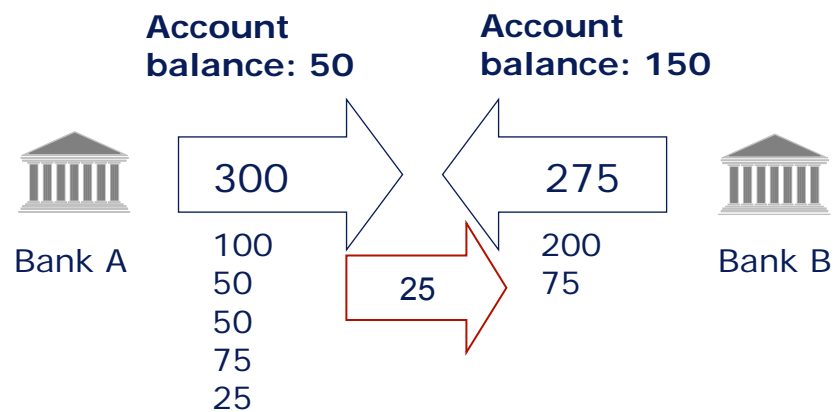
RTGS^{plus} (Germany) and PNS (France)

Submission of payment message

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graph TD
    A[Submission of payment message] --> B[Check funds]
    B -- "enough funds (+ other conditions)" --> C[Real-time gross settlement]
    B -- "not enough funds" --> D[Queue]
    D --> E[Check possible offsetting]
    E --> F[Bilateral netting]
    E --> G[Multilateral netting]
    F --- H[Different algorithms]
    G --- H
  
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Bilateral offsetting



Conclusion on new systems

- ◆ New CHIPS and PNS with intraday finality are
 - safer than DNS systems
 - but probably more costly
- ◆ RTGS^{plus} with continuous offsetting is
 - as safe as RTGS
 - and probably less costly in terms of liquidity

Liquidity control measures

- ◆ Throughput guidelines (Hong Kong, France PNS)
- ◆ Sender limits (Germany RTGS^{plus}, PNS,)
- ◆ Credit caps (USA New CHIPS)
- ◆ Pricing structure (Switzerland SIC)

Reduction of risk in foreign exchange transaction

- ◆ Introduction of CLS in September 2002
 - Necessity for changes in national LVPS
 - Operating hours
 - ie. Fedwire, Australia
 - Time critical payments
 - subaccounts
 - liquidity reservation
 - Payments of very high value
 - introduction of intraday credit
 - creation of Scandinavian cash pool

New requirements in correspondent banking

- ◆ Hong Kong USD and euro systems
 - USD CHATS
 - EUR CHATS

- ◆ Swiss euro system
 - euroSIC

Similarities of Hong Kong and Swiss arrangements

	Hong Kong	Hong Kong	Switzerland
System	USD CHATS	EURO CHATS	euroSIC
Replica of	HKD CHATS (RTGS)	HKD CHATS (RTGS)	SIC (RTGS)
Settlement institute	HSBC	Standard Chartered Bank	Swiss Euro Clearing Bank
Intraday liquidity	Overdraft and repo	Overdraft and repo	Pledge
Links with SSS	DVP model 1	DVP model 1	DVP model 1
Foreign exchange	PVP: USD – HKD - EURO	PVP: USD – HKD – EURO	no links (CHF – EURO through CLS)

Advantages of new correspondent banking arrangements

- ◆ Much higher standardization (STP)
- ◆ Settlement in real time with immediate finality
- ◆ Possibility to achieve DVP and PVP