Workshop
"Central Bank Efficiency"
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Payment System Efficiency

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Outline

1. Three components of payment efficiency.
2. Efficiency in small value payments.
3. Payment pricing and revealed preference.
4. Improving efficiency on large value networks.

Components of Payment Efficiency

1. Lowest cost:
   - Consumer (payor) explicit costs;
   - Retailer (payee) receiving costs; and
   - Bank processing expenses.

2. User price:
   - Reflecting close to full cost; and an
   - Explicit incentive to use low cost instrument.

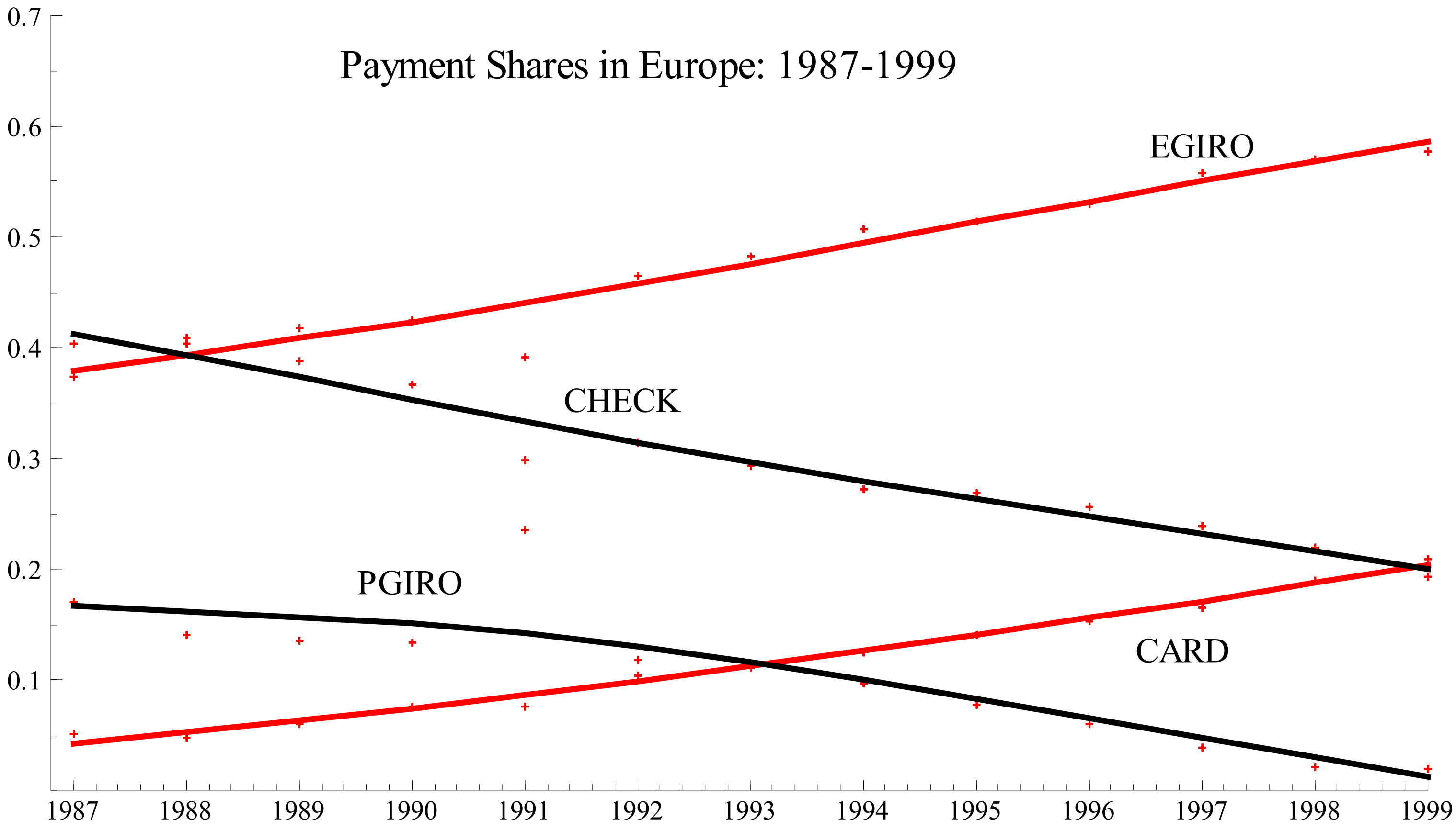
3. Non-price considerations:
   - Risk, speed, and convenience issues;
   - User determines trade-off with explicit price (so little need to "price" these attributes).

Cost of Small Value Payments

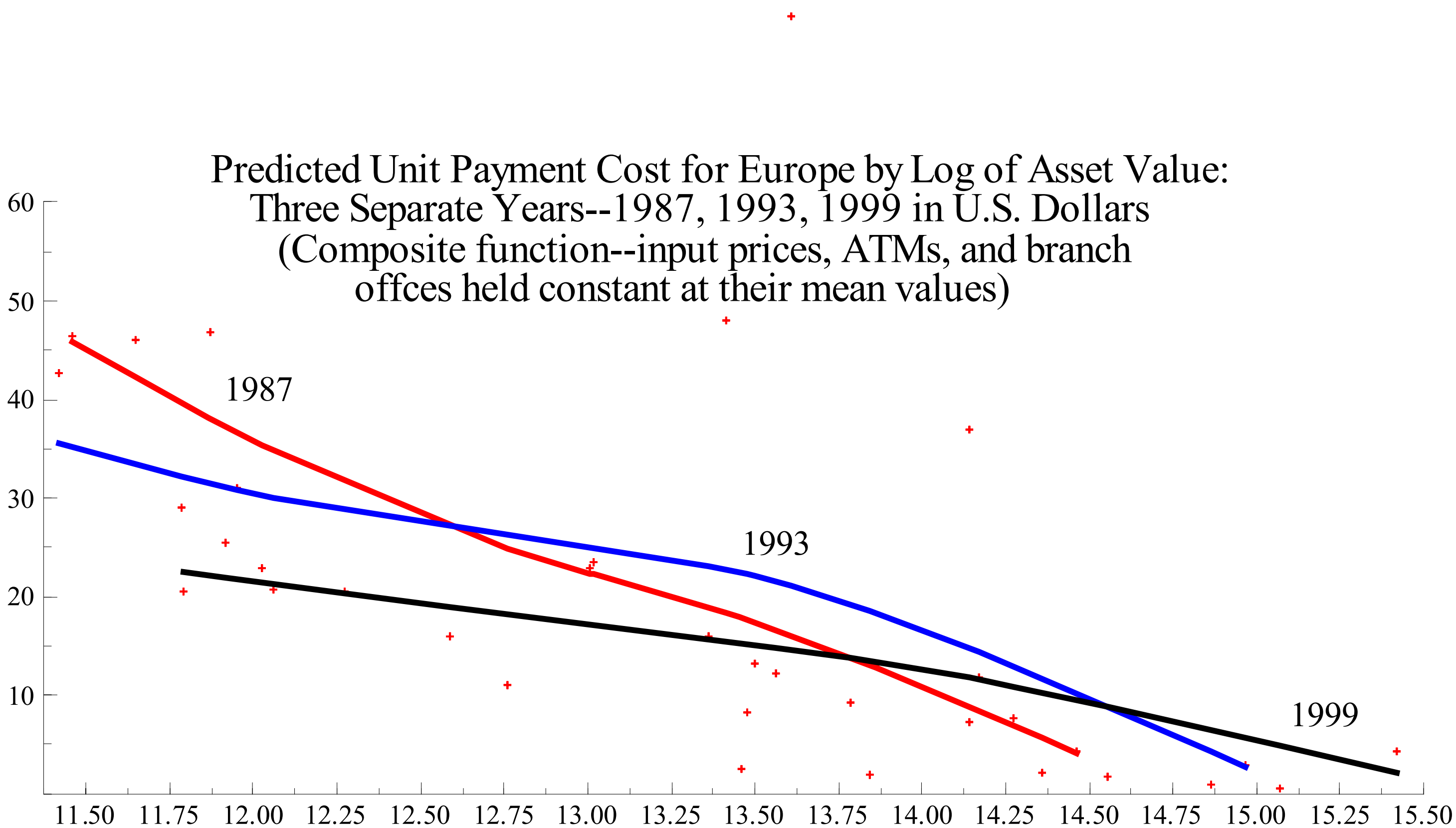
Electronic payments cost from 1/3rd to 1/2 of paper-based non-cash payments per transaction.

	Cash	Check	Paper Giro	Credit Card	Ele. Giro	Debit Card
Norway:						
Bank (€)	1.10	3.08	1.03		.66	.34
U.S.:						
Retailer($)	.12	.36		.72	.24	.34

Use of Small Value Payments in Europe



Scale Effects in Small Value Payments
(Across 12 European Countries)



Reduction in Bank Operating Cost

(12 European Countries: 1987-1999)

	1987	1989	1991	1993	1995	1997	1999	Change
OC/TA	.021	.020	.020	.019	.018	.017	.016	-24%
Non-Cash/POP	72	78	89	99	108	118	131	82%
Ele/Non-Cash	.43	.48	.53	.60	.65	.72	.79	84%
ATM/BR	.28	.41	.54	.67	.85	.99	1.19	325%
Source: OECD, ECB, and own calculations (data are rounded).								

Ratio of bank operating (K,L,materials) cost to total assets has fallen 24% over the last decade, saving expenses for payment system users and processors.

Payment Pricing and Revealed Preference

Norway implemented explicit pricing of payment instrument use over a decade ago.

Prices roughly cover only variable costs.

In response, share of electronic payments went from 10% 1987 to more than 80% in 2001.

Payment Pricing and Revealed Preference

Small differences in relative prices offset users' non-price payment considerations.

Reveal that non-price payment attributes for small value transactions are not large.

The weighted average cost of a payment has fallen from €1.93 to €.73, a 62% reduction over 1988-2001.

Policies to Improve Efficiency

1. Sweden is already shifting to electronic payments. Process can be made more efficient if implemented broader explicit pricing of different payment services.

Cost savings offset antitrust concerns of coordinated bank pricing. Central bank can make this case.

2. Costs of credit card use should be borne by the user without cross-subsidy from users of other payment instruments.

Current credit card pricing encourages overuse.

Improving Efficiency on Large Value Networks

Efficiency on large value networks can be improved by reducing existing risk and lowering processing costs.

Reducing Existing Risk

Intra-day repos of posted collateral at central banks effectively eliminates systemic risk on net settlement networks.

Central banks do not charge a market price for this service, but should.

Reducing Existing Risk

Price can be at actual cost or the opportunity cost of borrowing intraday funds (which can be inferred from a yield curve).

Payments on net settlement networks are overused. If properly priced some payments will not be made as the private benefits would be less than their full cost.

Payment "habits" change in response to pricing. U.S. experience: altered industry rules on "securities fails" and overnight funding could shift to "rollovers" and "continuing contracts". Both reduce need for overdrafts.

Reducing Existing Risk

Bank specific risks still exist. Loss of posted collateral can affect bank depositors or deposit insurance fund.

Limiting posted collateral to value of equity or equity plus unconditional third party credit line would contain this risk.

Potential for liquidity problems met by requiring that large percentages of transactions be initiated by specified times during the day. Spreads intraday liquidity among users.

Lowering Processing Cost

Large scale economies exist on large value networks. Within-country and cross-country consolidation can substantially lower processing costs.

U.S. experience suggests scale economies are around .55 so that a 100% rise in volume could result in a 22% reduction in average cost per transaction.

Policies to Consider

Small Value Payments:

1. Encourage broad pricing of payment instrument use. Users will trade-off price with non-price considerations and make payment system more efficient.

2. Limit cross-subsidy for credit cards. Users need to pay full cost of payment deferral and rewards given for credit card use.

Policies to Consider

Large Value Payments:

1. Price the cost of providing intraday collateral service.

2. Implement guidelines for percent of payments sent each day to deal with liquidity issues.

3. Study effects of consolidation and develop estimates of cost savings to convince users and central banks of the likely benefits.