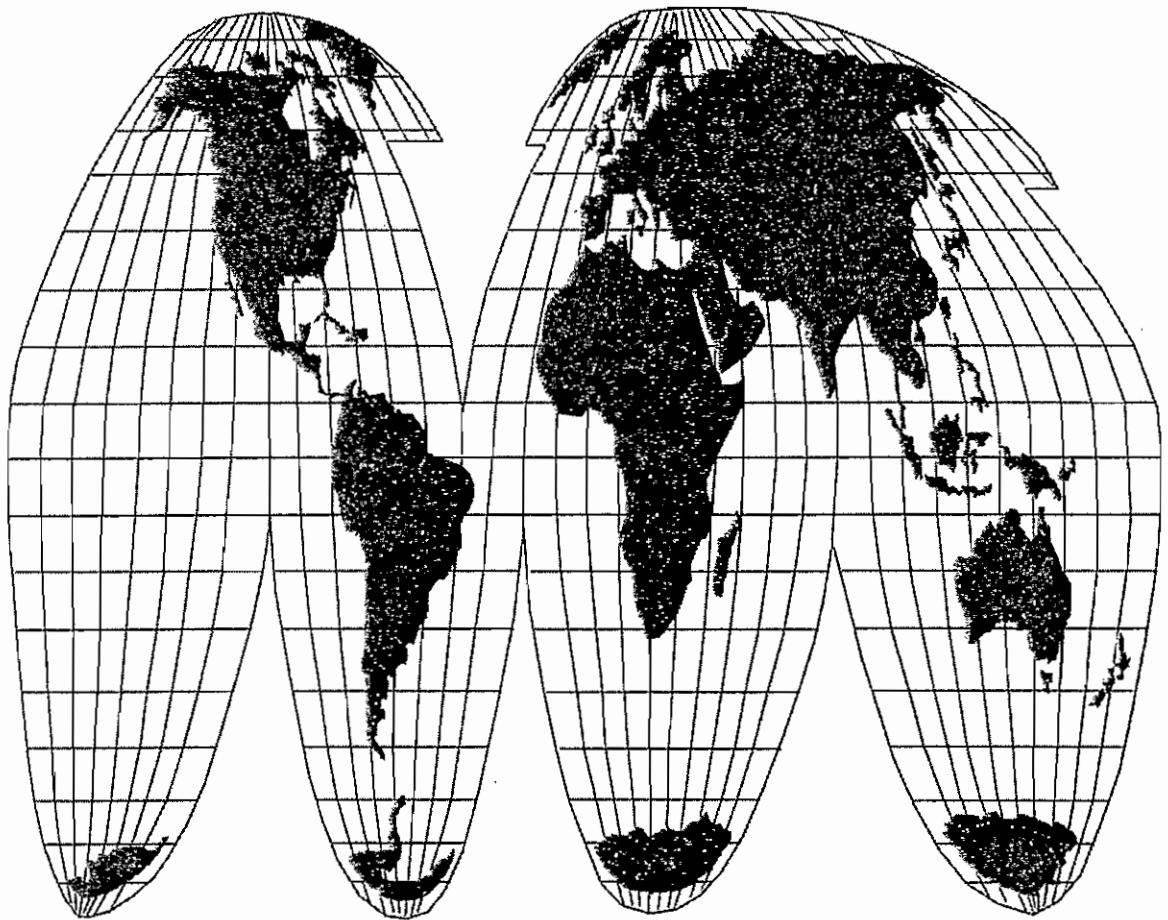


# *Payment Systems Reform in Emerging Economies and the World Bank*



*Presented by Setsuya Sato*

*Financial Sector Development Department*

*Vice Presidency for Finance and Private Sector Development*

# ***Presentation structure***

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- ◆ **What do we mean by the phrase “payment systems”?**
- ◆ **Why do we need to modernize payment systems?**
- ◆ **How does the World Bank support payment systems reform?**

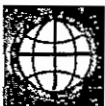


## What is a “payment system”?

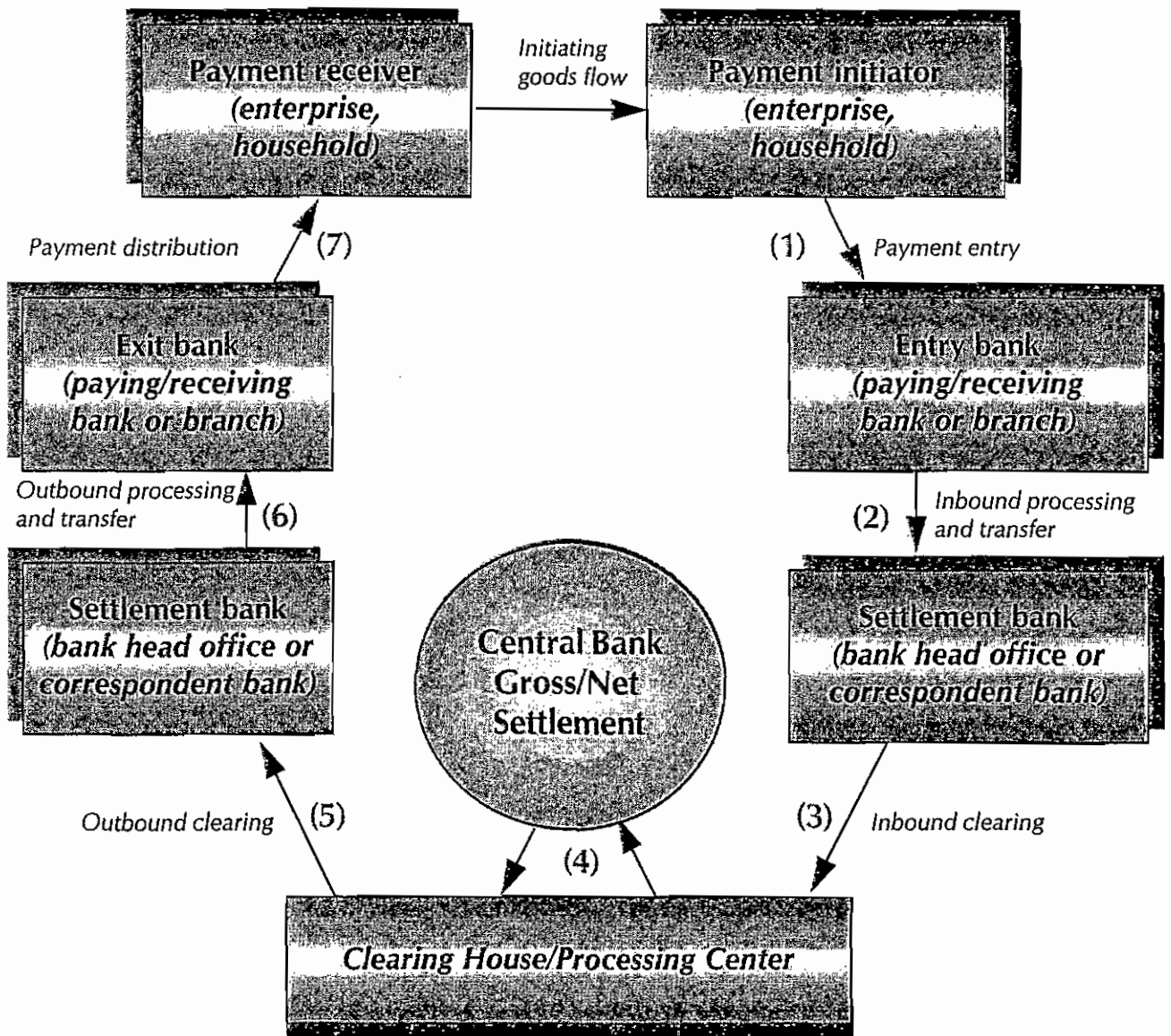
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- ◆ Procedures, rules, standards and instruments used to exchange financial values between two parties discharging obligations
- ◆ Transaction value, transaction type and payment instruments used

<i>Average transactions value</i>	<i>Transaction type</i>	<i>Payment instrument used</i>
<i>Small value</i>	<i>P-O-S</i>	<i>Cash, debit card, credit card, check</i>
<i>Intermediate value</i>	<i>Bill payment</i>	<i>Check, giro (and direct debit)</i>
<i>Larger value</i>	<i>Disbursement</i>	<i>Check, giro (and direct deposit)</i>
<i>Largest value</i>	<i>Financial</i>	<i>Check, giro, wire transfer</i>



# Payment cycle



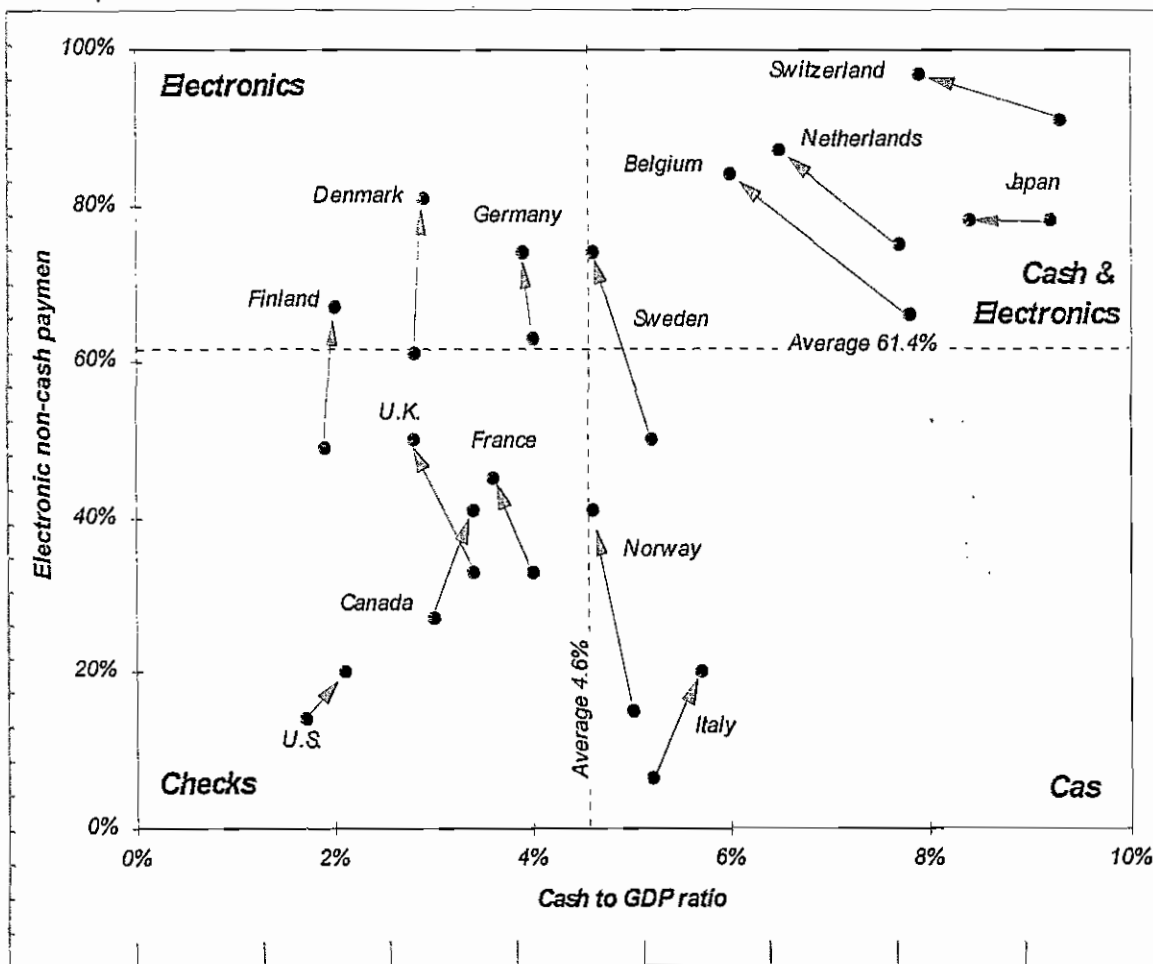
## ***Evolution of payment systems***

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- ◆ **Although simple, payment systems evolve over a period of years and are not the same across countries.**
- ◆ **Different country attributes make each set of payment mechanisms unique:**
  - **country size**
  - **financial sector institutions**
  - **legal systems**
  - **business practices**
  - **technological infrastructure**

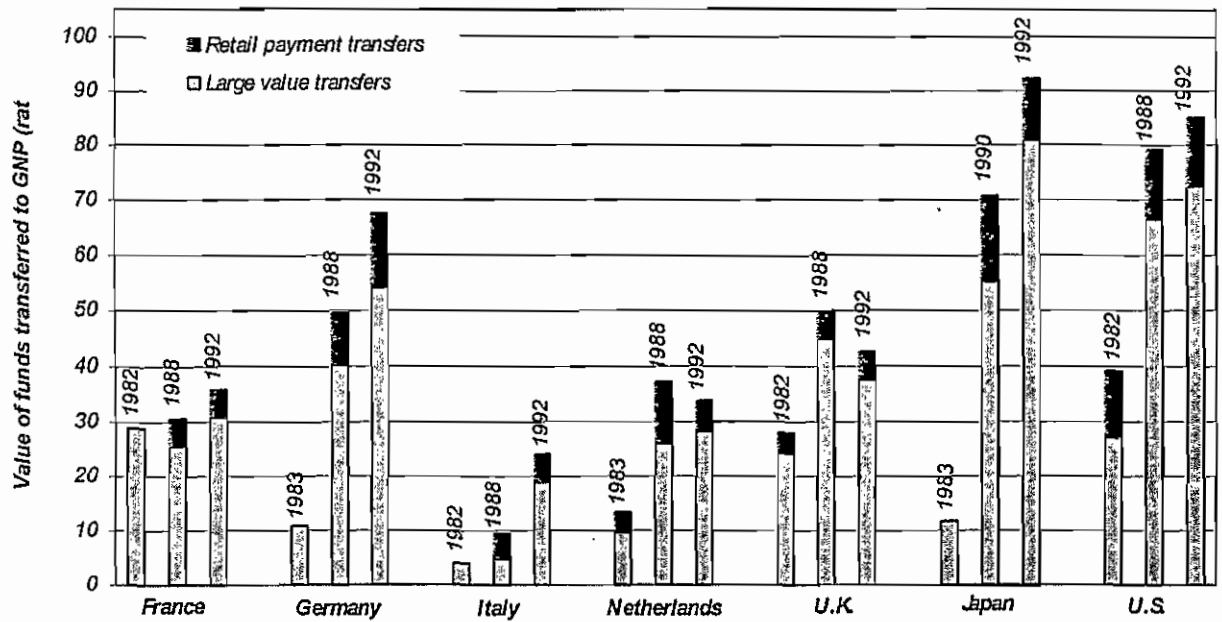


# Cash and non-cash payments in developed countries



# Why do we need to modernize payment systems?

## Payment growth in developed countries



## ***Modernization objectives***

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- ◆ **Reduce payment delays (float) and increase efficiency of funds transmission**
- ◆ **Strengthen Central Bank's ability to conduct monetary policy**
- ◆ **Improve convenience and service to users**
- ◆ **Overall, install "responsive" payment clearing and settlement systems**





## ***“Responsive” payment systems***

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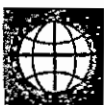
- ◆ **Speed of payment**
- ◆ **Certainty of payment**
- ◆ **Reliability**
- ◆ **Safety and soundness**
- ◆ **Convenience**
- ◆ **Costs**
- ◆ **Universality**



## *Speed of payment*

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- ◆ **Payment clearing and settlement should be no longer than 2 to 5 days**
- ◆ **Same-day settlement for some special payments (usually high value but low volume)**



## ***Certainty of payment***

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- ◆ **User confidence must be established that:**
  - **The correct amount will be paid**
  - **The correct party will be paid**
  - **Payment will be made on (or near) the correct date**



## *Reliability*

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- ◆ **System must be available 99%+ during the hours of operation**
- ◆ **System must work according to the published rules and regulations**
- ◆ **Adequate contingency provisions, controls, backup capabilities**



## ***Safety and soundness***

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- ◆ **System must have adequate controls to ensure against:**
  - **Fraud**
  - **Credit and systemic risk**
  - **Unauthorized disclosure of payment data**



## ***Convenience***

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- ◆ **Easy access of Payer to his/her deposited funds**
- ◆ **Ease of deposit by recipient**
- ◆ **Consistent with technological capabilities and skills of originator, receiver and intermediate processor.**



## **Costs**

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- ◆ **Capital and implementation costs must be realistic**
- ◆ **Operating costs must be consistent with the level of service provided**
- ◆ **Operating costs must be consistent with users ability and willingness to pay**



## *Universality*

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- ◆ Accessible on an equitable basis by all financial depository institutions
- ◆ Interface with all banks' intra-bank customer accounting systems





## *How does World Bank support payment systems reform?*

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- ◆ *Past mistakes:* Preconceived and technology-driven solutions
- ◆ *Now:* Rigorously defined user requirements, based on thorough understanding of unique banking and business needs of a country, before any investment decision is made.
- ◆ Banking and business needs should be the driver:
  - Information Technology is an enabler



## ***Types of World Bank support***

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- ◆ **Comprehensive initiatives**  
*(China, Viet Nam, Mauritius, Tanzania, Ghana, Uganda)*
  
- ◆ **Strategy development support**  
*(Indonesia, India, Mozambique, Angola, Albania)*
  
- ◆ **Initial diagnostic studies**  
*(Madagascar, Tunisia)*
  
- ◆ **Case study for education**  
*(El Salvador, Colombia, Brazil)*
  
- ◆ **Specific technical inputs**  
*(Russia, CIS, Mexico)*



# Project management cycle (Waterfall methodology)

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## Development Phase

### Design

*Strategic analysis*

*Requirements analysis*

*Top-level design*

*Detailed design*

### Development and testing

*Test preparation*

*Building*

*Integration*

*Qualification test*

## Implementation Phase

### Installation

*Distribution*

*Installation planning*

*Configuration test*

### Support

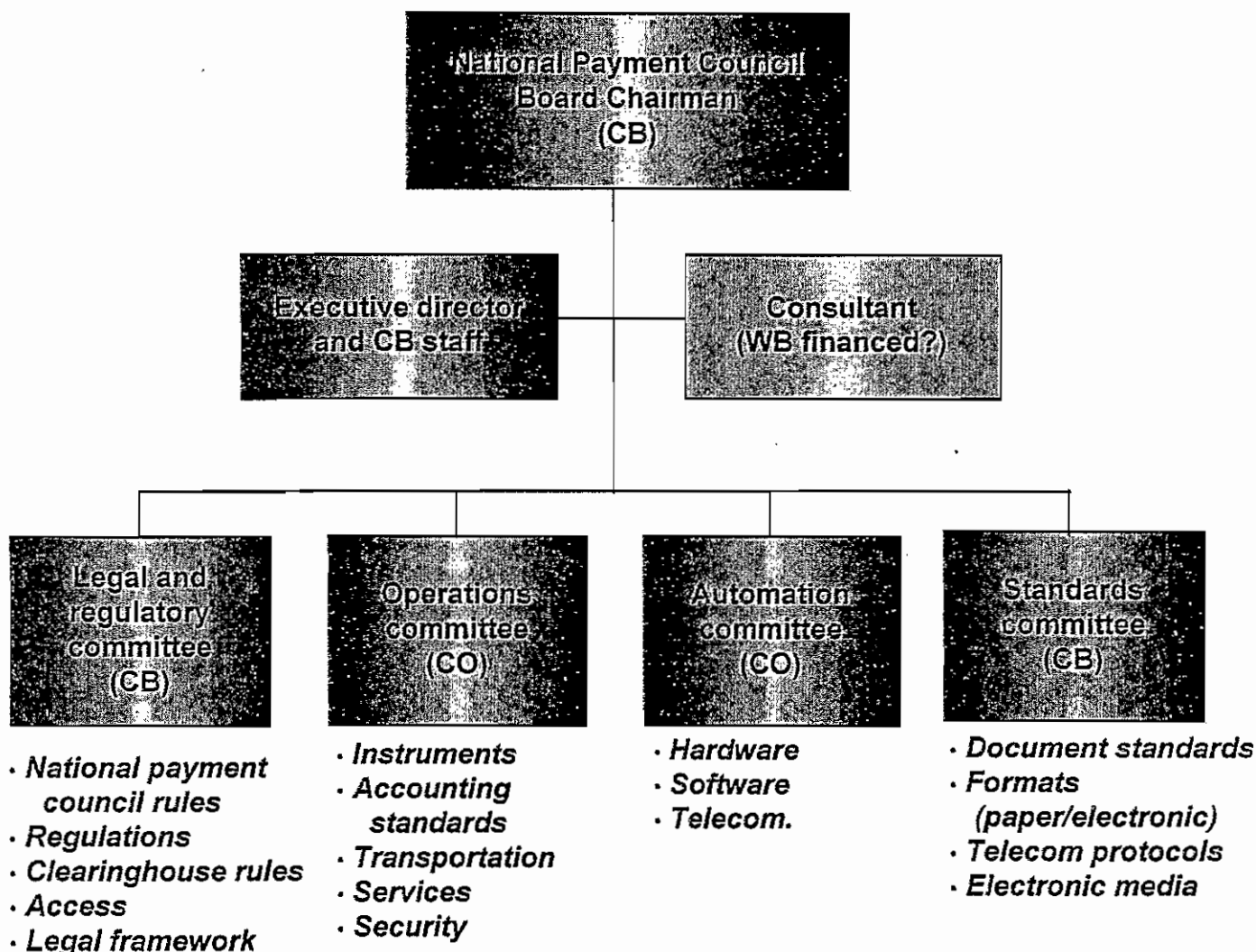
*User training*

*Support preparation*

*Evaluation and acceptance*



# Project management structure



CB: Central Bank

CO: Commercial Bank

WB: World Bank



# Issues to address

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## User needs

- Enterprises
- Consumers
- Banks
- Central bank
- Government
- Non-bank financial
- Intra-regional
- National
- International

## System requirements

- Volume forecasts
- Capacity
- Processing speed
- Timing (clearing/settlement)
- Costs
- Reliability
- Controls/oversight
- Inter-network interfacing
- Type of settlement (net/gross)

## Payment instrument design

- Paper
- Electronic
- Cards (debit/credit/ATM/pre-paid)
- Hybrid (truncated paper)
- Credit/debit transfer
- Final funds (high value)
- Provisional funds (low value)
- Batch processed
- On-line processed

## Ownership and control

- Private versus public
- Degree of aggregation
- Access to clearing/settlement
- Performance standards
- Standardized formats

## Risk control desing

- Settlement risk
- Fraud risk
- Clearinghouse failure
- Security risk
- Bank failure

## Cost

- Direct fees/balances
- Full/partial (subsidy) recovery
- Price control (market/government)

## Other issues

- Legal/regulatory requirements
- Technology (off-the-self versus state-the-art)



# ***World Bank publications***

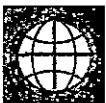
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## ***Principles & Practices***

- ◆ ***Sato/Humphrey, *Transforming Payment Systems: Meeting the needs of emerging market economies*, World Bank Discussion Papers #291, July 1995***
- ◆ ***Humphrey, *Payment Systems: Principles, practice and improvements*, World Bank Technical Paper #260, The World Bank, April 1995***
- ◆ ***Listfield/Montes-Negret, *Modernizing Payment Systems in Emerging Economies*, Policy Research Working Paper #1336, The World Bank, August 1994***
- ◆ ***Montes-Negret/Keppler, *Project Design for Payment Systems*, FPD Note #37, The World Bank, March 1995***
- ◆ ***Minehan, *The Net, Cybermoney, and Credit Risks*, FPD Note #76, The World Bank, April 1996***

## ***Legal Framework***

- ◆ ***Bhala, *Towards a Payments System Law for Developing and Transition Economies*, World Bank Discussion Papers #299, September 1995***



## ***World Bank publications (contd.)***

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### ***Securities Clearance & Settlement***

- ◆ ***Stehm, Clearance and Settlement Systems for Securities: Critical Design Choices in Emerging Market Economies, World Bank Discussion Papers #321, April 1996***

### ***History***

- ◆ ***Humphrey/Sato/Tsurumi/Vesala, The Evolution of Payments in Europe, Japan, and the United States.: Lessons for Emerging Market Economies, Policy Research Working Paper #0-1231, October 1996***

### ***Case Studies***

- ◆ ***Listfield/Montes-Negret, Payment Systems in Latin America: A tale of two countries - Colombia and El Salvador, Policy Research Working Paper #1519, The World Bank, October 1995***

